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PACIFIC RURAL PRESS

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SAN FRANCISCO, SATURDAY, JANUARY 7, 1893. 92097

THE DEWEY PUBLISHING CO.
Office, 220 Market St.

Views About San Francisco.

Cities and towns are rich if their environment contains the picturesque and the beautiful. Many large aggregations of human habitations are fortunately thus endowed, and the metropolis of the Pacific coast is rich in its adjacent rural scenery, broken, romantic and diverse, and in its forms of water from babbling brook to beach-pounding billows. All these charms of the nearer distance delight our people, and they are so accessible that hardly a tenement child but cherishes recollections of rambles among them.

The work of the devotees of the camera unquestionably inspires to a search for the natural by its delightful presentment of it. It also enables the publisher to give to distant readers material for better conceptions of the country. The views in the composite engraving on this page are among the most charming we have ever had for the ornamentation of our pages. They were caught by members of the California Camera Club, and for the present arrangement of them we are indebted to the *Pacific Mutual*, a bright insurance journal of this city.

The views are well selected to show the diversity in the natural scenery surrounding San Francisco. In none of them is any intimation that a great city is a few miles distant, and in that is the charm of recourse to them. A short ride by rail or boat and a short walk beyond brings one as "far from the madding crowd," so far as the senses can determine, as though he had crossed a State. The artists who furnish us this entertainment should be mentioned. The first picture, the arrival of the six-horse stage, is by Dr. M. F. Gabbs. The second, the yacht race, is by E. L. Gifford. The third, the mountain brook, and the fourth, the country road, are by H. B. Hosmer.

"WHEN you pass a farm," says a writer, "and see a large barn and a small house, you may know the man is boss. When you see a fine house and a dilapidated barn you may understand that the woman has things her own way; and when there is a new house and a good barn, you may take it for granted that the woman and man are about equals."

SQUATTERS and land-jumpers are rushing in large numbers to occupy the great tract in southern California by recent decision of the United States Supreme Court forfeited from the Southern Pacific Railroad Company to the Government. Most of these vagrant immigrants will have their pains for nothing. Those who honestly bought the land from the railroad company and occupied it will have a preemptive right of purchase from the Government against these incomers and all others. Uncle Sam always

THE Southern Pacific Railway Company announces an important reduction on transcontinental rates on several California products. On and after January 5th the rates on beans, canned goods, wine and borax will be 50 cents per 100 pounds for carload lots from this city to New York and 75 cents for the same commodities from all interior points to Chicago. The price hitherto has been \$1 on all the commodities named, except beans, on which the rate was \$1.10. The concession is very material and is

certain to have direct effect on the several articles. The action was totally unexpected except as to beans, prices on the latter having already advanced in anticipation of the reduction. Vineyardists will have further reason to think that the coming year contains better promise for them than any previous year since 1885.

THE Pomona *Progress* publishes a statement regarding the orange crop in southern California as the consensus of opinion of fruitgrowers gathered in every part of southern California. The *Progress* estimates the total crop of oranges for this season in Los Angeles, Orange, San Bernardino and San Diego counties at 6500 carloads, and puts the value of the same at not less than \$4,000,000. Reports from every locality in the citrus belt are to the effect that fruit is in first-class condition and is ripening slowly for market. Everywhere there is a large crop of oranges, and in some sections, as in Pomona valley, San Gabriel and at Ontario, so enormous a crop has never been known, and the trees

are almost breaking under the heavy weight of the golden fruit. The bulk of the crop will not be ready for consumption before February, and all growers are anxious to delay the sale and marketing of their fruit until late in the spring, so as to get larger prices.

FRUIT UNION MEETING.—The eighth annual meeting of the stockholders of the California Fruit Union, for the election of a board of nine trustees for the ensuing year, and the transaction of such other business as may come before the meeting, will be held on Wednesday, Jan. 18th, 1893, at 1 P. M., in Assembly Hall of the State Board of Horticulture, 220 Sutter St., San Francisco. There should be a good attendance.

OPEN AIR RAMBLES IN THE VICINITY OF SAN FRANCISCO.

aims to protect the honest settler, and he generally succeeds in doing it.

THE Howland olive-oil mill at Pomona is nearly completed, and the manufacture of oil will commence shortly. Some of the machinery was imported from Europe, and the capacity of the mill is greater than that of the similar establishments at Elwood Cooper's ranch and National City.

AT least six counties in the State are in the throes of division agitations. These questions are to be brought before the legislature, and the prospects are that a considerable portion of that body's time will be devoted to their settlement.



PACIFIC RURAL PRESS.

By THE DEWEY PUBLISHING CO.

Office, 220 Market St.; Elevator, 12 Front St., San Francisco, Cal.

ANNUAL SUBSCRIPTION RATE THREE DOLLARS a year. While this notice appears, all subscribers paying \$3 in advance will receive 15 months' (one year and 13 weeks) credit. For \$2 in advance, 10 months. For \$1 in advance, five months. Trial subscriptions for three months, paid in advance, each 50 cents.

ADVERTISING RATES.

	1 Week.	1 Month.	3 Months.	1 Year.
Per Line (agate).....	\$.25	\$.50	\$ 1.20	\$ 4.00
Half inch (1 square).....	1.00	2.50	6.50	22.00
One inch.....	1.50	5.00	13.00	42.00

Large advertisements at favorable rates. Special or reading notices, legal advertisements, notices appearing in extraordinary type, or in particular parts of the paper, at special rates. Four insertions are rated in a month.

Our latest forms go to press Wednesday evening.

Registered at S. F. Post Office as second-class mail matter.

ANY subscriber sending an inquiry on any subject to the RURAL PRESS, with a postage stamp, will receive a reply, either through the columns of the paper or by personal letter. The answer will be given as promptly as practicable.

ALFRED HOLMAN.....General Manager

San Francisco, January 7, 1893.

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(NEW THIS ISSUE.)

Plows and Cultivators.—Deere Implement Co.
 Nursery Stock.—Alexander & Hammon, Biggs, Cal.
 Flower Seeds.—Vaughn's Seed Store, Chicago, Ill.
 Fruit Trees.—E. C. Clowes, Stockton, Cal.
 Seeds, Trees, Etc.—The Storrs & Harrison Co., Plainville, O.
 Plants.—G. R. Gause & Co., Richmond, Ind.
 Seeds.—H. W. Buckbee, Rockford, Ill.
 Seeds.—A. R. Ames, Madison, Wis.
 Bulls and Heifers.—Geo. A. Wiley, Danville.
 The Exposition Hotel and Guide Publishing Co.—Chicago, Ill.
 Nursery Stock.—Robt. P. Eachus, Lakeport, Cal.
 Fruit Trees.—H. C. Graves & Sons, Lee's Summit, Mo.
 Seeds.—May & Co., St. Paul, Minn.
 Nursery Stock.—D. W. Lewis, Sanger.
 Fruit Trees.—Kinton Stevens, Santa Barbara.
 Spraying Outfits.—Wm. Stahl, Quincy, Ill.
 Commission Merchants.—P. Steinhagen & Co.
 Lands.—Chas. E. Lamborn, St. Paul, Minn.

See Advertising Columns.

The Week.

There has been a succession of clear, bright days and nights, with just enough frost in the early morning air to make one's extremities tingle, and to give our climate its claim to bracing properties. In low levels there has been some injury to younger growth of tender plants, but nothing serious is yet reported, and in thermal belts the tenderest growths are still untouched by frost. The slight snap in the air is a decided advantage to deciduous trees, as it keeps them at rest. A few degrees more warmth would swell the buds and give us January orchard bloom, very pretty to the sight and inspiring to the tourist, but dangerous to tree and owner's pocket.

The greatest stir in the horticultural line in the city is the installation of exhibits at the mid-winter display in the Mechanics' Institute Pavilion, which will open next week with a grand exposition of Californian productions and achievements en route for the Chicago World's Fair. It will also be the occasion for the annual citrus fair of the upper half of the State. Most zealous effort is being put forth by the managers, and the fruit of the citrus family, in amount of display as well as in artistic and striking effect, will surpass anything ever gathered together in this latitude at least. All visitors to the city during the coming five weeks should set apart a day for the Mechanics' Pavilion.

THE State Association of Irrigation Districts was called to meet on Thursday of this week at Sacramento, too late for notice in this week's RURAL PRESS. The object is to prevent legislation adverse to the interests of irrigators, as well as to promote favorable legislation. It is likely that the convention will endorse an amendment to the Wright act providing that the school fund of the State may be invested in irrigation district bonds. This amendment is heartily approved by the State Treasurer and other State

officials, and if it becomes a law will go far toward assisting in marketing this class of securities.

Agricultural Statistics.

It is really disgraceful that a great producing State like California should have no trustworthy statistics of industrial resources and achievements, except such as are gathered by private enterprise. California has done even worse than this, for it has published year after year a lot of numerical rubbish which has had the guise of official statistics, but which has had neither general truth nor specific accuracy, nor any other decent quality. By statute it has long been the duty of county assessors to report to the State Board of Equalization full agricultural statistics, but there has been no compensation for the work, and almost universally it has been done in a perfunctory manner. Assessors who had too much conscience to put in a lot of figures at random, left the spaces blank, and those who really undertook to summarize the results of deputy assessors, knew that the returns were only partial, unsatisfactory and misleading. And yet these statistics have been paraded by writers and speakers to point arguments or appeals without thought or knowledge that they have never been worthy of an allusion. We thus denounce them in general terms; we know that at times individual State officers have given much time and effort to secure trustworthy figures, but because of defects in the system, they accomplished very little.

There are probably many reasons why this work should not be laid upon assessors as it now is by law. The prime defect lies possibly in linking the thought of a full statement of amounts and values with that other and disagreeable thought of a tax which clings to an assessor like its perfume to an onion. It is too much to expect that weak human nature will allow a man to give a full number of his fruit trees or bushels of crop of any kind when he knows that the enquirer's main business is to load him with as high an assessment as his place will stand. It is too much like compelling a convict to read aloud his own death warrant—a service which the law itself never exacts of a departing member of society. It is human to lie when questioned for purposes of assessment. Ever since the days of Ananias the practice has prevailed. One would think the legislators would have known of this great lapse in the moral sense and would never have ordered a tax assessor to collect figures which under the most favorable conditions are trying to human nature to furnish.

Since the existing provision for State statistics is a failure of a quarter of a century's standing, it is certainly time it was done away, and some better system provided. Of late years the State Boards of Horticulture and Viticulture have made commendable efforts and have secured some important statistics. So far as they go these are good. The fruitgrowers' convention at San Jose had a more ambitious plan under discussion, by which a State Bureau of Statistics should be established. Such a Bureau, properly officered and equipped, could earn its cost many times over; but it is hardly likely that the State will create any more places of trust and emolument, and certainly enough is now paid out for public service. Perhaps some change in the direction of effort by existing State officers might compass the great need.

Governor Markham, in his message to the legislature now in session at Sacramento, says:

The statutes provide that the Boards of Supervisors of the counties of the State must require county assessors to report annually to the surveyor-general a true statement of the agricultural and industrial pursuits and products of the county, and other statistical information. This statute is a dead letter, although every State official and every citizen interested in the progress and development of the industries of the State feels the importance of having such statistics for his own use and for the information of the general public. Instead of this being made a part of the duties of the surveyor-general, I think the State Agricultural Society should be required to maintain a statistical department, and I recommend that such a law be enacted.

Probably this is the best that can be done. We are aware that the general idea of the State Agricultural Society is that its ability in the line of figures is confined to the minute fractions of the speed program, but this is not an accurate conception of its qualities. It has a strong penchant for fast horses and balloon ascensions, and other spectacular affairs which please the multitude, but we believe it has a serious side as well, and we are aware that the present secretary has a level head for agricultural figures and is a good executive officer. If the plan which was presented to the last legislature for a State weather service and crop-reporting service, at an exceedingly small cost, were to be adopted by this legislature, we could have much better weather service and figures than have ever yet been placed upon the public table. We hope that such an end may be reached in some way and without unnecessary delay.

The Wheat Market a Little Firmer.

It is almost an aphorism that the chief cause affecting the low price of wheat is the immense supplies on hand in the consumer nations. Statistics believed to be reliable show that the United Kingdom now has an excess in visible supply over 1891 of about 260,000 short tons, or 8,840,000 bushels; and that the excess in the United States is about 1,000,000 tons, or 34,000,000 bushels. It is affirmed that France will consume about 2,000,000 short tons less this year than last. There are, it is computed, at this time perhaps 100,000,000 bushels of wheat in reserve more than at the beginning of 1892.

The condition of the wheat market at this time appears to confute the accuracy of statistics of the crop of 1892, collected by the United States Government and widely circulated and published. It was estimated that the crop of 1891 was 613,000,000 bushels, of which a small portion only would be carried over into 1892. The disposition of this gigantic yield, it was thought, was about as follows:

	Bushels.
Total yield.....	613,000,000
Home consumption.....	310,000,000
Exports.....	205,000,000
Seed.....	55,000,000
Feed and miscellaneous.....	30,000,000—600,000,000
Surplus.....	13,000,000

The yield in the United States for 1892 was computed at about 500,000,000 bushels, or 113,000,000 less than in 1891. It would appear, therefore, that little trouble should have been experienced in disposing of the 13,000,000 surplus bushels, inasmuch as the consumption and average exports (600,000,000 bushels) would exceed the output (500,000,000 bushels) by 100,000,000 bushels, provided, of course, they were not less than in 1891. But France will consume 68,000,000 bushels less than in 1891, so that the exports of the United States would naturally be less, and the world's market is restricted in that amount. This leaves still an apparent shortage of 32,000,000 bushels (100,000,000 less 68,000,000) with 13,000,000 bushels carried over from 1891 to supply it. On the face of the figures, therefore, there ought to be a stronger demand for wheat in 1892 than in 1891.

It should be borne in mind that the word "shortage" is used in the sense that the marketable wheat for foreign consumption by these figures should appear to be that much less than in 1891; and the general assumption is made that the deficit of 68,000,000 in the French consumption of foreign wheat means no market there for that amount of American wheat, which, as a matter of fact, is not the case.

But what are the facts? The visible supply of wheat at this time in the United Kingdom and the United States, and in cargoes bound for Europe, exceeds that of 1891 by about 100,000,000 bushels at an outside figure. Instead of a relative shortage in the United States of 32,000,000 bushels, the excess of the visible supply in the United States at this time over last year is 34,000,000 bushels, or an actual difference between the facts and estimates of 66,000,000 bushels.

Only one conclusion can be arrived at—something was radically wrong about the estimates of the wheat output for 1891 and 1892.

The exports from the United States for 1892 are said to have been about 20,000,000 less than in 1891, and still the excess stock in Great Britain is now 8,000,000 bushels more than in 1891. Of course other supplier nations have exported heavily and Great Britain's 1892 yield was larger than in 1891, producing a congestion of the market almost without precedent.

These unusual circumstances have all conspired to bring about a state of affairs recently confronting to the producer a discouraging aspect, and to depress the price of wheat to a ridiculous minimum.

But matters now seem to be at their worst. The mid-winter season is generally a severe strain on the grain market, which suffers an after-holiday reaction, and which may be expected to assume a more encouraging appearance as soon as the customary interest and activity are again manifested by dealers and producers. Quotations are now nearly two shillings per ton in cargo lots above the lowest figure touched in December. Hard frosts have been reported in the United Kingdom, and they have had an effect upon the natural upward tendency of January. Continued bad weather there means a still further advance in prices. It is not safe to say that the tide has at last turned permanently in the direction of the producer, but it certainly looks that way.

An indication of encouragement on the part of millers in England is found in the fact that the Millers' Association at Leeds on Tuesday advanced the price of flour one shilling per eighteen stone, on account of small stocks.

Reports from California are to the effect that the customary acreage will be sown the coming year as for 1892. The acreage then was about 3,240,000 acres. There has

been little or no damage from storm and flood. From present somewhat distant appearances, the yield is likely to be at least up to the usual mark, and, what is better, higher prices will rule than in the past few months.

Summed up in a few words, the situation is: The visible supplies have exceeded all calculation, and expectation has been disappointed in that they have not decreased with customary rapidity. But more confidence is now felt in the outlook than for some time past.

From an Independent Standpoint.

The exact measure of the Populist success in the late election has at last been determined by a general compilation of returns. Weaver carried the five States of Colorado (4 electoral votes), Kansas (9 votes), Nevada (3 votes), Idaho (3 votes), and North Dakota (3 votes); and got one of Oregon's four votes, giving him a total of 23 votes in the Electoral College. In the southern States Weaver's vote was as follows:

Alabama.....	85,128
Arkansas.....	11,881
Florida.....	7,000
Georgia.....	42,989
Kentucky.....	23,503
Mississippi.....	10,500
Missouri.....	41,183
North Carolina.....	45,000
South Carolina.....	4,000
Tennessee.....	28,000
Texas.....	96,880
Virginia.....	12,000
West Virginia (estimated).....	4,000
Total.....	411,914

In the West and on the Pacific coast the Weaver vote was as follows:

Kansas.....	162,897
Nebraska.....	83,780
Colorado.....	52,984
Oregon.....	32,000
Minnesota.....	29,545
Michigan (estimated).....	22,000
California.....	25,226
South Dakota (estimated).....	25,000
Indiana.....	22,208
Iowa.....	20,616
North Dakota.....	17,650
Illinois.....	20,265
Washington.....	19,264
Ohio.....	14,843
Idaho.....	10,280
Montana (estimated).....	8,000
Wyoming.....	8,801
Nevada.....	8,000
Wisconsin.....	9,852
Total.....	593,635

Summarized, the popular vote for Weaver was as follows:

South and southwestern States.....	411,914
West and northwestern States.....	593,635
Middle States.....	20,000
New England States.....	12,000
Total.....	1,037,549

Allowing that Weaver secured 137,000 votes by fusion—a fair estimate—his actual Populist vote will be about 900,000. Even after making this allowance for fusion, the Populist vote stands larger than any vote ever given before to a third-party candidate, the nearest approach to it being in 1856, when the Native American or Know-nothing party polled 800,000 votes for Millard Fillmore.

Following are the totals of the several parties for 1892, compared with the corresponding totals for 1888:

	1892.	1888.
Total vote.....	12,082,008	11,383,970
Democratic.....	5,567,990	5,536,524
Republican.....	5,176,611	5,441,023
People's party.....	1,037,060	144,908
Prohibition.....	258,347	246,406

Edward Murphy, the Tammany candidate for Senator in New York, is a man of the John Morrissey stripe; and, although possessing an unquestioned political pull, is without the first requisite for the office which he seeks. His wealth was gained in the brewing business and his chief fame was acquired as the backer of Paddy Ryan in his famous fight with Sullivan. He is celebrated as an owner and fighter of bull-dogs and finds his chief amusement in the sports of the pit and of the ring. It is not unnatural that Mr. Cleveland should be opposed to the election of Mr. Murphy, and it is very greatly to his credit that he has expressed his disapproval of his candidacy and his hope that he will not be elected. He is quoted as saying:

The interests of the State and party demand, it seems to me, the selection of a Senator who can not only defend the principles of our party, but who can originate and promote the policies that may be presented for consideration in the Senate. In order to insure this, the Senator from New York should be a man not only experienced in public affairs, but who has a clear conception of the vital interests with which we must deal during the next few years. Speaking frankly, it does not seem that the selection of Mr. Murphy shows a desire or intention of placing in the Senate men of such type. This first use of our power would cause much disappointment, not only in New York, but in the country. This the party ought not to be called upon to face.

If this protest against a man notoriously unfit be "executive dictation," as the Tammany papers charge, and as the Republican papers are only too glad to echo, it is certainly a good sort and one that ought to be commoner in American affairs. Nevertheless, while Mr. Cleveland's opposition may be commended by the country at large,

it is deemed by the friends of Murphy, who comprise the whole of Tammany and some other political elements in New York, an unwarranted interference in State affairs and is bringing down upon him their severest anathemas. Mr. Cleveland is really in an awkward position in the matter of the New York senatorship. Naturally, he would like to have from his own State some man who would be friendly to his plans, and who would on the floor of the Senate promote the interests of the executive branch of the Government. Of course he can expect nothing from Senator Hill; and if Tammany succeeds in electing Murphy or some other man of like character the New York delegation in the Senate will have to be reckoned among the enemies of the White House during the coming administration. In many parts of the country there is a disposition to regard Mr. Cleveland's opposition to Murphy as out of taste, but we fail to see why the President-elect should not have the privilege belonging to any other citizen of speaking out his mind concerning an aspirant for the Senate from his own State.

The State Legislature came together on Monday, and by the time this paper is in the hands of its readers will have settled down to business. It is composed of one hundred and twenty members, fifty-seven of whom are Democrats, fifty-two Republicans, ten Populists and one Independent or non-partisan. Sixty-one votes are required for a majority in joint convention; therefore, no party is master of the situation. The Democrats lack four votes of being a majority, the Republicans lack nine, and the balance of power rests with the Populists. It is this situation which complicates the senatorial contest and which makes its outcome so uncertain. Eight of the Populists have signed an agreement pledging themselves to vote for a Populist candidate and not to be drawn off into support of either Democratic or Republican aspirants, although it is not to be supposed that they will permit the Legislature to adjourn without choosing a Senator. Their policy will be to hold out during the early part of the session, and then to secure, probably by combination with the Democrats, the election of a man friendly at least to their scheme of reforms. It is said that there is small likelihood that any Democrat can secure any share of the Republican strength, and it is assumed that no way to bring about an election will be found without inducing the Populists to come into the combination. The strength of their position is evident. They may, if they choose, name the Senator from among either the Democratic or Republican candidates.

The Republicans, apparently, have small expectations and have practically conceded the election to the Democrats, and among the Democrats the two prominent candidates have been W. W. Foote of Alameda and Stephen M. White of Los Angeles. It has been supposed that their strength was about equal; and there was great surprise on Sunday morning when the daily papers contained a letter signed by Foote, withdrawing from the contest in favor of White, and alleging that he was prompted to do so as his candidacy promised to divide the Democratic support, and put final Democratic success in doubt. This sort of thing is all very pretty, but those who know anything about practical politics understand perfectly well that Mr. Foote's withdrawal was based not so much upon a desire for party harmony as upon certain knowledge that he could not be elected. The combination against him was too strong and he evidently did not care to waste time and money in a losing fight. Various explanations are given as to the nature of this alleged "combination," but it does not require a great deal of shrewdness to see that its chief factor is the Southern Pacific Railroad Co.

The opportunity of the Populists lies in the fact that their assistance is essential to an election. What they ought to do is to demand from one or the other of the old parties a candidate who will be friendly to the scheme of reforms upon which they stand. If they choose to do it, they may prevent the election of any man who, is in the favor of corporations and other capitalistic interests. The danger is, that they will lack the backbone to stand by their colors.

The fight for the speakership of the Assembly was between Gould of Merced, Shanahan of Shasta and Matthews of Los Angeles. In the Democratic caucus Monday night the first ballot stood, Shanahan 18, Gould 13, Matthews 11; the second ballot resulted in precisely the same way. On the third ballot the Gould and Matthews forces united, giving Mr. Gould the election, which undoubtedly will be ratified by the Assembly in formal session. It is notable that in this contest the vote of the San Francisco members was solid for Shanahan, and it is assumed that in consequence they will fare badly in the way of committee assignments. The delegation is described as being of the usual sort, part saloonkeepers, part political hangers-on, with none among them whose record or bearing gives as-

urance of intelligence or character. The city delegation will, we fear, be a corrupt and corrupting element throughout the session.

Just as we go to press, we learn from a private source that a movement is on foot at Sacramento to organize the rural membership of the legislature into a caucus for the defense and promotion of rural interests. The project is for organization on lines similar to the plan discussed in last week's RURAL. Such a combination is entirely practical; and if properly managed, it could easily make the country element the dominating power in the legislature. It could do this without requiring of any rural representative the sacrifice of his party loyalty. We shall watch the new movement with interest, and hope that next week we shall be able to report that rural interests in the legislature are in the strong and safe hands of a body organized for their protection.

What We May Produce.

Though we are shipping to distant parts both by ship and rail immense weights of produce and receiving therefor considerable sums of money, there are still deficiency items in local production of articles for home consumption. Of course these items are almost insignificant in comparison with the imports of food supplies which California needed in earlier years, and yet the saving of their cost, or rather the distribution of it among our own people would help out a good many individual incomes. Governor Markham wisely makes an allusion to this subject in his biennial message which went to the legislature on Tuesday of this week, and the statistics he gives are of interest. The quantities given are in tons weight of the articles mentioned, and they are presented merely as estimates, not accurate statistics, of imports into the State:

Live stock.....	40,000	Potatoes.....	3,000
Wool.....	1,500	Broomcorn.....	800
Hides.....	600	Flour.....	2,500
Cured meats.....	20,000	Other mill products.....	2,500
Poultry.....	1,000	Starch.....	1,600
Butter.....	2,000	Olive oil.....	150
Cheese.....	1,800	Honey.....	50
Eggs.....	3,500	Canned goods.....	6,000
Hay.....	15,000		

These quantities can be reduced or expanded in several ways to bring them within the adequate conception of the reader. Perhaps dividing by ten to bring the material into carloads will serve most minds best. We have then 4000 carloads of live stock brought into the State, and this would be about equal weight to the whole orange crop of California for last year. The weight of imported cured meats was about half as great, representing, however, a vastly greater live weight of animals. Continue the calculation as we may it will be all the plainer that we are still dependent upon adjacent or distant States for a respectable part of our food supplies which we could as well produce for ourselves. Think of a State in which well-kept poultry is as profitable as it is here purchasing from the outside 100 carloads of fowls and 350 carloads of stale eggs. Other things in the test are almost as interesting in their way.

We are not unmindful of the fact, of course, that much of this imported food comes from regions of cheaper lands than ours, and part, no doubt, from free ranges. Still there is good opportunity to overcome even such odds by a little closer study of the arts and economies of production. It is quite possible to make a respectable figure in turning wastes and by-products into desirable and marketable material, just as the most successful manufacturers do by close figuring and constant personal attention to details.

Such calculation is not consonant with California traditions, and yet if California continues as she has advanced during the last decade, she will become quite a thrifty State in the end. Of course, as long as boom products command boom prices there will not be serious thought of the small arts of production, but the tendency is the other way, and our people will ultimately learn how to squeeze a nickel so that it will fly into five pieces. We are not anxious for such a day, and yet when it comes we shall be found with greater accumulations and with a spirit of independence and widespread condition of forehandedness which will give us greater industrial strength.

ALL things come to those who wait, and to those vineyardists who have for several years been traveling in gloomy financial vales, it seems that the sun is about to appear. Better prices for their products are assured. If the phylloxera were only annihilated, little would be wanting to make the average vineyardist a completely happy man.

WRITING to the RURAL PRESS relative to the Mediterranean flour moth, Mr. C. N. Andrews, of Redlands, suggests that millers experiment with the hydrocyanic gas treatment. By building the mills so that the treatment could be applied in the evening, say once a month, it would certainly destroy all rats, mice, etc., if not the flour moth.

Prices at the Hobart Sale.

The Effect of an Unfortunate Send-off—Mr. Tompkins Discusses the Auction System.

SOUTHER FARM, Dec. 31, 1892.

TO THE EDITOR:—Mr. W. E. Hobart made a large fortune in mining and other ventures; he then followed the example of many of the world's rich men and began to make a collection of fine trotting stock. He showed good judgment both in the selection of his advisers and of his horses; and his death was a great loss to the breeding interests of this country, and in fact to those of the whole world. From Senator L. J. Rose, one of the most interesting figures in American horse history, Mr. Hobart purchased Stamboul; from Kentucky he purchased Nancy Lee, the dam of Nancy Hanks, 2:04; and price rarely stood in the way when anything gilt-edged could be obtained. The horses were brought from all parts of the country to the stock farm at San Mateo, where they stayed until taken East for sale after Mr. Hobart's death.

The first part of December, 1892, saw the whole band on the cars for New York. Opinions were much divided as to the probable result of the sale, and especially on the question of the prices that Stamboul, Nancy Lee, Alma Mater and the other best known animals would bring. The result is well known (details of the sale were given in last week's RURAL), and on an average may not be considered discouraging; but some of the inequalities of public auction sales were so well illustrated that this feature of the sale will bear considerable attention.

Stamboul was the first offering, in accordance with the time-honored custom at Mr. Kellogg's sales of playing the biggest trump-card first. This would hardly be good whist, and in the light of several well-known instances it is a doubtful move in a horse sale, and especially when the sale takes place on a weak market. In boom times it has almost always worked satisfactorily, notably so when Mr. Kellogg began the great Rose sale of 1890 with Alcazar; but in those days everybody wanted trotters and would bid whether they had been properly warmed up or not. Those happy times are no longer with us, and it is perhaps better that things are as they are; unreasoning boom speculation is invariably disastrous in the long run.

When people are bidding and buying cautiously, however, they must have time to get into the spirit of the affair, and to this end some of the less desirable stock will generally pave the way to a more generous appreciation of the true merit of the higher valued part of the consignment. It was generally expected that Stamboul would bring anywhere from \$60,000 to \$125,000, and when he was knocked down, after a very mild competition, to a bid of \$41,000, it seemed as if the bottom had dropped out in dead earnest. Here was one of our greatest trotting stallions, a horse that had been before the public for several years, with a record of 2:08, whether entitled to the mark of 2:07½ or not, training on year after year and always sound and courageous, of magnificent conformation and grand trotting action, and the sire of nearly a dozen in the 2:30 list, while still a young horse—it would seem as if he ought to almost touch the high-water mark of trotting values.

In addition to all this, Stamboul is still a racehorse and can add large exhibition earnings, in addition to what he can earn in the stud. While \$41,000 is considerable money to have on four legs, judged by the earning capacity of the horse the sale was positive murder, in the phrase of a bystander. It proved a wet blanket, under which some magnificent animals went at a fraction of their value. The two fillies by Stamboul from Nancy Lee were positively given away, with many others, for the crowd did not get back its sand until the first day's sale was over. Then the usual result followed. When those who had stood by and lost the opportunity of their lives began to realize this, most of them evidently felt like kicking themselves. There was a slight reaction that same evening, as the Haggin consignment of yearlings by Albert W. sold fairly well.

The second day of the Hobart sale opened with a small attendance compared with that of the first day, but there was much more real business in the crowd. While the depression of the opening day was still felt, so many were disgusted with themselves for the lost opportunities of the preceding day that bidding was far better, and amounts were paid for single animals that would have bought several of equal or even greater merit the day before. Still prices were hardly what they should have been, and Mr. Henry Pierce of this State, who carried off the prizes of the day, received an offer of \$17,000 advance on stock for which he had paid \$38,000.

Throughout the entire sale there was apparently a great lack of discrimination shown. The average was not bad, but the ordinary stock frequently sold for several times its value compared with the amounts brought by some of the greatest. The trouble was that the general tone of the market was weak. At the Chicago sale of a few days before prices had been horribly low, and the unfortunate sale of Stamboul on top of this took all the courage out of the attending bidders. It has been said an auction crowd is like a flock of sheep—it stumbles in whatever direction the force of circumstances drives it; and the Hobart sale is strong evidence of the truth of the saying.

GILBERT TOMPKINS.

MR. D. W. McLEOD writes to the RURAL PRESS from Riverside, saying that the "estimate of the RURAL PRESS that the orange crop in southern California will be 7000 carloads" is too large by 2000 carloads. The RURAL PRESS made no such estimate. It gave currency to a common newspaper statement that the exports would be 7000 carloads, and added that the figures "were a trifle large, perhaps, but anyway the prospects are first class for a substantial increase over last season, which was considerably less than 7000." Our correspondent's letter, which is interesting, will appear next week.

Thirty-Eight Irrigation Districts.

L. M. Holt, editor of the *Rialto Orange Belt*, has just made an interesting compilation relative to the irrigation districts of the State.

It is found that 38 districts are now in working order throughout the State. There have been a number of others organized, but varied obstacles have interfered with their continued activity.

Three of the districts are in Colusa county, two in Stanislaus, two wholly in Fresno, three in Fresno and Tulare, three wholly in Tulare, one jointly in Kern and Tulare, five in Los Angeles, eight in San Diego, seven in San Bernardino and one each in Orange, Kern, Glenn and Yuba counties.

The 38 districts contain 2,149,724 acres; 19 districts report having voted bonds to the extent of \$11,834,000.

There are also 13 other districts that have voted \$4,942,000, and these districts have sold no bonds.

This makes a total of \$16,776,000 in bonds voted by 32 districts. There are six districts in the list that have not as yet voted any bonds.

The sale of bonds for cash amounts to \$2,622,000, and traded for water rights \$2,995,200, a total of \$5,617,200 in bonds disposed of out of \$11,834,000. The other districts are evidently not ready to sell their bonds as yet.

The assessed valuation of 28 districts is \$32,992,849. These 28 districts contain 1,515,594 acres and the assessed valuation is a little over \$21 per acre.

The 32 districts that have voted bonds contain 2,831,424 acres, and the bonded debt is an average of \$5.92 to the acre.

Of the 38 districts, the issue of bonds has been confirmed in the courts in 26 districts.

In 26 districts the report comes that the Wright Irrigation law is satisfactory to the people. Of course this means in a general way, subject to such amendments as may be deemed necessary. In one district the report is that it is unsatisfactory, in one district the report is doubtful, and the other districts are not heard from.

The Petaluma Poultry Ranch.

Calling attention to an article from the *Petaluma Courier*, in a recent issue of the RURAL PRESS, a correspondent writes and states:

"In this article it was stated that the ranch contains 70 acres, the profits being between \$1400 and \$1500 per annum. This would make the profit per acre only a little more than \$20. Is it not possible that there was a mistake made in regard to the number of acres that this ranch contains? Perhaps there are that many acres in the place, not nearly all, however, being devoted to the chicken business. It seems to me that if 70 acres were devoted exclusively to the poultry business, the owner's profits would be a great deal more than \$20 an acre."

The correspondent's query was referred to Mr. W. A. Selkirk, editor of the *Courier*, and he responds as follows:

"I have only to say that he is correct in his surmise that of Mr. Burdick's 70-acre ranch not nearly all is devoted to chicken-raising, as is intimated in the description of the place and in the closing statement that he will increase, the coming year, his stock of hens to the extent of 50 per cent. Besides, since receipt of your letter and enclosure, I have learned that the past year the place turned off some 30 tons of hay, several tons of grapes, about 1200 boxes of fruit and a satisfactory product from eight cows and heifers. If wholly devoted to poultry-raising, and all the space utilized without reference to taste and convenience, the business could be easily quadrupled. The object of the article was to illustrate the profit that could be made from an average stock of 600 hens, and the mention of the extent of the tract was merely incidental to a description of a charming home which was also a source of comfortable income."

A STRONG effort is to be made at the present session of the legislature to secure submission of a constitutional amendment, under which growing fruit trees may be exempted from taxation up to a certain age. The argument is advanced that growing grain is not subject to taxation, and that serious discrimination is thus in effect made against fruitgrowers. The proposition has been extensively discussed by the interior press, and the sentiment in the fruit districts is clearly in its favor. There are, however, serious obstacles, legislative and otherwise, in the way to a successful conclusion of the agitation.

THE new road law has gone into effect. It is now provided that "the boards of supervisors of the several counties shall divide their respective counties into suitable road districts, and may change the boundaries thereof, and each supervisor shall be ex-officio road commissioner of the several road districts in his supervisor district, and shall see that all contracts made with and all orders of the board of supervisors pertaining to the roads and bridges in his district are properly executed, etc."

THE annual report of the State Board of Horticulture has just been issued. It is a complete and very valuable work, containing, among other features, fine topographical and geographical maps of California, and accurate and exhaustive reviews of the fruit resources and products of all the counties. It was compiled by Mr. B. M. Lelong, secretary of the Board. Copies will be sent free to all who will forward 12 cents for postage to the office of the Board, 220 Sutter St., S. F.

MR. E. C. WILKES MACDONALD, of Aptos, California, sends the following remedy for milk fever:

"Take one pound of fresh yeast and dissolve in two quarts of lukewarm milk, and give it to the cow in one dose. This simple remedy was given to me by an old Dutch dairyman, and has often been applied always with good result. The well-known compressed yeast is best, but if not to be had, fresh yeast from a brewery will answer the purpose. Let our dairy-men try it and report results. It has saved many a valuable cow in Holland to my knowledge, and will do it here."

THE Anaheim beet sugar factory is a certainty, sufficient stock having been subscribed and funds pledged to assure its success. The factory will be the second in California and the seventh in the United States.

Products of 1892.

The following statistics for 1892 will be of interest and value to the producers of California and the general public:

HOPS.		
	Acreage.	Bales.
California.....	5,900	39,750
Oregon.....	5,750	26,000
Washington.....	8,200	35,500
British Columbia.....	80	350

Totals..... 19,930 101,600

The stock on hand on the Pacific coast on December 15th shows as follows:

	Bales.
California.....	12,000
Oregon.....	10,500
Washington.....	19,500

Total..... 42,000

The extent of the 1891 crop and its acreage was as follows:

	Acreage.	Bales.
California.....	5,340	36,151
Oregon.....	3,900	19,586
Washington.....	6,101	39,399
British Columbia.....	25	150

Totals..... 15,366 95,286

PRUNES.

The total output for 1891 was 27,500,000 pounds, while for the season just closed it was at least 2,500,000 pounds greater. The Santa Clara valley produced fully 20,000,000 pounds, while the other prune-producing sections, such as Sonoma, Napa, Tulare, Los Angeles, Ventura, Santa Barbara and San Luis Obispo counties, brought the total up to 30,000,000 pounds.

The total output of prunes for the State for the past six years has been as follows:

	Pounds.
1887.....	5,825,000
1888.....	8,050,000
1889.....	17,000,000
1890.....	16,000,000
1891.....	27,500,000
1892.....	30,000,000

Total..... 104,375,000

The importations for the last five years have been:

	Pounds.
1887.....	92,032,625
1888.....	70,626,027
1889.....	46,154,825
1890.....	58,093,410
1891.....	41,012,571

Total..... 307,919,458

DRIED FRUITS.

The dried fruit output for the past six years has been as follows:

	Pounds.
1887.....	17,105,000
1888.....	24,215,000
1889.....	28,690,000
1890.....	48,700,000
1891.....	63,710,000
1892 (shipped by rail to date).....	64,969,295

RAISINS.

The growth of the raisin industry is shown in the following:

	Boxes.	Pounds.
1873.....	6,000	120,000
1874.....	9,000	180,000
1875.....	11,000	220,000
1876.....	19,000	380,000
1877.....	32,000	640,000
1878.....	48,000	960,000
1879.....	65,000	1,300,000
1880.....	75,000	1,500,000
1881.....	90,000	1,800,000
1882.....	115,000	2,300,000
1883.....	125,000	2,500,000
1884.....	175,000	3,500,000
1885.....	475,000	9,500,000
1886.....	703,000	14,060,000
1887.....	800,000	16,000,000
1888.....	1,250,000	25,000,000
1889.....	1,633,900	32,678,000
1890.....	2,341,463	46,829,260
1891.....	2,641,590	52,831,800
1892.....	2,858,100	57,162,000

CANNED GOODS.

Canned goods output has been less, as follows:

Year.	Cases.
1888.....	1,360,400
1889.....	1,420,600
1890.....	1,495,300
1891.....	1,571,200
1892.....	971,000

Total..... 6,818,500

GRAIN.

According to the crop reports of the Department of Agriculture the wheat output of California reached 38,554,000 bushels, which is a full average product and considerably higher than the 1891 crop, which was 36,595,000 bushels. These reports, as is well known, are of the most conservative character, and it is not reasonable to suppose that they can be very far out of the way.

The barley crop was a fair one, amounting to some 12,333,000 bushels, and prices remained comparatively low. During the 12 months ending December 1st there were received at San Francisco 2,753,909 centals of barley, while the exports by sea amounted to 1,199,025 centals. The corn and oat crops were of an average amount, though no great quantity of either is raised in California, and they cut no appreciable figure in farm economy.

THE Porterville citrus fair closed Saturday night, after a very successful exhibition. It is proposed to make these events annual hereafter, the attendance and interest in the first giving ample assurance that it may readily become a permanent institution.

THE BOTANIST.

The Bacteriology of Poison Oak.

CLAREMONT, Los Angeles Co.

TO THE EDITOR:—What poison ivy is to the eastern States, poison oak is to the Pacific coast. By many the two plants are pronounced identical, the name *Rhus toxicodendron* being assigned to both.

The California variety attains a growth from two feet upward, not, however, to exceed a good-sized bush. It has a compound leaf of three leaflets, which are of a bright green color throughout the summer, but which change to beautiful red in the autumn. The bright colors allure the unsuspecting on till a bunch of the leaves is picked for the purpose of adorning some table or mantel-piece at home.

The poison-oak plant prefers as its habitat mountainous districts, especially canyons or the edges of creeks, but by no means is it found exclusively in those places. About each plant there seems to be a floating infection, a poisonous atmosphere, which, strange to say, has a variety of effects upon different individuals, the extremes being a painful inflammation, on the one hand, and but little or no effect upon the other; while between, lie all the possible gradations. The first sensation noticed, on being poisoned, is that of itching, which is usually accompanied by redness of the skin on the affected parts. The itching increases till it becomes almost intolerable, the skin smarts or burns, and swelling ensues.

Shortly, little protuberances appear, which increase in size till they break, yielding a transparent, sticky fluid called serum. The vesicles (as these protuberances are called) become covered with a crust and so endeavor to heal. The final stage, accompanying convalescence, is characterized by the peeling off of the cuticle on the affected parts, exposing to view the new, fresh skin underneath.

What is the nature of the poison that produces the unpleasant effects mentioned above? Is it vegetable, mineral or bacteriological—that is, produced by the ravages in the system, of microbes of disease? Such questions have confronted the investigator from time to time; and up to date, about the only results arrived at are expressed in some newspaper by a half-dozen words stating that poison of poison oak is due to germs. Doubtless, this is the truth of the matter, and it is the object of this article to present to the reader some of the evidences which sustain this truth.

The poison-oak plant is the favorite abiding-place or habitat of a microscopic germ which for the present we will call the poison-oak germ. There is nothing unusual in this, for we find similar phenomena on every hand. The white scale prefers citrus trees to feed upon; the potato bug takes to potato plants; certain plant lice prefer rose bushes; others would rather feed upon a different kind of bush; and so it goes, there seeming to be a special parasite for each plant. In the microscopic world we find the terrible bacillus tuberculosis feeding upon the lungs of unfortunate consumptives.

But we can reason in other ways better than by analogy, for if we take a poison-oak leaf and wash it in distilled water, we will find floating in the water little spherical jelly-like bodies. Bacteriologists term such sphere-like germs *micrococci* to distinguish them from cylindrical forms (bacteria) and rod-shaped forms (bacilli).

We must notice what we can about these micrococci, for we shall have occasion to refer to them again. If they are real, live germs, they should grow and multiply in any fluid upon which they can feed. Beef broth, which is usually used for cultivating and growing microbes of all kinds, has been tried, but so far has not succeeded. As they do live and thrive upon the juices of the poison oak, let us make a decoction of the roots and thus get fresh, wholesome material in which to breed them.

This decoction is completely sterilized by repeated boiling, after which it is placed in test tubes to the depth of one-half an inch in each test tube. These are set in a warm place for a few days, and if any cloudiness appears in the clear liquid at the bottom of any tube, it is to be discarded, as some unknown germ has succeeded in getting into it, and is beginning to multiply.

A tube with clear liquid inside may be used with safety as a culture medium for our poison oak micrococcus. To avoid cultivating other germs which may be adhering to the outside of the leaves or bark, we shall dampen the point of a sterilized needle with the sap from a freshly made incision underneath the bark. The needle is at once transferred to the test tube, the cotton stopper replaced and the whole set in a warm place to await developments.

In a few days cloudiness is noticed, provided our inoculation was successful, and a drop of the liquid may now be examined with a microscope. If but one kind of germ is found, we may indeed be thankful, for we have a *pure culture*.

Let us examine the myriads of forms before our eyes carefully. We see sphere-like forms in every way identical with those found in the washings from the leaf. They are the progeny of a few forms we introduced when we dropped in the needle.

Now let us turn our attention to something a little different. We will make use of two persons who are susceptible to poisoning from the poison oak; that is, who "take it" easily. On the wrist of one, we will place a poison oak leaf for a second and then immediately bind on a cloth, the leaf being of course removed. The cloth prevents any rubbing or spreading by rubbing of any infection left by the leaf. The symptoms of poisoning at once set in—the itching, the smarting and the swelling—but it is noticed that the disease, if it may be called such, confines itself to the one locality; viz., where the leaf touched the skin. If cloth around the wrist has in any way slipped, say from right to left, the disease has spread in that direction, and to the same extent that the cloth has been displaced.

The second individual allows a leaf to be in contact with

his hand for the same time as before, but instead of binding the place with cloth, he rubs his other hand over the place, then rubs his face and both hands thoroughly. Shortly, itching, smarting, swelling, etc., have set in wherever he has rubbed. The palms of the hands seem to be unaffected, however, but where the skin is thinnest, there the effects are most noticeable.

Let us now draw some conclusions from our experiments upon the persons. That the poisonous effects are largely local is certain; so that, if persons who had touched the plant would refrain from rubbing their eyes and face and hands, many severe cases of poisoning would be prevented, as the affection, which is at first local, would not be spread to other parts, and hence increase the area of inflammation.

The micrococci, on being transferred to the skin, immediately penetrate the tissue beneath (unless the cuticle is too horny or thick, as in the palms of the hands), when wholesale destruction commences.

Why is it that some people will be affected by the poison oak plant to little or no extent, while others suffer so much? This is hard to answer with certainty. It is quite probable that the state of the system as regards degree of acidity has something to do with it. Some germs thrive best in acid media of certain strength, while others require less acid or even no acid, and some thrive best in alkaline solutions. The blood differs in different individuals, in one case being in the right condition to promote the most rapid multiplication of the germ, while in another case hindering the growth and development of the germ to a considerable extent. In many cases, if not all, the disease microbe itself makes a condition that causes its own destruction. This is by a secretion, or else by the resultant action of the secretion upon the tissues.

Often these products (called ptomaines) are exceedingly poisonous, but whether harmless or harmful to the human species, they become fatal to the microbes that make them when a certain strength is reached. For instance, vinegar or dilute acetic acid is a ptomaine, and when about 17 per cent is present where the germ is at work, the process ends, for at this point the germ is killed.

But nature does not wait for the self-destruction stage to come, for in some cases this would not be reached till after the death of the individual person. She has a standing army of little cells, which is found in all parts of the body. These cells are endowed with the power of locomotion and also with the power of digesting any foreign particle that comes in their way. They are especially on the watch for disease germs, as if they knew that these latter constituted the deadliest foes of their lord and master—the individual himself. When acting as defenders of the body the cells are termed *phagocytes*.

Now, when disease germs enter the living tissues at any place, the phagocytes in the vicinity of that place congregate and proceed at once to annihilate the intruders. The great number of the phagocytes produces a swelling and we say inflammation has set in.

The micrococci of poison oak on being transferred to the surface of the skin commence their ravages, and, if the conditions are right, will soon be in the delicate tissue beneath. Here the phagocytes are encountered and great quantities of them pour in from all sides. A miniature battle ensues, the germs multiplying as fast as they can and tearing down the tissues, and the phagocytes eating them up with all possible haste. If the microbes win, the person dies; if the phagocytes win, he lives. The phagocytes conquer in poisoning from poison oak, but thousands of them are killed. The sticky serum from the vesicles formed during the course of the disease contains phagocytes, and we should be able to see the micrococci which they have eaten inside of them. Upon examining some phagocytes found in the serum we will notice the micrococci present, and they are like those we saw as coming from the surface of the poison oak leaf.

What a touching sight it would be if we could but see our faithful little phagocyte servants fighting for us to their own destruction! They are not *things*, for they eat, move, digest, generate cells like themselves, and, when the time comes, die, and are carried off by the blood.

Now let us make one more examination. Take a small fragment of the skin which peels off during convalescence. Place it in a drop of distilled water and put it under the microscope. The skin that has peeled has been the seat of action for the spread of the micrococci for a week or so, and therefore should be pretty well impregnated with them. Surely enough, myriads upon myriads of forms that are no different from those we have examined before, now appear before the eye. If such fragment of skin should contain so many, what countless millions would be found in the flesh of one's hand or face.

We see, then, that we may become the feeding-ground, so to speak, of the micrococci and furnish to them at our own expense, material with which they can propagate themselves.

But are the poisonous effects due to the micrococci directly, or are they due to the ptomaines they make? This is a question. The floating infection which exists in the neighborhood of poison oak plants or bushes may be the volatile ptomaine, but even then some of the germs must be present, or so many would not be found on the skin during the disease.

However, it is evident that the micrococci are either directly or indirectly the cause of the poisonous effects.

In the autumn, when the sap goes to the roots and the leaves turn red from oxidation, the germs seem to lose a large part, if not all, of their injurious properties. This of course is probably due to the lack of sap upon which to feed and a consequent change of state in themselves.

Remedies too numerous to mention are used by the people of the Pacific coast to diminish the inflammation in a case of poisoning. The ideal remedy would be that which would destroy the micrococci upon simple contact with them, and at the same time be perfectly harmless to the flesh. Most of the substances now used are used for the purpose of decreasing the inflammation, and one of the best of these seems to be the sugar of lead in solution, bathed upon the affected parts, but handled carefully, as

it is an active poison. While every one east of the Rockies is awaiting the remedy which will stop the ravages of the cholera, the yellow fever, or the smallpox microbe, let us be on the lookout for something which will destroy the less fatal but troublesome micrococcus of the poison oak.

F. H. BILLINGS.

THE FIELD.

The Potato Disease.

AUBURN, CAL., Dec. 15, 1892.

TO THE EDITOR:—The first appearance of this disease in the States was in 1844. I was then living in Vermont, and that year I planted one piece of land with potatoes the first of May. They ripened perfectly not a rotten one among them. The first of June I manured and planted another piece. The seed was the same. The last of August, reading of potato rot, I went to the last planted piece found them half rotten, and the leaves partly dead and rotted. The difference in time of planting, please keep in mind, it is very important.

In 1846 I was in Michigan. Potatoes rotted some there that year. In 1847 I planted potatoes in June; one-fourth of them rotted. One man here, Alexander Dean, planted every year in April, or as soon as the ground would do to work. He planted the Nechanic, an early and tender variety, and he always had sound potatoes, while his neighbors' potatoes planted the last of May or June were rotted more or less.

Now the first sign of potato disease is black on the end of the leaves and curling up. One man seeing that, cut the vines from two of the rows, bent down two rows and covered with earth, and left two rows standing. The rows left standing rotted; those cut off and those covered with earth did not rot, neither did they grow any more.

Some years later I moved to Illinois. In April I was thinking of planting potatoes, and of Mr. Dean's success with early planting and always having sound potatoes, and I determined to try an experiment. I planted $\frac{1}{4}$ acre in April and $\frac{1}{4}$ acre the last of May. I did so, and in September, commencing digging, I found the April planting perfect and sound, but as soon as I crossed the center line between the April and May planting one-half the potatoes were rotten. I stopped and leaned on my hoe and began to think now what is it that makes the difference: the April planting is all sound, the May planting half rotten. The soil and the seed are the same; certainly there must be some cause. Very suddenly it came to my mind: malaria in the atmosphere coming from decaying vegetable matter in the soil. Now, the leaves are the lungs of the potato (and all vegetation the same) and there is a circulation through the stems or vines from the leaves to the growing tuber in the ground, carrying health and growth or poison and decay taken from malaria, produced by decay of vegetable matter in the soil. The fungus supposed to be the cause of the disease is but the effect, like the toadstool on the decaying tree. An early variety of potatoes planted early gets ripe or nearly so and circulation through the vine stops before the malaria commences to rise from the soil caused by wet and heat of the sun. You will see that in the trial the man had with six rows, the two cut off and the two covered with dirt, the circulation stopped, and disease stopped also, but the two rows left standing rotted.

Watch your potatoes and if you see signs of disease on the leaves, or if the soil is wet and the sun hot, sow broadcast, quicklime or some other disinfectant. I think an early planting an early variety the best remedy; it may be late planting of the early Rose would be best here in California, so they would grow and ripen late when it is cool, and no danger of malaria.

Some time in the sixties I moved back to Michigan and was in business there. One evening I told to a crowd in the store my theory of potato rot, and that they would most always be sure of sound potatoes by planting early potatoes in April, or soon as the ground and weather will permit. The next August Mr. Ira Eldred came in the store and wanted to sell me a load of potatoes. I asked him if they were sound. He said "come and see." I went to the load and saw 20 bushels of Nechanics perfectly sound. I asked him how he came to have such nice sound potatoes. He said he was in the store one evening and heard me tell what caused the potato to rot and he thought there was something in it and tried the experiment; planted early and got this load of beautiful potatoes. He was satisfied I told the cause of the potato disease. Now they are growing and shipping thousands of bushels of potatoes from that township in Michigan. The more I think and study, the better I am satisfied it is the true cause of the potato disease—this malaria produced by decaying soil.

J. W. BARKER.

We are willing to allow our correspondent to use the term malaria just as many doctors are supposed to use it—that is to cover a cause the nature of which they do not understand. The cause of the potato rot is a fungus which is fully described and understood morphologically, but just how it operates in all cases is not known. It does not thrive, however, except where conditions favor it. By planting early or late in some localities the potato is free from fungus. That part of the "discovery" of our correspondent is practically useful.—EDITOR.

Alfalfa Culture.

Mr. Benj. Walton read the following paper on "Alfalfa Culture" at the recent Santa Ana Farmers' Institute:

All land to be sown with alfalfa should be deeply plowed and summer-fallowed; or, in my locality, be cultivated with some crop that will kill all roots and salt grass. The plow-

ing should be done so as to have the dead furrows form drains, as water should never be allowed to stand on the ground, especially if the soil is tainted with alkali. In stagnant water the main roots will soon rot away and the plants suffer for want of moisture on the approach of the dry season. All uneven places should be leveled nicely, as no one knows how often he may have to go over the land with the mower and rake. Two pieces of 2x6, 24 to 32 feet long with four cross-pieces, the same size, six to eight feet long, fastened securely between them and well-braced, then drawn endwise, will do a good job, and especially will this be necessary where irrigation is practiced. Alfalfa may be sown any time during the winter or early spring when the ground is damp, and should be sown without barley or anything else. Sow from 15 to 20 pounds of seed to the acre, harrow it in well or pulverize with a disk. It should be clipped frequently; the clippings make good feed for stock cattle. Later in the season some good cuts may be expected for hay, and enough to make up for the loss of barley hay. The value of a good stand lasting for years is hard to estimate. Barley extracts the moisture, shades the ground, dwarfs the plants, and sometimes lodges and chokes the alfalfa entirely out, where the stand would otherwise have been good. I find it difficult to thicken up a poor stand.

Alfalfa should not be pastured, and especially when the land is wet, as it forms a crust for the sun to heat the ground, and tramps up the fallen leaves that should be a mulch to protect it in dry weather, and alkali rises much quicker on land that is tramped. When cut for hay, it should be promptly stacked when dry, as no crop suffers so much from bleaching and loss of weight if not promptly cured. The rate of interest the loss would make I cannot tell. If you will allow me to digress, I will say barley cut for hay should be immediately stacked so the stubble can be raked before the scatterings bleach. You will be surprised at the amount and value of your rakings and the weight and good color of your crop.

Gophers and the dodder or love vine are the great enemies of alfalfa. The former I catch with C. V. wire traps. See that the points of your trap are sharp; then take a piece of No. 16 baling wire and pass it through the springs and around the coil; twist it close around, once will be sufficient; then fasten the ends together so as to form a ring to stick the flag-stake through. By this device, nothing can pull out the trap unless the stake comes with it. I use a rod of quarter-inch iron to probe the fresh piles of dirt to locate their open holes; then with a half-round hand shovel used in weeding onions, I open the hole, set in the trap, and cover the hole and trap with litter or alfalfa to darken the hole. Touching the dodder pest or love vine, I pay but little attention to it, except to mow it close and allow it to dry before raking. Never mow when the alfalfa is wet; the severed bits of dodder remaining on the field again attach themselves to the host and thrive. With me it has proved to be an annual. I have sometimes taken a sharp scythe, mowed the patches close, and let the sun dry it and burn it. Of course, local conditions of soil and water require different treatment; hence these meetings and discussions.

Alfalfa-hay should never be left out in stacks during the rainy season, as it does not shed the water well, but moulds and rots quickly. If baled for market, it should be stored in tight barns or warehouses. It bleaches in sheds and must be kept well off the ground, as it absorbs moisture and spoils more easily than most any other hay crop.

TRACK AND HARM.

Stamboul's Record not Genuine.

The following letter in a San Joaquin county paper from one of the judges in the recent performance of Stamboul against time at Stockton, November 23d, when he was alleged to have broken the world's stallion record in 2.07½, will be likely to cause a sensation: I desire to make a few remarks through the columns of your paper relative to the turf scandal that has been going the rounds of the press about the record of Stamboul alleged to have been made on the Stockton track November 23d. On the morning of that day I served as one of the judges with Hon. B. F. Langford and W. H. Parker when Stamboul made the reported time of 2.07½. As I expected there would be trouble about the legality of the record, I did not sign my name in the judges' book. I might state also that Mr. Grant Campbell was one of the regularly appointed timers for the event, but no paper, so far as I can learn, has published the fact that Mr. Campbell was one of the timers. The Stockton Mail stated the other evening that all the judges and time-keepers declare that the horse was not started until after 10 o'clock. I for one never made any such statement for the very good reason that I knew the horse was started before 10 o'clock. The Mail also stated that several other men in the stand and upon the ground held their watches and none of these questioned the accuracy of the time-keepers' report. I can state positively that there was one gentleman standing directly under the wire when the horse started and he timed the full mile. Both he and his watch are reliable, and he said his time was several seconds more than that reported by the time-keepers. There were several others whose time did not agree with the official report and they are well-known and reliable horsemen. I became tired of reading so many false stories in regard to the matter, and as my name was mixed up in the mess in an unenviable way, I deemed it best to publish this letter. I have no personal interest in either Stamboul or Kremlin, but I simply desire that the truth of the whole affair shall come out. I have been accused through the papers of having received "hush money" but I guess this letter will queer that yarn. I am in possession of facts in connection with this matter which I do not desire here to make public, but any time I am

wanted to make a statement of facts before the Board of Review of the National Trotting Association, I will do so under oath, and will furnish other witnesses who will bear me out in my statements. Until further notice I can be found at Lodi, Cal.

Respectfully,

JOHN S. KEARNEY.

Track Winnings for 1892.

The winning sire list of thoroughbreds shows 12 stallions whose get have won over \$50,000 and upward during the past season. Iroquois, winner of the English Derby and St. Leger of 1881, is at the head of the list, with the imported horse Mr. Pickwick (now dead) second, and the native horse Spendthrift third. Rayon d'Or, who headed the list in 1889, is now ninth, and St. Blaise, who led in 1890, is tenth. Old Longfellow, who headed the list last year, is fourth this time. The following table shows the number of starters by which each horse was represented, and the total amount of money won by the get of each:

Iroquois, 37	\$156,350
*Mr. Pickwick, 27	111,287
Spendthrift, 37	108,817
Longfellow, 48	98,087
*The Ill Used, 24	94,793
Onondaga, 45	90,550
Eolus, 19	83,470
*Sir Modred, 34	75,582
*Rayon d'Or, 34	71,030
*St. Blaise, 31	59,992
Miser, 10	57,490
*Billet	56,320
Total	\$1,061,758

*Bred in England.

†Bred in New Zealand.

This total sum of \$1,061,758, divided among the get of 12 stallions, gives an average of \$88,480 for each sire. Iroquois has three that won over \$10,000 each, being Tammany, \$72,390; G. W. Johnson, \$16,180, and Helen Nichols, \$10,050. As Iroquois had 37 starters this would give about \$4,225.70 as the average for each horse. Mr. Pickwick's share of the public money was less by something over \$45,000 than what the tribe of Iroquois carried off. His two largest winners were Sir Francis with \$43,582 and the "Alice Bruce colt" with \$24,570; and his average for 27 representatives is \$4121.80 per head. Spendthrift had three that crossed the \$10,000 mark, Lamplighter, with \$48,692; Kingston, \$17,140, and Pickpocket, \$11,405. His average for 37 starters is \$2,941 each. Longfellow had Wadsworth, \$13,390, to his credit, and Longstreet with \$11,500. His average for 48 head is \$2043.48 per head.—Hidalgo.

THE STOCK YARD.

Live Stock Notes.

The only safe rule in caring for young stock of any kind is to "count that day lost which sees no" pound of gain. Keep them growing all the time.

Some one or more of the books which treat upon the diseases of domestic animals should be in the library of every farmer. An early application of some of the most simple remedies given there for common diseases may save the life of a valuable animal, or hold the disease in check until the veterinarian can be called.

The sheep in this country on Jan. 1, 1892, were said to have increased in number 602,865, and in value \$15,461,509, over Jan. 1, 1890.

The horse that gets his foreleg over the halter is apt to be a poor horse afterward. Either the injury is apt to cause a permanent lameness or the strain causes a weakness that makes him lazy ever afterward. Make the halter long enough for him to lie down, but not long enough for him to get his leg over. Some do this by putting the halter rope into a ring at the top of the head, bringing the end down through the ring under the jaw when they lead him out, which they think gives a better purchase in leading him. Others pass the halter rope over a pulley and affix a weight which will keep the rope taut whether he stands close or afar back. Either are good ways for a horse given to pawing in the stable.

The practice of washing out the feet after each drive helps to keep the hoof moist and tough, and should be followed by every horse-owner. "No foot, no horse," is an old saying.

Experiments in Feeding Steers.

The following bulletin has been issued by the Kansas Agricultural Experiment Station:

Bulletin 34 of the Kansas Experiment Station, at Manhattan, contains a report by Prof. C. C. Georgeson, agriculturist, of a valuable series of experiments in steer-feeding.

Twenty grade Shorthorn steers, averaging about 1200 pounds in weight, and all having their horns removed, were selected out of a herd of about 200. After some weeks of preliminary feeding, to accustom the steers to their new quarters, they were divided into four lots of five steers each, and treated as follows:

Lots 1, 2 and 3 were kept tied in the barn, except for an hour or two during the middle of the day, when they had the range of an open yard, in which was a shed, open to the south, into which they should go at will. All the cattle had what fodder and prairie hay they would eat, and in addition a grain ration, which was carefully weighed out to each steer in the barn-fed lots, so that the exact amount eaten by each lot could be determined. The grain ration was as follows:

To lot 1, a mixture of cornmeal, oilmeal and bran, so adjusted as to give a relatively large proportion of albuminoids to carbohydrates in the ration. To lot 2, cornmeal only. To lots 3 and 4, ear-corn only.

Following are the local prices of the feeds consumed:

Ear-corn, 33 cents per bushel, \$9.40 per ton; cornmeal (home-ground), \$11 per ton; shorts, \$10.80 per ton; bran, \$8 per ton; oilmeal, \$27 per ton; tame hay, \$5 per ton; prairie hay, \$3.50 per ton; cornstalks, \$2.50 per ton.

The experiment continued from November 30th to May 30th—six months. The total cost of the cattle, delivered on the experiment farm in November, amounted to \$3.41 per hundred pounds; lots 2, 3 and 4 were sold at \$4.10, and lot 1 at \$4.20 per hundred pounds in May—the fall price being high and the spring price low owing to the market fluctuations.

The following statement gives the financial results of the operation, the cost of freight and commission being added to the original cost:

Lot.	Average gain, pounds.	Total increase in value.	Cost of feed.	Loss.
1	436	\$130 00	\$155 00	\$25 00
2	268	88 00	106 00	18 00
3	284	89 00	104 00	15 00
4	391	89 00	126 00	37 00

It will be observed that this statement shows the best results financially from feeding ear-corn in the stable, the lot thus fed making nearly as great a gain, and at considerably smaller expenditure for food, than the lot fed outdoors, and this in a climate particularly favorable to outdoor feeding.

The advance in price was about three-quarters of a cent per pound; had a full cent been realized, the increased value would have covered the cost of feed, but no margin except the manure and the possible gain from hogs following the cattle would have been left to cover the cost of attendance, interest on the investment, etc.

The experiment was purposely continued for a longer time than is usually found profitable to feed, and the full details show that if the cattle could have been sold at an earlier date at the price finally realized, there might have been a small profit, as the rate of gain was much more rapid during the earlier than during the later months of the experiment.

THE VINEYARD.

Grafting Against Phylloxera.

The following additional report on the condition of viticulture in the Napa valley has been filed by E. C. Priber, one of the State Viticultural Commissioners. The report was prepared by A. Warren Robinson, who has just completed the canvass of the county.

NAPA, Dec. 10, 1892.

It would be exceedingly difficult for any one to accurately judge of the amount of vineyard acreage in this county now infested by phylloxera, even approximately. Some vineyards, and they are not few, are entirely destroyed, and the remnants of quite a number will be dug up this winter. But it has been noted in the past that many vineyards have suddenly shown signs of the presence of the destroying insect, and whole blocks of vines have died in a very short time, indicating, evidently, that the phylloxera had, unknown and often unsuspected, been for some time hard at work at the roots.

So it is to-day. Vines that show no signs of disease may soon be swept away. It is for this reason that hardly any one can judge accurately of the amount of vines now infested. Those that are badly diseased, or even to a fair degree, can be detected by the practiced eye, if signs of this condition of things appear above ground. But detection often comes when the vines are thoroughly diseased.

Therefore, it may be safely stated that the results of the ravages of the phylloxera in our vineyards during the year or two to come, cannot now be accurately estimated, and the figures given in this report do not begin to show the vastness of the injury now working and to follow within even two years.

Since the time resistant were first planted in this county, different parties have had much expensive experience in grafting foreign varieties upon them. Failure attended many of the first trials, but, profiting by past efforts, grafting is performed, if proper care be taken in every detail of its operation, successfully. "In my vineyard ninety-nine per cent of grafts have taken and grown vigorously," said one vineyardist.

Many of the failures in years gone by were due to too deep and too careless grafting. The soil was dug away from the resistant vine several inches and the stock cut off some distance from the surface. Where this method was practiced a very large per cent of the grafts often died. The union of stock and scion was imperfect. In cases where the scion was not inserted so low down, but still a few inches below the surface, failure resulted because the roots the scion threw off were not removed, through inattention or lack of knowledge. The consequence was that as they grew they forced the scion out of the stock and failure resulted.

The best success now attained by some persons, who have had much experience in grafting, is to insert the scion in the resistant stock quite near or at the surface of the ground. Care should always be taken to see that any rootlets the scion may throw off are removed. If permitted to grow, the phylloxera may, as often has been the case, prey upon these roots and destroy the vine. When this occurs, the resistant stock has frequently been condemned, though unjustly, as non-resistant.

When due care has been taken, success has universally attended grafting upon resistant stocks. Inner bark of stock and scion must be sure to meet, and after tying, the earth should be firmly pressed around the graft. If the cleft graft is used and but one scion is inserted, the cleft to one side of the scion will readily heal although there has been some dispute on this point.

The method of inserting the scion in the side of the stock, at an angle, allowing the resistant vine above the graft to continue its growth until the union is perfect, then to re-

move that portion of the vine above the scion, has been tried, but not always with success. The theory may be good but the result has often been that the wind would sway the vine back and forth and the graft would be forced out.

Again, it has been found best to allow the resistant stock to attain good size before grafting, as, if the graft is inserted too early, there will not be sufficient strength in the stock to support the scion; or the scion may overgrow the stock and the result be far from what is desired. But where due care is taken in all the essentials, grafts grow readily, rapidly and yield bountifully, even bearing the first year or two. Said a vineyardist who has had abundant success in grafting resistants, "I took this fall from a scion inserted in Riparia stock last spring, eight pounds of excellent grapes." Another, who has had considerable experience in grafting, said, "From two-year-old Sauvignon Vert grafts inserted in Riparia stocks, I gathered this fall as high as thirty-five pounds of grapes to a graft."

In more than one instance inquiry elicited the information that it was preferable to plant resistant cuttings where they were to permanently remain in the vineyard. If planted in the nursery and transplanted when the roots had well grown, there is, of necessity, more or less of a check to the growth of the vine. The experience of one practical vineyardist of many years observation has been that cuttings have, in a year or two, overtaken rooted vines that were transplanted. On the other hand there are those who contend that it is easier to care for the resistant cuttings in the nursery until they are well rooted and at much less expense than to plant cuttings at once in the vineyard. There are those who favor the one plan—some the other. But many strong and unanswerable arguments are presented in favor of the method first mentioned.

What is required in successful grafting is patience, care and watchfulness, at the time of grafting and for some months thereafter. If this system is pursued, success should attend grafting, as has been proved, conclusively, by the experience of many vineyardists in this county.

A. WARREN ROBINSON.

ENTOMOLOGICAL.

Foreign Tree Pests and Diseases.

The following paper was read at the last regular meeting of the State Horticultural Society by Alexander Crow, State horticultural quarantine officer: The subject of Foreign Tree Pests and Diseases assigned to me at your last meeting is one that does not take up the insects with which the fruitgrowers of this State are familiar. Nevertheless it will be of interest to the horticulturists to know the different destructive species that I have found upon imported trees, plants and shrubbery from different parts of the world. It is not necessary for me to point out the importance of quarantine restrictions upon all plant life imported or brought to the State from outside districts. The introduction of and our expensive experience with the destructive "cottony cushion scale," *Icerya purchasi*, is still fresh in the memory of many fruitgrowers. The onward march of this fell destroyer in spite of the heroic measures adopted to stamp it out, or even keep it in check, is now a matter of history. Many a valuable orchard, beautiful shade tree and lovely shrub or flower was chopped out root and branch and committed to the flames as the result of the introduction and spread of that pest. This was done in the hope of exterminating this insidious foreigner but was of little if any avail. At that time (1887) the future of citrus culture was dark indeed. Men who had spent their money and the best portion of their lives in the planting and development of their beautiful orange groves could see no ray of light through the dark cloud that hung over portions of the State. It was only a question of time until the whole State should be invaded. The thorough disinfection or the destruction of those trees upon which that pest was introduced would have saved hundreds of thousands of dollars of property and costly experience with washes and chemical fumigation.

When it is considered that nearly all of the more destructive insect pests found in the orchards of this State have been introduced, it will be seen that we cannot be too strict in our inspection and quarantine of imported trees. The destructive red scale *Aspidiotus aurantii*, was introduced upon citrus trees from Australia, and is undoubtedly a native of that country, for I have never found it upon fruit or trees from any other portion of the world with which we have dealings. This pest can be traced to four different importations of trees from that country about eighteen years ago, and from those centers it spread; but I am not aware of a single case of this species north of Tehachapi, although there is another very closely allied species that is found in a number of orange orchards in the central counties that is often called the "red scale;" this is the "yellow scale," *Aspidiotus citrinus*, and can be distinguished from the "red" by its habits of attacking the leaves and fruit, and very rarely the twigs or branches, whereas, the true red scale can be found as numerous on the bark as on leaves or fruit. The yellow scale was introduced from Japan in the early seventies. The black, soft, oyster-shell, and others are imported species, and the pernicious or so-called San Jose scale is unquestionably of foreign origin. In regard to the latter I have been informed by Mr. John Britton, of San Jose, that the first orchard infested with this scale was that of the late James Lick, and he was of the opinion that the trees were received from Chile. The injury caused by this scale is too well known and need not be referred to. In recent years great improvement has been made in remedies for scale pests, both in regard to cheapness and effect upon the tree. But with all these improvements it was found impossible to destroy one of the species (*chionaspis biclavus*) of scale insects infesting an importation of 325,000 orange trees that arrived about eighteen months ago from the island of Tahiti.

The owners of these trees made every effort to destroy those scales in order that the trees could be passed upon and released from quarantine. But after five treatments with hydrocyanic acid gas, the most effective agency we have—used at double and treble strength—the scales survived, as they are protected by a very thin covering or skin overlying the bark under which they locate. The trees were also dipped, root and branch into an insecticide, and that too failed; so the court, after weighing these facts, ordered them destroyed. We cannot estimate what the damage would have been had that insect become established in the orchards of the State; but of one thing we are certain—it would not have benefited the trees. The long or Glover's scale, *Mytilaspis gloverii*, has been found upon citrus trees from Florida and also from Japan, one lot from the latter country being so seriously infested that I burned them. This scale proved to be a very serious pest when first introduced into Florida, and destroyed a number of the old groves. The "purple scale," *Mytilaspis citricola*, is like the long scale, but broader, more curved and of a purplish instead of brown color. It is a pest in Europe, and has also been found in great numbers upon citrus trees from Florida. Both species attack the bark, leaves and fruit.

The "Florida red scale," *Aspidiotus ficus*, was found upon an importation of orange trees from Florida, a shipment of palm trees (*Lantania borbonica*) from Cuba, where this scale is said to be a native, and also upon a lot of *Ilex latifolia* from Japan. This is a more conspicuous scale than the others, and is also very destructive.

The "Chaff scale," *Parlatoria pergandii*, has also been found upon trees from Florida and a closely-allied species, *P. proteus*, from the islands of the Pacific. The "wax scale," *Ceroplastis floridensis*, from Florida and *C. rusci* from Japan are very conspicuous and rather pretty scales. The latter species was found upon gardenias, oranges and camellias, the former upon citrus trees. Another scale somewhat resembling the *Ceroplastis* is the *Ctenochiton perforatus* from Australia upon palm trees. This is said to be a destructive species of coccidae. Another soft scale from Australia was found in numbers upon ornamental trees; it is the *Dactylopius iceryoides*, and, as its specific name indicates, resembles the family to which the cottony cushion scale belongs. Another cottony scale or mealy bug, *Dactylopius destructor*, was found upon coffee and other plants from Honolulu. Banana plants from the same place were infested with a species of white aphid. Two shipments of plants, ardisias and gardenias, from Japan were seriously infested with the cottony scale, *Pulvinaria camellicola*. This resembles the maple scale of the eastern States, but is narrower and smaller. Upon trees from Japan I found the troublesome pest *Chionaspis citri*. The males of this species are small, narrow, white scales and become so numerous that they completely cover the stem like whitewash. This species has also been found upon trees from Australia. It attacks the trunk and branches. In writing about this scale in Louisiana, Prof. H. A. Morgan says: "When this species infests young shoots, the plant succumbs to the attack just as quickly as it would to that of the Glover scale." A scale belonging to the same family as the black and soft-brown scale was received upon palm trees from Honolulu. This is a very conspicuous species, as it is almost a jet-black and lies very flat upon the leaf; it is *Lecanium depressum*.

Upon the stems and large branches of camellias, azalias and peonies is frequently found a large species of scale that so closely resembles the bark it is very difficult to detect it. A small black *Aleyrodes* is also found upon camellias. A circular black scale resembling the Florida red scale infested palms from Australia. It is *Aspidiotus rossi*.

Besides the foregoing, nine undescribed species have been found upon deciduous trees. Ornamental trees and plants from the eastern States are frequently found to be infested with scale; also eggs of leaf-eating insects.

Peach and other trees from the East are generally infested with root borers and should be condemned. Two large consignments of peach trees from the East were found infested with the terrible black aphid, *Aphis persica niger*, and were destroyed. This is a new pest to the peach, and as it attacks the roots it is more difficult to fight. Nurseries of 100,000 trees have been destroyed by this pest in three weeks' time. When the trees are dormant this aphid can only be found upon the roots. The half-grown insects are very dark green and when full are a shining black. When trees are found to be infested with this pest no time should be lost in destroying them. Disinfection or fumigation should not be relied upon.

Blue Gums for Fuel.

In conversation with a ranchman of the valley yesterday, a Santa Ana Blade reporter gleaned a few facts concerning the growth and value of blue gum as fuel. The gentleman said:

I have five acres of land which I did not consider good for farming, so I set it to blue gums. I cultivated the land at first sufficiently to keep the weeds down until the trees could get a start to growing well; after that I paid but little attention to them. They grew rapidly and but few died, and at the expiration of seven years I cut my trees into firewood, for which I found a ready sale at a satisfactory price. The stumps I left soon began to grow again and send up shoots. I left three shoots to the stump and gave them no care, and in five years cut them down again and realized twice as much wood and money as I had at the first cutting. I am now awaiting another growth from the same stumps. I have made a careful estimate of the amount of money realized off of the five acres in blue-gum trees and the time required to produce them, also a careful estimate of the same number of acres that I have farmed for the same length of time, and, upon comparison, find the five acres in blue-gum trees have made me the most money, to say nothing of the labor I have used in farming the five acres.

HORTICULTURE.

The State Horticultural Society.

The regular monthly meeting of the State Horticultural Society was held in San Francisco Friday of last week. There was a good attendance and discussion was largely upon pruning and the time to plant young trees from the nursery.

Mr. Overacker, of Alameda county, stated that it was a growing practice in his locality not to prune cherries after four years of age. Peaches must be pruned every year so as to counteract heavy growths and to make practicable treatment for scale bugs. Prunes must always be more or less pruned.

Mr. A. T. Perkins cited an instance at San Lorenzo where unpruned cherry trees thrive, and pruned trees, though still young, are sickly.

Mr. Miles, of Placer county, said in his locality it was not a good idea to prune after the second year. The reason is found in the shallow soil of that locality.

Mr. Shinn always made an exception in pruning cherries in favor of the Black Republican. If not pruned heavily every year, the berry is always very small for shipment. The Royal Ann, after the fifth year, he thought, bore more heavily unpruned.

In response to a question, Mr. Pryal, of Alameda, stated that in his opinion, the best age at which to plant an apple tree is when it is two years old, though on a hillside with a southern aspect it is safe to plant them when one year old. Others can well be planted at three and even four years, providing extra care is given in planting and treatment of the tree afterward. Prof. Wickson called attention to the difference in conditions that surround trees in orchards and in gardens. In the former the same care cannot be given as in the latter, and it is not safe to plant them at so advanced an age. For ordinary purposes it is better to take a tree as young as possible for planting. Generally, also, the smaller the tree the better, if it is thrifty. Mr. Ramsey stated that in his experience, young trees, especially peach and apricot, had proved more satisfactory than large trees. He had found, however, that apples and pears can be successfully handled at 2 years of age.

Fred C. Miles stated that for peaches, they preferred in his region a dormant bud or a June bud. In most other trees they preferred yearlings.

Mr. Rowley reported the discovery of dangerous scale bugs in recent importations of Mexican oranges. Commission men claimed that there was no danger of spread, inasmuch as the same scale had been on the imported oranges for the past nine years.

The following subjects of discussion were reported for the January meeting:

Future of the Olive Industry, B. M. Lelong leader.
Varieties of Trees for Ornamentation of Schoolhouses, etc., Prof. C. H. Allen, San Jose.
Trees for Ornamentation of Highways, A. L. Bancroft, of San Francisco.

In a communication to the society, C. M. Wells, Superintendent of Construction for the World's Fair Commission, recommended that the society indorse the "scale for judging citrus fruit" adopted at the late Fruitgrowers' Convention at San Jose. A committee was appointed to draft suitable resolutions on the subject, with reference to its introduction as the scale to be used at the World's Fair and at all exhibitions where California fruits are to be judged. Following is the committee: B. V. Rowley, Fred C. Miles, E. W. Maslin.

C. M. Wells, Los Angeles; James Boyd, Riverside; G. M. Gray, Chico; Alfred T. Perkins, Alameda and B. M. Lelong, San Francisco, were appointed a committee to encourage exhibits by fruitgrowers at the World's Fair in the competitive lists rather than in the California State building.

The following standing committees were appointed in accordance with the provisions of a new constitution:

Legislation—S. J. Stabler, Yuba city; S. F. Lieb, San Jose; E. W. Maslin, Loomis.

Subjects—W. P. Batchelder, San Francisco.

Apples and Pears—A. Block, Santa Clara.

Peaches, Nectarines, and Apricots—R. C. Kells, Yuba city.

Plums and Prunes—J. L. Mosher, San Jose; Prof. C. H. Allen, San Jose; I. H. Thomas, Visalia.

Cherries and Small Fruits—J. C. Shinn, Niles.

Figs, Dates and Raisins—E. W. Maslin, Loomis.

Citrus Fruits—Fred C. Miles, Penryn; James Boyd, Riverside; H. J. Rudisill, Los Angeles.

Olives and Olive Oil—John Rock, Niles.

Nuts—W. B. West, Stockton; F. Gillet, Nevada city; A. T. Hatch, Suisun.

Nomenclature—H. Overacker, Jr., Centerville; Leonard Coates, Napa; Fred C. Miles, Penryn.

Native and Seedling Fruits—Prof. E. J. Wickson.

Forestry and Irrigation—Henry A. Brainard, San Jose.

Entomology—Alexander Crow, San Francisco; Ed. M. Sheburn, Mountain View; W. E. Johnson, Palo Alto; C. W. Woodworth, Berkeley.

Botany—Prof. C. H. Allen, San Jose.

Ornithology—W. H. Price, Palo Alto.

Soils and Fertilization—Prof. E. W. Hilgard, Berkeley.

Marketing and Fruit Products—A. L. Bancroft, San Francisco.

The following new members were elected:

C. M. Wells of Los Angeles, superintendent of horticulture in World's Fair Commission, and Dr. A. Liliencrantz, San Francisco.

THE growers of Sutter county have decided to organize a local fruit exchange. This movement for protection and mutual advantage has had effect in nearly every part of the States.

THE HOME CIRCLE.

Launching Ships.

Written for the RURAL PRESS by ISABEL DARIING.

Below the falls the waters spread
From sandy beach to wooded shore;
Serene at length, beyond the rocks,
Beyond the maddening rush and roar,
They circled to a sheltered cove
Where willows drooped and lilies grew
Along the margin, and each day
Shy birds, with thirst, each day made new,
Bowed low to sip, uplifting then
Their glossy heads and reverent eyes,
With chirps and twinkling melodies
That ever seemed a sweet surprise.

An elm that trembled long ago
Upon the spring-time torrent's brink
Still leaned and held one pliant bough
Above the lake, to rise and sink
As wandering zephyrs came and went,
Or lash the waters into foam
When tempests gathered in a rage
To drive the truant zephyrs home.

One summer day a happy child
Had built a tiny fleet of ships,
Then eagerly had sought the cove
With sailor music on his lips.
He saw and climbed the pliant bough,
While still one little, sun-browned hand
Held fast his treasures. One by one,
He sent these ventures forth unmanned,
Unguarded, save as clear-eyed Faith
Had trimmed the sails to catch the breeze,
And Hope had watched them as they left
The harbor by the bending trees.

A snow-white pennon marked with ink
Quivered and danced about the mast:
"Go find some other fellow now,"
The boy had written "hurry, fast!"
'Twas poorly done, the letters strolled
In zigzag lines from end to end,
Yet seemed to bear, for seeing eyes,
The blessing of a hidden friend;

A friend whose faith and hope were strong,
Who knew the common wants and needs,
And, in the love of giving, joined
A generous thought to generous deeds.
The ships might not return to him,
But somewhere, on the farther shore,
Might cheer some other childish heart
With joy it had not known before.

Old Uncle Cyrus.

A True Story.

Written for the RURAL PRESS by MRS. MAGGIE DOWNING BRAINARD.

EV, I place the safety of my wife and children in your hands. Will you be true to my flesh and blood?"

"I will, Marse Jared, I swear it, so help me God. I'll bring Miss Rachel and the children back safe and sound, or I dies with 'em."

"Thank God, I knew it," fervently answered father, as he grasped the black hand of his faithful servant.

"Our home is directly in the line of the advancing armies, and I fear will be in the middle of the battle-field. The only safety for the family is in flight. I put them in your charge. Go directly to Brownsville and remain at Major Robertson's until morning. Then take an easterly course for the Alabama line, and make no definite halt until you get to Eufaula. Remain there until you hear from me."

"All right," was the prompt answer.

"Attend to everything for your mistress," continued father. "Remember what a master I've tried to be to you, and repay me now in this trying hour. If I'm carried north a prisoner, watch over my family and be true to them—until—" in a choking voice—"until we meet again, be it in this world or the next."

"God bless you, Marse Jared," said Uncle Cy, "we've been raised up together by old Marse, with the same principles, and though your skin's white and mine's black, we's got the same kind 'er white soul."

"Then go," said father, excitedly, as mother came up crying bitterly. "The fighting armies are advancing rapidly. Good-bye, my dear wife and poor little refugee children. God be with you. Keep ahead of the armies, Cy. Good-bye."

Away we flew in a stout spring market wagon behind a team of swift horses. Trunks and valuables had been hurriedly tossed into every available space of the vehicle, barely leaving room for us to crouch on chairs and stools.

Mother soon sobbed herself into a dreadful headache, and Uncle Cy, contrary to his usual sunny nature, had nothing to say; but, giving his old felt hat a nervous jerk every once in a while, silently drove the faster.

We reached Major Robertson's just at dusk, after a long, hot journey. Here a warm welcome greeted us, and our still suffering mother was put to bed to rest.

The country was in a state of general excitement.

This portion, however, was considered safe from invasion, being out of the direct line of the advancing parties. There is no accounting, though, for the freaks of war or its uncertain phases, hence the very citizens who comfortably went to bed at night with every assurance of safety were aroused before midnight by gunshots from retreating cavalry on the one side and advancing infantry on the other, and the morning light saw an encamping army in the heart of the town.

General Grant had sent a detached corps around by Jackson to flank Gen. Gregg, and so, in the circuit to join the main federal army on its way to besiege Vicksburg, they had come directly through the town.

Being caught within the lines, our journey was naturally at an end, and so it was decided as soon as the army moved on, that we should return home. This was easier decided upon than done; for, for some reason to this day unexplained, the encamped division seemed to have gone into spring quarters.

A week thus passed, a week of mortal agony to mother. Not a word could be heard from father, and the suspense nearly drove her crazy. We happily were too young to realize consequences or responsibilities. Every negro belonging to our kind friend's household walked away. "Bottom rail's top now," proclaimed the big, fat cook as she left the yard. "You'll have to git up and git you brek'fuss, and mine, too, when dis war's ober. Wite folks got to work for niggers now shore, caus Marse Abe say so;" and away she sailed in pompous glory. Uncle Cy was as attentive to us and as respectful to mother as ever. Nothing seemed to shake his fidelity.

Ten days passed, and no change. Mother was growing thin and weak from mental suffering. On the eleventh day, Uncle Cy walked into the sitting-room, where the inmates of the house were assembled in miserable idleness, awaiting they knew not what, and respectfully holding his hat in his hand, bowed to us all, then addressed mother.

"Miss Rachel, I'm going home."

O Cy!" fairly shrieked mother, jumping to her feet and excitedly wringing her hands, "for God's sake don't desert me."

"Never, Miss Rachel, never," proudly answered the old man; "but I'm going home to see 'bout Marse Jared. I can't stand it. I can't hear nuthin' from him, and I jes' don't know what's become of him. So be quiet now and listen."

"But something may happen to you," still excitedly answered mother; "you may be taken for a spy and hung, or—or—Cy, you may be persuaded away with fine offers. The country is so unsettled I know you will never reach Raymond."

"My mind is done and made up, Miss Rachel. I must go and see 'bout Marse Jared. Me and him has been raised up together, and ever since old Marse died and give me to him we's stood by one 'nuther. I went in the army with him and stood by him on the battle-field, and brought him home when he was most dead, and now I can't rest, Miss Rachel, when I think may be he's—he's—"

"What, Cy?" gasped poor mother.

"Hem—he's—well he's—sorter—hem—uneasy. I must go; there's no use talking 'bout it. Write me a letter and gimme, and I'll start right off."

Finding further words useless, mother wrote the letter. Uncle Cy carefully drew out the pegs from the sole of his right shoe, inserted the closely written letter between the soles, and then securely repegged it. After bidding us all good-by, he left.

He proceeded directly through the troops unmolested, until he had gained about half the distance. Here he was called to a halt by the master of a broken-down wagon train and ordered to go to work.

Grasping the situation in a moment, he knew the best way to do was to quietly obey, work until dark, then make his escape.

Without saying a word, he picked up a mallet and hammer and started for work. In this he was interrupted by the master.

"Look here, boys," said he, "that is a sharp, shrewd nigger, and I believe the old gray-headed rascal is some rebel spy. Search him."

No sooner said than roughly done, and Cy was made to strip without a word. In it all he civilly helped.

"Off with them shoes!"

With a little tremor in his voice, Cy interposed. "Let me take them shoes off, gentlemen, myself, for that's beneath a gentleman to handle a nigger's dirty, sweaty shoes, and I've got too much respect for you to 'low that."

This raised a big laugh, and in the moment of good humor Uncle Cy pulled off his shoes, holding adroitly concealed in the palm of his hand the newly-pegged sole.

Thus, by quick wit he was restored to favor and to work.

At nightfall he laid down his tools, and, watching his chance, disappeared in the woods. Under the shelter of forest and sage-fields he reached home. How often have I heard my father tell of the arrival of that faithful creature, and how they hysterically laughed and cried when they greeted each other; how Uncle Cy went to the quartermaster's and drew rations for him and made him as comfortable as surrounding circumstances would permit, and then how light-hearted he started back to bring us home again, for the army had passed over Big Black river and was encamped in sight of Vicksburg. Five long days to sick mother, and then a shout from the children at play in the yard at the close of the fifth proclaimed Uncle Cy's return. In he came for happy greetings for all, his brown face shining with joy that told good news from father before he spoke.

The next day we bade good-bye to our kind friends, and with the happiest of hearts arrived home late in the evening. He served faithfully until the close of the war, and is now nicely fixed on a place of his own at Vicksburg. This is one of the many true incidents that have happened in the South.

Hints for Housekeepers.

While the custom of keeping a light in the nursery at night is a bad one for many reasons, there are some mothers who still prefer to adhere to it, and to such we would commend the best night-lamps as being preferable to gas or an ordinary lamp. If a common oil lamp is turned low, it will smoke and emit a disagreeable odor, while if a gas jet is lowered too far there is danger of its being extinguished by the wind, and thus endangering the lives of those who occupy the room. German tapers may be obtained by the box for a small sum at any drugstore, and when used according to directions they make a steady light, and produce neither odor nor smoke, and very little heat.

A persistent washing and rinsing in milk will remove an ink stain.

To remove a glass stopper that has become tightly wedged, put a drop or two of sweet oil in a crevice about the stopper and it will loosen in an hour or two.

Strong ammonia and water will take out grease spots.

Zinc may be polished with a rag moistened with coal oil, but it must first be washed clean and wiped dry with a soft cloth.

Scour wooden utensils, pie, meat and bread-boards with cold water and sand-soap; it will make and keep them whiter.

The best shape for a chamois powder-bag is a flat, circular one, formed of two circular pieces of chamois skin about three inches across; sew together to make a flat piece. Fill the bag and perforate it. To make the cover, crochet two little mats of white silk, a trifle larger than the chamois skins. Add to one of the mats a pretty border in rose and white or pale blue and white, or pale yellow, as you fancy. Lay the bag of chamois skin on the bordered mat and fasten it down with the unbordered mat, using a row of No. 1 ribbon to face it down in place through the meshes of the crochet work. The ribbon should match the color of the border and should be tied in a dainty little bow at one side.

As a relish for roast duck or game, orange salad is good. Slice six oranges for eight persons. Grate the rind of one and add the juice of one lemon, three table-spoonfuls of salad oil or melted butter, a pinch of cayenne pepper, and pour over the oranges.

Rhyme of the Months.

The old doggerel beginning "Thirty days hath September," is no doubt familiar to every one in one form or another, and I have run across eleven different versions of it. Among all the rhymes of the months and seasons, the little skit of Sheridan's giving each month's characteristic is as good as any I remember. It is as follows:

January, snowy; February, flowy; March, blowy April, showery; May, flowery; June, bowery; July, poppy; August, croppy; September, poppy; October, breezy; November, wheezy; December, freezy.

The rhyme and meter are equally good, and the truth wrapped up in each is very plainly to be seen.

"We don't place any value on things till we lose them," said Mrs. Smith. "That's so," said the Widow Jones; "I never knew what a good husband I had lost until I heard the minister preach his funeral sermon."—New York Press.

The Forest of Sorrow.

Once upon a time, through a strange country, there rode some goodly knights, and their path lay by a deep wood, where tangled briars grew very strong and thick, and tore the flesh of them that lost their way therein. And the leaves of the trees that grew in the wood were very dark and thick, so that no ray of light came through the branches to lighten the gloom and sadness. And, as they rode by the dark wood, one knight of those that rode, missing his comrades, wandered far away and returned to them no more; and they, sorely grieving, rode on without him, mourning him as one dead.

Now, when they reached the fair castle toward which they had been journeying, they stayed there many days, and made merry; and one night, as they sat in cheerful ease around the logs that burned in the great hall, and drank a loving measure, there came the comrade they had lost, and greeted them. His clothes were ragged like a beggar's, and many sad wounds were on his sweet flesh, but upon his face there shone a great radiance of deep joy. And they questioned him, asking him what had befallen him; and he told them how in the dark wood he had lost his way, and had wandered many days and nights, till, torn and bleeding, he had lain him down to die.

Then, when he was nigh unto death, lo! through the savage gloom there came to him a stately maiden, and took him by the hand and led him on through devious paths unknown to any man, until upon the darkness of the woods there dawned a light such as the light of day was unto but as a little lamp unto the sun; and, in that wondrous light, our way-worn knight saw, as in a dream, a vision, and so glorious, so fair the vision seemed, that of his bleeding wounds he thought no more, but stood as one entranced, whose joy is as deep as the sea, whereof no man can tell the depth.

And the vision faded, and the knight, kneeling upon the ground, thanked the good saint who into that sad wood had strayed his steps, so he had seen the vision that lay there hid.

And the name of that dark forest was Sorrow; but of the vision that the good knight saw therein we may not speak nor tell.—From "Three Men in a Boat," by JEROME K. JEROME.

The Cure for Low Spirits.

The best prescription for depression of spirits, generally, is work—work which is all-absorbing. The poor who drudge for a living seldom develop chronic diseases of the nerve and mind, despite the greater hardships to which they are subjected. How often it happens that the woman of wealth, who believes herself to be an invalid, and is suddenly thrust into poverty, is able to meet the emergency and forgets all the morbid tendencies in the necessity which calls forth her supreme strength! A certain way of paralyzing her faculties is to allow them to waste with disuse. Employment keeps away the rust. It keeps the mind and heart alive to the interests of the day. It has been said that the reason why so many old men break down and become childish is because they abandon business, and thus lose much of their every-day interest in the world around them.

It is no uncommon thing to-day for people who are quite advanced in life to take up courses of study and successfully pass through them. All such occupations serve to keep the interest alive in something besides mere selfishness, and do more to ward away the "fumes of dusky melancholy" than all the herbs in the old wife's pot, on which our ancestors relied. There is far less tendency to brooding now in this active work-a-day world than there was formerly, when people had little to think upon but their pains and ills. The daily newspapers, the railroads and the telegraphs, which bind the interests of the world together in a common brotherhood, give now to even the most ignorant person but little time for selfish brooding. The melancholy maiden with clinging skirts and uplifted eyes has given place to the athletic woman, with her robust health and practical nature.—Jenness Miller Illustrated Weekly.

THE CHILDREN'S LUNCHEONS.—Instead of always putting the meat in sandwiches, it may be sliced thin, cut in mouthfuls, daintily sprinkled with salt, and wrapped in white paper, to be eaten with bread and butter, writes Elizabeth Robinson Scovill in the *Ladies' Home Journal*. It is difficult to prepare eggs for the lunch-basket. They must, of course, be hard-boiled, and should be cooked for about 20 minutes, as this renders them less indigestible than the ordi-

nary process of boiling them five or six minutes. They can be cut in four pieces lengthways, seasoned with salt and wrapped in paper, or cut in slices and put between bread and butter. Salt is a very important ingredient in children's food, and should never be omitted from it. A tiny pinch should be put in the baby's milk, and the child who has learned to like it will resent its absence.

Humorous.

MOTHER—"What did you do with that medicine the doctor left for you?" Small Boy—"I heard there was a poor sick boy in the back street, an' I took it around an' left it for him."

"I KNOW, Marie," he said, "I think every child shows in some way in what calling it is most likely to succeed in after years. Do you think so?" "Then we'd better make a real estate man of our Willie. I can't keep him out of the dirt."

"BEFORE I take board with you," said the applicant, "I wish to know if you ever have prunes on the table?" "No sir," replied Mrs. Small, "we never have anything so common. The nearest I come to that is to serve the prunus domestica in a variety of delicious ways." "Ah, that's entirely satisfactory."

SQUIRE OSHKOSH (to operator in western office)—"Look here, this 'ere telegram from my son Rube don't sound like his. It's too sharp and pointed like. Haven't you made some mistake?" Operator—"Oh, that's all right! You see our wires are down west of here, and we have been working about 60 miles over a barbed wire fence."—Puck.

MISS GUSHLY (who has tarried late in the country)—"I do so love the autumn, Farmer Yellowchops! What is it that comes so in the autumn, that gives me such tingling blood, such a feeling of wild unrest." Farmer Yellowchops—"I can't say edzac'ly, Miss, but if it comes on your hands an' arms, an' eeches like fun, it's prob'ly the new buckwhit cakes!"

THE ANNOYING FRECKLE.—Freckles are apt to be the torment of young people, and especially of very fair blondes with red or reddish hair, writes Ella Rodman Church in the *Ladies' Home Journal*. Applications of all manner of blistering remedies are constantly recommended and used, such active poisons as corrosive sublimate and acetate of lead figuring largely in them, and the object to be obtained is nothing less than the removal of the outer skin, freckles and all. Half an ounce each of Cologne water, brandy, lemon juice and alum, boiled together, produces the same result, more slowly and less painfully, but when the skin forms again, and is exposed to the same influences, the freckles reappear. Tan is even worse than freckles, as this is a dark layer over the entire surface, whereas the former do leave glimpses of a fair skin. Where it is permanently established, a covering of linen or chamois, cut to fit the face and neck, wet with cold water, if used nightly, will gradually wear away the tan.

CLEANING WINDOWS.—Cleaning windows is an important part of the work in the routine of housekeeping, and while it does not seem a difficult task to keep the glass clear and bright, it nevertheless requires a knowledge of what not to do. Never wash windows when the sun is shining upon them, otherwise they will be cloudy and streaky from drying before they are well polished off; and never wash the outside of the window first, if you wish to save trouble. Dust the sash and glass and wash the window inside, using a little ammonia in the water; wipe with a cloth free from lint, and polish off with soft paper. For the corners, a small brush or pointed stick covered with one end of the cloth is useful. When you come to the glass outside, the defects remaining will be more closely seen. Wipe the panes as soon as possible after washing and rinsing, and polish with either chamois or soft paper. In rinsing, one may dash the water on the outside, or use a large sponge. It is preferable to a cloth.

A GENEROUS WOMAN.—Mrs. Anna Matilda Mauleby, by her will, which has just been presented for probate in Washington, provides for the erection and maintenance of a home for destitute women, as a memorial to her mother. She bought a site in a fashionable part of the city and set apart \$35,000 for the buildings and \$45,000 as an endowment fund. She also bequeaths \$30,000 to the Newsboys' and Children's Aid Society, for a building to be known as the "George Mauleby Memorial Home," in memory of her late husband.

YOUNG FOLKS' COLUMN.

With Trumpet and Drum.

With big tin trumpet and little red drum,
Marching like soldiers, the children come;
It's this way and that way they circle and file—
My! but that music of theirs is fine!
This way and that way, and after a while
They march straight into this heart of mine!
A sturdy old heart, but it has to succumb
To the blare of that trumpet and beat of that drum!
Come on, little people, from cot and from hall,
This heart it hath welcome and room for you all!
It will sing you its songs and warm you with love,
As your dear little arms with my arms inter-twine;
It will rock you away to the Dreamland above—
Oh, a jolly old heart is the old heart of mine!
And jollier still is it bound to become
When you blow that big trumpet and beat that red drum!

So come; though I see not his dear little face,
And hear not his voice in this jubilant place,
I know he were happy to bid me enshrine
His memory deep in my heart with your play.
Ah, me! but a love that is sweeter than mine
Holdeth my boy in its keeping to-day!
And my heart it is lonely, so, little folk come,
March in and make merry with trumpet and drum!

Eugene Field.

For the Little Folks.

I have three little dolls in my play-room,
Annie, and Fannie, and May,
And one is witty, and one is pretty,
And one is naughty all day.

And some people wouldn't believe it,
And others would think it queer,
But the third is my pet and my darling,
Naughty, but dearest dear.

And over and over I kiss her,
And over and over I say,
I never could spare the dolly,
Who is often naughty all day.

Harper's Young People.

Boy Kings.

A boy hearing it announced that the young King of Spain was likely to make a visit to this country, exclaimed, "O, what a fortunate boy! How happy he must be to know that he will be a king!"

This remark brings to mind a similar exclamation which fell from the lips of a peasant woman who had occasion to ask some favor from the household of Louis XVI, when they were at Versailles. "O," said she, "if I could only have it I should be as happy as a queen."

"As happy as a queen!" said the little dauphin, who had been listening to the woman—"as happy as a queen! I know a queen who weeps all day long."

The little dauphin, child though he was, had been made strangely thoughtful by the scenes and events which came into his everyday life. There is something pathetic in the very thought of boy kings and royal youths, so sad and so tragic has been the fate of many; none more so than the fate of the little fellow who astonished the peasant woman by his remark.

Upon hearing that his father was condemned to die, he rushed out of the apartment where he and his mother and aunt and sister were imprisoned, and made an effort to pass the guard, saying:

"Do let me go. I want to get out and beg the people not to kill my father."

When he was told that his father had been executed, he said:

"And he was so good! Why did they kill him?"

Afterward, when torn from his mother's embrace, and subjected to the brutal treatment which Simon, the shoemaker, practiced upon him day and night, his only remonstrance was, "What harm have I ever done to anybody?"

Death came to the rescue of this boy king, and his suffering was comparatively short. Not so fortunate was Ivan VI, who, descended from the elder brother of Peter the Great, could claim a right of inheritance to the Russian throne, but when old enough to possess his rights was, through tyranny and treachery, thrust into prison, where he passed his whole life. Said he:

"I have hardly any idea of the distress which assailed my infancy, but from the moment that I began to be sensible of my misfortune I never ceased to mingle my tears with those of my father and mother, who were wretched on my account; and my greatest misery was to see the barbarous treatment they suffered as we were hurried from one prison to another."

He had been guilty of no crime or misdemeanor, but he was the rightful heir to the throne, and the usurper, Catherine II, was determined that the people should not see the boy king. After years of imprisonment he was murdered in his cell, and, dressed in the garb of a fisherman, was hurried into an obscure grave.

The fate of the young Princes in the Tower, murdered through the cruel ambition of their uncle, Richard III, is another example of the misery which often falls to the lot of youths who have a right to a throne and a crown.

If the gossiping chroniclers may be considered authority, Louis XIII, the son of the brave and famous Henri IV, the revered monarch of the French, did not rest upon a bed of roses. The old king, Henri, was a believer in the virtue of the rod, and he gave it to the boy king unsparingly. Louis was not wanting in wit, and upon one occasion, when his governess and governor were disputing with each other as to which had the best right to the boy, he said in an undertone, "And I hope some day I shall be my own."

At his birthday dinner his father drank the toast: "I hope, Louis, 20 years from today to give you the whip." And the boy refused to echo that sentiment. Once, as he was being taught the ten commandments, when he came to the words "Thou shalt not kill," he said, "What, not kill the Spaniards, who are papa's enemies!" The reverend instructor tried to make him understand that he must not desire to take the lives of Spaniards, who were Christian people. "Well, then, replied he, 'I suppose I must kill the Turks.'"

His father had told him that one of his pottery figures, a monkey, resembled the Duke of Guise. Shortly afterward, the Duke entered the boy's playroom, and seeing the image, asked him what it was. "It's your likeness," answered Louis.

"How do you know that?" asked the Duke.

"Papa told me so," replied Louis.

The Dauphin was out riding when his father was murdered by Francois Ravaillac. When he was informed of it, he exclaimed, with tears in his eyes, "O, if I had only been there with my sword, I could have killed him!"

Perhaps no child ever lived who had a less joyous and less loved childhood than Frederick the Great. To call his father a bear in uncouthness, and even in cruelty, seems perfectly consistent with the facts which are known to the world. To be boxed and cuffed and whipped was an every-day experience for the little Crown Prince. The old king's temper was terrific, and when he was in an especially ill-humor he always took occasion to vent it upon his son and daughter, Wilhelmina. Indeed, if we were not familiar from other sources with the character of this surly and ill-tempered old man, it would be difficult to believe the things recorded in Wilhelmina's diary.

When the royal rage broke out, the favorite child and the mother did not escape, but the worst storming and thumping were reserved for Fritz and Wilhelmina. The boy's life was directed in a Spartan spirit. His food was coarse and often insufficient, and he was able to get a due allowance of sleep only through the interference of the doctor. Beer soup constituted the chief article of his diet, and until he was 17 he was not allowed one cent of pocket money. What would American boys say to such discipline? As the King grew older, his treatment of the Crown Prince became more and more severe, and he added to his unkindness, indignities and taunts, telling the boy that he was a coward to endure such treatment. Upon this, young Fritz tried to escape to England, but was captured.

Of all boy kings, there is no more picturesque figure than Conradin, the last of the house of Hohenstaufen. At the age of 15, in the year 1267, he set out across the Alps with an army of 10,000 men to espouse the cause of the Ghibelline party in Italy. The victim of treachery, he was imprisoned and sentenced to be beheaded. Upon the scaffold he said, "I ask all chiefs and princes of this earth whether he is guilty of death who defends his own and his people's rights." Then flinging his glove from the scaffold, to be taken to King Peter of Aragon as a token that to him Conradin bequeathed his rights over Naples and Sicily, he submitted to the executioner. A boy in years, he had the courage and the dignity of a man, and even in dying showed such nobility of spirit and such Christian heroism that his enemies could not withhold their admiration of the chivalrous boy King. What a mockery, in the face of all these sad experiences, is the expression "as happy as a King!"

When the little Dauphin, son of Louis XVI, fell one day in his sport, and hurt himself badly, his attendants were making a great matter of it, when his mother, Marie Antoinette, said: "Let him alone; he must learn to suffer. It is the lot of Kings!" Dreadfully true was this in his own short life and true of royalty in every age. High places often demand high suffering.—Zitella Coker in the Harper's Young People.

DOMESTIC ECONOMY

PANCAKES.—Two cups of milk, one egg, two spoons of sugar, two teaspoons of baking powder, a little salt, flour for a stiff batter; fry in hot lard.

RICE PUDDING.—Two quarts of milk, half a cup of rice, two-thirds teacup of sugar and one cup of raisins. Bake in a slow oven over three hours, stirring occasionally.

RYE BREAKFAST CAKES.—Two cups of rye meal, one-half cup of molasses, 1½ cups of sweet milk, one teaspoonful of soda, a little salt. Mix very soft, and bake at once in a rollpan or muffin rings.

BUCKWHEAT CAKES.—For a family of four or five, take one quart of warm water, two spoons of Indian meal, small cup of yeast, salt, with enough buckwheat to make a stiff batter. Let it rise all night.

KISSES.—Take one tablespoonful of sugar to the white of one egg. Flavor with vanilla, and beat with a spoon until quite light. Drop in little heaps on white paper and bake in a cool oven. They must not get brown, nor even yellow, but must be hard on top.

BROWN CORN CAKES.—Scald one pint of fine corn meal till all wet, then add cold water till a little thicker than griddle-cakes. Add a pinch of salt. Brown in butter or salt-pork fat on both sides, then put them in the oven on the grate for 15 minutes to become crisp.

NUT FILLING.—Take two ounces of sugar and make a syrup of it with three tablespoonfuls of water, to which add three ounces of walnuts, peeled and pounded fine in a mortar with the addition of a tablespoonful of cream. Add then half a teaspoonful of vanilla essence and one ounce of candied lemon peel, minced; stir until thick.

CHOCOLATE CAKE.—Take a quarter of a pound of butter, beat to a cream, add the yolks of six eggs, half a pound of sugar, and stir for half an hour. Then add a quarter of a pound of grated chocolate, two teaspoonfuls of cocoa powder, some vanilla flavoring, three and a half ounces of corn-starch, and finally the snow of the whites of six eggs. Bake in a form like preceding cakes, but let the oven be hot. It will take about three-quarters of an hour to bake.

TURKEY SOUP.—Take the bones and scraps left from roast turkey or chicken, or any kind of game. Scrape the meat from the bones, and lay aside any nice pieces, no matter how small. Remove all the stuffing, and keep that by itself. Break the bones, and pack them closely in a kettle. Cover with cold water. Add one small onion, sliced, one teaspoon of salt, and a little pepper. Simmer two or three hours, or until the bones are clean. Strain, and remove the fat. Put the liquor on to boil again, and add for every quart of liquor one cup of cold meat, cut into small pieces, and half a cup of the stuffing. Or omit the stuffing and thicken the soup with flour. Simmer till the meat is tender, and serve at once. If there be a much larger proportion of meat and stuffing left, use it in making scalloped turkey or croquettes. This is much better than to boil meat, bones and stuffing together. In that case the stuffing absorbs the oil, and gives a very strong, disagreeable flavor to the soup.



A cream of tartar baking powder. Highest of all in leavening strength.—*Latest U. S. Government Food Report.*
ROYAL BAKING POWDER CO., 106 Wall St., N. Y.

PATRONS OF HUSBANDRY

From Worthy Master Davis.

SANTA ROSA, Jan. 2, 1893.

To be right, and to do right, is right. This, the writer wants. I find, in the RURAL PRESS of December 17th, in the article headed "Return of Master Davis," a few things which are not right. Let's get them right, and do so without charging the reporter, the printer, the proof-reader or any one else with an intentional wrong. For we all know, mistakes will happen even in a newspaper office as well as in "the best regulated family." The print makes me say "that the report of the worthy lecturer of the National Grange contained recommendations in a financial way, and that his report after discussion, was thrown out." Such a statement I did not make, for I well knew that after a protracted discussion, and a rollick, the lecturer's report was not changed or modified in one particular. It will be a part of the journal just as it was submitted by the worthy lecturer.

Again, in commenting on the subjects contained in the report made as a minority report of the executive committee, the print makes it appear that the subject matter contained in this report was of exactly the same nature as that submitted by the worthy lecturer. This is not the case. The term "crank-financial scheme" was not used in my remarks. Any one who knows Bro. Leonard Rhone knows him to be a level-headed, honest, sincere man and Patron, and however much you may disagree with him, you respect him all the while as an honorable man. It is true that the financial plan proposed by Brother Rhone was hotly argued and fought, for and against, and the majority of the National Grange refused to indorse his plan of making mortgage loans on farm property. The report published in the RURAL of December 17th should, as a matter of fact, and to be right, show that after much discussion the lecturer's report was accepted by the National Grange; while the minority report of the executive committee was amended by striking out the financial recommendations and then adopted. I am ever ready to have the facts appear as they are, and in this case it is due the worthy lecturer of the National Grange, Brothers Rhone and Charters of the executive committee, the Order, the RURAL PRESS and myself to be right. No one can afford to be so "cranky" that he won't do right when he knows what the right is. Hence, knowing that you, Mr. Editor, as well as myself, want to be right I ask that this correction be given the same publicity and circulation that the other statements had. By so doing, right, which is mighty, will prevail.

"IN essentials unity." This is a part of the Grange platform. Can we, as an Order, agree on what the "essentials" are? Just now the State legislature is in session. It is essential to the industrial classes of California and of the Union to have a man in the Senate of the United States who is not, and will not become, a tool of corporate wealth. Will we get such a man? Let each Grange in this State keep an eye on the Senator and Assemblymen from that county and see how well he considers this—to the laborer—all essential question. Really, the question is a most serious one: Do the farmers want a farmer to hold office and represent them?

This storm has been worth dollars to the California farmer.

Owing to the severe weather of Friday last the master could not attend the meeting of the executive committee.

Installations, harvest feasts and happy reunions are the incidents of the new year season with members of the Grange.

The Journal of proceedings of the last session of the California State Grange can be had of the secretary. Send two cents for postage and have a copy.

Get a score of applications for your Grange during the year 1893!

Goodbye old year! Welcome 1893.

A. P. Reardon has been elected master of the Kansas State Grange. He is a safe man, and the Patrons of Kansas have done well to reward Bro. Reardon with reelection.

The Patrons of the Keystone State have reelected Leonard Rhone their worthy master of the State Grange. Brother Rhone is the present efficient chairman of the executive committee of the National Grange.

Delaware State Grange has reelected John C. Higgins worthy master. John C. Higgins is a brother of United States

Senator Higgins of Delaware. We congratulate the Patrons of Delaware on their choice for worthy master.

The A. W. for 1893 has been sent to deputies. Hope each master will receive it on day of his or her installation. If deputies have not obtained the word write to the master or secretary of the State Grange at once.

The master, and no doubt the members of the executive committee, will be thankful for suggestions as to the best and most economical means of making a Grange canvass of the State during the new year. Remember, there is a vast State to be reached, many and varied interests to be consulted, "many men of many minds" to be convinced. How can this be best done? Who will outline the most comprehensive, terse and successful plan of increasing the membership and interest of Granges now in existence, and of organizing new, and reorganizing dormant Granges? It is often said, "where there is a will there is a way." Now it goes without the saying, that we have the will to upbuild the Grange in California. Will some one with more skill please point out the way? In many of the Atlantic States the Grange is making wonderful gains, why not do so on the Pacific coast? The farmers of California are not as well organized as they are in other States. Now is the time to act. Let us have a big addition to the Grange all along the line in 1893. With the New Year comes new and increased responsibilities. The experiences of the past give each one of us an enlarged field in which to work. Every additional tree or vine, or plant or blade of grass gives an additional item for self-improvement and self-support. The term "New Year" at once suggests new life. We instinctively look for new plants, leaves, buds blossoms and fruit; we shall soon find the new bird's nest, and the tiny eggs. The sportive lamb is already to be seen among the flocks feeding on the new green of our sunny slopes, and newness is already ours, in thought and purpose. We will now and again write 1892, but the New Year is here, and brings its season of decay and unrest, as well as its season of newness and hope. The forces of nature have caused the vegetation of the past year to dissolve, and with it many of our aims and purposes have fallen. We know the heavy hand of Time has not passed us by, and we recognize all too keenly that another span in our bridge of years, is fallen. But having passed that span, we ought honestly and confidently look to the future and see, if we can, what its signs of promise are. As members of a great fraternity (the Grange), as part of the structure that supports and makes the thought of the world, it becomes us to see how much newness we can add, as our share, of the improvements to be made in 1893. The miner has long since learned that "all that glitters is not gold." So we should remember, that newness is not necessarily improvement. Merit determines the value. So with our efforts in the line of labor. Let there be such a combination as will insure merit and newness. Let no one fear for the result when he or she is acting thoughtfully, honestly, bravely. Gather new buds and flowers, get new ideas and friends, and bind all so closely together with the cord of fraternity that the fragrance of the former may blend with the strength and stability of the latter, so that newness and usefulness born of the Grange may be the child which shall bring peace on earth good will to men.

HAPPY, thrice Happy New Year to all.

San Jose Grange.

Will It Sever Its Connection with the State Grange?

SAN JOSE, Jan. 2, 1893.

TO THE EDITOR:—At a meeting of the San Jose Grange held Dec. 31st, a notice was given by one who has been a member of San Jose Grange for ten or more years, that, at the meeting to be held Jan. 14th, he would introduce, for the consideration, a resolution providing for the separation of San Jose Grange from the State Grange, and hoped to be prepared at that time to give abundant reasons why San Jose Grange should sever its connection with the State Grange.

The brother who gave the notice did not intimate that San Jose Grange should discontinue its weekly meetings, but, on the contrary, its meetings should continue as an independent organization.

What the final action on the resolution will be the writer of this knoweth not. But one thing is certain, it will open up a broad field for discussion, and whether the resolution be adopted or rejected, it is evident that one question will be pretty thoroughly discussed, to wit: Do subordinate Granges receive benefit or compensation from State and National Granges commensurate with the cost of maintaining them, and if so, what?

Installation of officers, literary exercises and harvest feast confined strictly to members of the Order; balloting for three candidates is the program for Saturday, Jan. 7th.

AMOS ADAMS.

Mr. Berwick Is Enthused.

CARMEL VALLEY, Jan. 2, 1893.

TO THE EDITOR:—Lowell wrote;

"Here's hell broke loose, an' we lay flat
With half the universe a singin',
Till Sen'or This an' Gov'nor Thet
Stop squabblin' fer the garding ingin."

There are quite a variety of hells that break loose even in the course of one century. The "partickler hell" that Lowell wrote of was the hell of civil war. The hell loose just now is the hell of political corruption blazing in Paris in connection with the Panama Canal scandal.

The hell I want our people to thunder against is the little hell of the very same sulphur and nitre our politicians are starting in Washington over the Nicaragua Canal. What does this great American nation want with any lobbying and log-rolling company to assist it in carrying out this great National enterprise?

Whatever rights this impecunious corporation has, let the great American people buy at value appraised by disinterested men! Then let our force of military engineers put their combined talent and personal service at Uncle Sam's disposal, and show to the nation that they can do good and valuable work for the national pay. Let them have the glory of living for their country as well as, if need be, dying for it! And let there be no nonsensical red tape delay, no unbusiness-like waste of time! Do our farmers realize that Congress costs us—as the people—\$90.50 for every minute they are in session? Do we realize that one single word uttered in both houses costs us 66 cents for its utterance? Do we want this time and these words frittered away in discussion as to whether some individual "bounty jumper" sloped after joining the United States colors? Or do we want such imperative business as this of realizing this grand nineteenth century achievement, this cutting the Nicaragua Canal, immediately taken in hand?

Let every farmer, let every citizen, let every Grange, every Alliance, every organization petition Congress in accordance with their views and wishes; and do it NOW! And don't timidly whisper your desires. THUNDER at the doors of Congress, and THUNDER till Congress hears and acts.

I don't suppose our Senator Stanford is in any very great hurry to get this canal cut. I don't feel sure that I should be if I were in his place. But Senator Stanford is there to represent you and not the S. P. R. R. Co.; and I have heard of men capable of putting duty before self-interest. Anyhow, it is your duty to let him know what you want. Do yours! Do yours actively, boldly and strongly, and you will make Congress do theirs!

Don't let your interest in politics cease when you cast your vote for your party's champion! That's how it comes that after election

"Each honorable doughface gits jest wut he axes,
An' the people their annooal soft-sodder an' taxes."

You have had your "annooal soft-sodder;" now make sure you get the Nicaragua Canal, as well as your taxes.

And if you want it, say so NOW!

EDWARD BERWICK.

The Secretary's Column.

By A. T. DREWRY, Secretary State Grange of California

SAN JOAQUIN COUNTY POMONA GRANGE will meet at Woodbridge Grange Hall, Jan. 12th, at 10 A. M. Subject for discussion: The Initiative and Referendum.

JOINT INSTALLATION.—All Patrons are invited to attend the joint installation of Eden and Temescal Granges at I.O.O.F. hall, Oakland, Jan. 7th, at 10 A. M.

STATE GRANGE FINANCIAL STATEMENT.—Receipts during December, of general fund, \$827.84; disbursements, \$232.21; balance on hand and in the treasury, \$595.63. Receipts of lecturers' fund, \$45.35 and no disbursements; balance, \$1,919.08. Total balance, in both funds, \$2,514.71.

B. A. GIANTVALLEY, P. M. of Eureka Grange, is now connected with *The Literary Northwest* at St. Paul, Minn. He writes: "Although I am now in a different field of labor, I am still with the Grange in my thoughts and can look back to many pleasant hours spent within its gates."

INSTALLATION ANNOUNCEMENTS.—We regret not yet having received the date when every Grange will install officers. The following have been announced: Jan. 3, Woodbridge; Jan. 5, Two Rock; Jan. 7, Merced, Eden, Glen Ellen, Potter Valley, Tulare, Waterloo, Yuba City, New Hope, Pescadero, Stockton, Temescal, Danville, Roseville, Selma, Grass Valley, Bennett Valley, Watsonville, Enterprise; Jan. 13, Washington; Jan. 14, North Butte, Magnolia, Petaluma, Sacramento, American River, Santa Rosa; Feb. 4, Lockeford.

J. D. HUFFMAN, W. L., visited San Francisco this week as representative of the San Joaquin County Pomona Grange, and also the County Farmers' Alliance to forward proposed amendments in the Australian Ballot Law. He has been actively engaged in conference with the various committees of other organizations for effecting such amendments as will secure greater efficiency in the working of the new law. As Bro. Huffman took an active part in securing the adoption of this law it seems appropriate he should be selected for the work he is now engaged in.

EXECUTIVE COMMITTEE MEETING.

This department of the PACIFIC RURAL PRESS goes to press Tuesdays. Thursday, Jan. 5th, the meeting of the Executive Committee will be held in Sacramento, probably at Grange Hall. Among the subjects for discussion are:

Locating the next session of the S. G.; Merced Grange resolution on coyote bounties; appointing a legislative committee and legislative matters generally; plans for Grange work for 1893; appointment of deputies; and such other matters relating to the Good of the Order as may be presented. It is understood that all members of the Executive Committee will be present.

THE NEW YEAR.

This week will witness the installation of officers in many Granges. All are apt to be fond of the new things of life. We rejoice to see new hands stepping willingly forward in good heart to take up the work of the coming twelve months. We wish all the new officers full success, and feel like saying good words and performing all acts within our province to aid them in making the new term of 1893 a superior one. That is only what every true, humble Patron in the land will say and feel.

We have also kind remembrances for the old officers just transferring their implements of labor to other select hands.

Now let every Patron determine to bring at least one new member within our gates during the year—if possible, before the end of the first quarter.

Don't forget the boys and girls who may have reached eligibility to membership, possibly sooner than you have realized. The Grange needs them, and they need the Grange fully as much. In fact, it would be a paying investment for many parents to hold membership in our Order to induce the children to come in and stay in. What better place can they have? Are there any who are not better and safer for being within our gates?

The many interesting installation services will be accompanied with the pleasant Harvest Feast, affording altogether a rare enjoyment that but few members can afford to lose. All new officers should prepare themselves to perform their work as efficiently as possible, and in this and other ways try to make every meeting during the term of real interest.

It is a good time to prepare a special program for at least one meeting during every month of the year. This gives Patrons announced on the program plenty of opportunity to prepare themselves for performing the duty assigned. The meetings become better advertised, and consequently better attended, as a rule, when the order of exercises is announced a long time in advance.

GRANGE ELECTIONS.

[Secretaries are requested to send us as early report as possible for publication under this head.]

WATSONVILLE GRANGE.—Election Dec. 17, 1892; officers chosen: Sister E. Z. Roache, M.; George Webb, O.; Sister A. N. Tate, L.; F. Blamb, S.; G. Rowe, A. S.; Wm. Gilkey, C.; R. Williamson, T.; Sarah G. Cromarty, Sec.; Mary Hutchings, G. K.; N. Mauk, Ceres; L. Cooper, P.; Vorah M. Roache, F.; Sister C. E. Bowman, L. A. S.; W. H. Bowman, Trustee. Date of installation, Jan. 7, 1893.

WOODBRIDGE GRANGE.—Election Dec. 6, 1892; officers chosen: H. M. Woods, M.; G. H. Ashley, O.; Miss Melaney McIntosh, L.; John Thompson, S.; Otto Spenker, A. S.; Mrs. G. H. Ashley, C.; Ezra Fiske, T.; H. C. Shattuck, Sec.; Jas. Pereott, G. K.; Miss Etta Williams, Ceres; Miss Cassie Ellis, P.; Miss Belle Thompson, F.; Miss Jennie Williams, L. A. S.; E. G. Williams, Trustee. Date of installation, Jan. 3, 1893.

SACRAMENTO POMONA GRANGE.—Sacramento County Pomona Grange elected officers Dec. 31st: L. Sehlmeier, M.; S. H. Jackman, O.; Mrs. S. H. Jackman, L.; D. Flint, S.; C. Halverson, A. S.; Mrs. G. K. McMullen, C.; M. Sprague (reelected), Sec.; A. A. Hull (reelected), 1720 O St., Sec.; C. A. Hull, G. K.; Miss Etta Plummer, P.; Mrs. D. Reese, F.; Mrs. L. Sehlmeier, C.; Mrs. M. A. Youngman, L. A. S.; Miss Della Krull, Pianist. Installation Jan. 14th, jointly with Sacramento Grange. All Granges in the county and visiting Patrons are invited to be present.

NORTH BUTTE GRANGE.—Election Dec. 10, 1892; officers chosen: D. Fisher, M.; Jas. Hedger, O.; Mrs. Denny, L.; Miss Mould, S.; W. R. Johnson, A. S.; Mrs. Wilkinson, C.; Wm. Mould, T.; Mrs. Ella Hedger, Sec.; B. F. Hedger, G. K.; Mrs. Porter, Ceres; Miss Marian Rothney, P.; Miss Jennie Luther, F.; Miss Maud Brenton, L. A. S.; A. E. Davis, Trustee; Mrs. Ada Hedger, Organist. Date of installation, Jan. 14, 1893.

Continued on page 18.

INFORMATION FOR SETTLERS!

The members of the Kern County Land Company have a national reputation for wealth, business and financial ability. These facts set the matter of reliability at rest. The company's capital stock is \$10,000,000.

They have 400,000 acres of arable, irrigable lands upon which the sun shines almost constantly; and their enormous irrigation system renders them independent of the annual rainfall.

A clear title; rotation, variety and certainty of crops; easy terms; availability to persons in moderate circumstances; ground ready for the plow—no stones nor thistles; good society; schools; churches, etc., are a few notable attractions of this region of country.

Kern is the largest county in the San Joaquin Valley. It has the finest climate for curing and drying fruits, etc.

The 400,000-acre territory of the Kern County Land Company is the pick of the county.

Its area is 5,184,000 acres.

Has the largest irrigation system in America.

The home of the peach, French prune, pear and raisin grape.

Planting and harvesting can be carried on every month in the year.

No rocks, hills or stumps on the land.

A failure of crops is unknown on irrigated lands.

Kern county fruits take the first prize at the State Fair.

Land can be made to pay for itself in less than three years.

Grows more alfalfa than any other county in California.



FOR
FURTHER
PARTICULARS
ADDRESS

The advantages of good soil and plenty of sun, which occur in the Kern Valley, would have been of little avail but for the third and all-important one of an abundance of water from never-failing sources.

Through 300 miles of main canals, and 1,100 miles of laterals, the great Kern river furnishes enough moisture to slake the thirst of the 400,000 acres already referred to.

Drought is out of the question.

The system has been constructed in the most careful and scientific manner. Some of the canals are 125 feet wide and six feet deep.

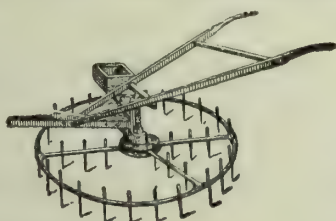
KERN COUNTY LAND COMPANY.

S. W. FERGUSON,
Bakersfield, - - - California.

Jackson's Rotary Vineyard or Orchard Harrow.

PRICE (five feet diameter), \$25.

It has half-inch steel teeth, and is made to rotate either way by simply changing the cast-iron weight from one side to the other. The Harrow weighs 170 lbs., and can be taken down and packed closely for shipment.



The Jackson Vineyard Harrow rotates either way, at the will of the driver, and by driving the slow side next to the vine or tree there is no danger of hurting it, as the Harrow will roll gently around the tree or vine.

THE JACKSON VINEYARD HARROW was designed especially for vineyards and orchards, where very thorough and careful work is required. It was introduced to the orchardists in 1881, and perfected during that season. It is made of gas-pipe, bent round like a wheel, and made perfectly smooth on the outer rim, and presents no sharp corners to the trees or vines to injure them as it revolves. It is provided with handles, so the operator can hold it to or from the row. Every farmer should have one for his garden, and to level any uneven land, or fill up dead furrows. Every vineyardist or orchard owner should have a sufficient number to go over the whole ground in a short time. When the surface is just in proper condition, one day's work is worth a week's out of season. The Jackson Rotary Harrow is a perfect pulverizer, leveler, clod-crusher and weed-killer. It leaves weeds on top of the ground—thoroughly shaken—to die.

BYRON JACKSON, 625 Sixth St., San Francisco, Cal.

What Farmer Wouldn't

like to have machines that would lessen his labor and cares, and reduce the cost of production? The "Planet Jr." Tools do this and do more—they produce better results and better profits. The new machines "PLANET JR." Hill Dropping and Fertilizer Drill; "PLANET JR." Combined Drill, Wheel Hoe, Cultivator, Rake and Plow—

are marvels of mechanical ingenuity.

The "Planet Jr." book for 1893 shows you their parts and uses in detail. It's a book worth having at any price. We send it free.

S. L. ALLEN & CO., 1107 Market St., PHILADELPHIA, PA.

MANHATTAN STOCK FOOD.

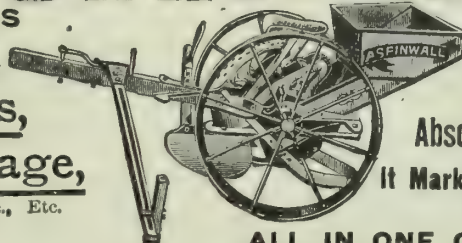
RED BALL BRAND.

Genuine only with RED BALL brand. Recommended by Goldsmith, Marvin, Gamble, Wells, Fargo & Co., etc., etc. It keeps Horses and Cattle healthy. For milch cows; it increases and enriches their milk.

625 Howard St., San Francisco, Cal.

"ASPINWALL" POTATO-PLANTER

PLANTS
Corn,
Beans,
Ensilage,
Etc., Etc.



DISTRIBUTES
FERTILIZERS.

Absolutely Guaranteed.

It Marks. It Furrows.

It Drops. It Covers.

ALL IN ONE OPERATION.

POTATO CUTTER

A Boy Can Operate It.

Cuts Potatoes for Seed Faster
than Eight Men Can by Hand.

Will Pay for Itself In One Day.

FULLY WARRANTED.



Simple in Construction.

It consists of a series of knives secured in an opening of the table. The potato is placed in a pair of hinged jaws above the knives, and by a plunger the potato is cut at a single stroke and the eyes divided in a most satisfactory manner. The screen below frees the seed from dirt or chips and more thoroughly prepares the cuttings for planting.

CORN & BEAN DRILL

THE BEST AND CHEAPEST RIDING PLANTER IN AMERICA.

The price places it within
the reach of all.

Thoroughly practical.

Plants 10 to 12 acres per
day.

EXTRA SLIDES for planting
PEAS, BEANS, etc. with
every machine.



Furnished plain or with
fertilizer attachment. Capacity of distributing from two hundred to one thousand pounds per acre.

Catalogue of potato and
corn planting machinery
FREE. Address

ASPINWALL MANUFACTURING CO., Jackson, Mich., U. S. A.

TRUMAN, HOOKER & CO., San Francisco and Fresno, Agents for the Pacific Coast

DEWEY & CO. { 220 MARKET ST., S. F. } PATENT AGENTS
Elevator, 12 Front.

AGRICULTURAL NOTES.

CALIFORNIA.

Colusa.

Colusa Sun: During the past three days the Stinchfield and Burtis Brothers at Sycamore have been engaged in the slaughter of gophers. They have kept constantly at it, and now state that they have killed 3128 of the little animals. The bounty is three cents each. Therefore these gentlemen will get from the county \$93.84.

Contra Costa.

G. W. McNear is boring for artesian water in Martinez. The machinery and boring apparatus is said to be of the same kind as that used in the oil regions of Pennsylvania.

Fresno.

Reedley Express: There is a lemon-tree at the Mt. Campbell Vineyard Co. which is only three years old and bore at least 200 fine lemons this year. An acre of such lemons at a low price would yield at least \$600.

Sanger Herald: Madera takes the palm for big snakes. Two of her citizens have seen a reptile near there that was over 100 feet in length. The stuff that makes men see snakes must be both plentiful and of extraordinary quality there.

Sanger Herald: A few days ago Joseph Burns brought to the *Herald* office a lemon whose smallest circumference is 11½ inches and largest 12½ inches. It tips the scales at 14½ ounces, and is a product of Mr. Burns' citrus orchard, about six miles east of Sanger.

Madera Mercury: E. H. Cox has sold his famous vineyard near this city to Edward Stubbs of Cheshire, England. The consideration is \$11,000 cash. The vineyard covers 60 acres and the vines are both of the finest varieties and in magnificent condition. The Cox vineyard is known everywhere as an exceptionally fine property.

Republican: The largest haul of coyote scalps ever brought to the office of the county clerk by any one person in one day was brought in this afternoon by G. Gilstrap of the West Side. He caught them in steel traps, and claims that he has just hit upon a plan by which he can catch coyotes by the million. He partly proves it, for within the last 30 days he has caught 105 and the price for them is \$525.

The following singular letter, says the *Fresno Republican*, was received recently by a hunter of wild game in this county:

Stockton, December 20, 1892.

Mr. Boyd: I have gotten your name from a friend of yours & I am writing to you now he told me you hunted some and the last rain has drove all the Geese from here down south if you will catch me 150 geese alive trap them with a net or whiskey & wheat I will pay you \$150 a dollar a piece send some one up with them & I will pay his fair up & Back if you wont catch them please Give this Note to your leading paper for me maby some of your friends will Ketch them.

I want them alive
Please answer
E A Walser
Yosemite hotel
I will be found Any time you come or write
Address General Delivery Get them as soon as you can.

Mr. Boyd replied as follows: "Send a barrel to Whiskey Jesse Walters at Caruthers. He has plenty of wheat but he is short on whisky." Developments will be anxiously waited.

Humboldt.

Humboldt Times: During the month of November there were 2342 sacks of dried peas shipped to San Francisco from this county, which is a small portion of the whole amount received there, and yet the residents of the metropolis imagine they get good, pure coffee to drink at the average restaurant.

Kern.

Echo: Full information on the subject is not yet at hand, but the knowledge already gained justifies the conclusion that the acreage of grain for 1893 will largely exceed that of any previous year in the history of the county.

Los Angeles.

The great crop of almonds on 325 acres of trees of Hatch & Rock, near Rivera, this year produced about 60 tons of fruit, which will bring the company over \$10,000.

Pomona Progress: The barleygrowers say they have not had a better promise of a large crop since 1889. The grain is coming up luxuriantly on all sides, and there is now sufficient moisture in the ground to do well for six or eight weeks.

Another new industry for Los Angeles is the planting of oysters at Anaheim Landing. A company has been formed for this purpose at Los Angeles, which will put out large beds of the delicious bivalves, obtaining the seed-yesters at the East.

Pomona Progress: The lowest estimate we have seen of the value of the ripening orange crop in Southern California is \$3,000,000, and the highest \$4,500,000. The best and most careful estimate is that of the Santa Fe railroad officials, who put it at \$4,200,000. They estimate Pomona's orange yield at \$220,000.

The orange crop of Pomona valley is in first-class condition, and, at the present market prices, will bring tens of thousands of dollars to the community during the next few months. The growers have reason to believe that prices will be even better than now as the winter passes, and they are not anxious to contract the sale of their crops.

The Los Nietos and Ranchito Walnut Growers Association, on the 19th ult., shipped the last of this season's walnut crop. The association delivered to the buyer this season 12,061 sacks of walnuts, or 1,257,474 pounds, for which the growers received \$94,825.71. The associa-

tion's walnut crop loaded 71 cars. Total shipment of walnuts from Rivera this season was 82 cars, 13,704 sacks, or 1,425,854 pounds—something over \$106,000 worth of nuts.

Mendocino.

Chicken thieves are again making themselves known in Mendocino county. Several citizens have lost their intended Christmas dinner.

Record: Point Arena creamery is soon to be an accomplished fact. About the only difficulty that may arise will be in the matter of selecting a suitable site. Several offers of land have been made, but opinions are somewhat divided as to the best place for the plant.

Merced.

Frosty weather has somewhat retarded the growth of young grain on the Merced plains.

Merced colonists have sent a lot of their colony raisins, figs, home-canned peaches and tomatoes for Christmas gifts to their kindred in the old country.

J. M. Lathrop, of Newman, reports the sale of the land known as Timothy Paige's Orestimba Colony, being 1400 acres adjoining the Woodside Stock Farm, to Messrs. Williams Bros., the consideration aggregating over \$100,000. The property will still remain on the market for sale in subdivisions.

Merced Express: Hunters have been known to sit nearly all night round their campfires trying to outtalk each other about long shots and the habits of game. The freshest fish story, from a river camp in Merced, is that at a point on the San Joaquin, carp dug away half an acre of hard river-bank, grubbing for wild artichokes.

Merced Express: That olives will grow to perfection in Merced county is shown by the productive condition of the experimental grove planted six years ago by Miller & Lux, at Central Point. Within the last three years a large area of olive trees has been planted at colony tracts, near Merced City. These are in splendid condition, and some will bear fruit next summer.

Monterey.

The Hunter Bros. will farm 400 acres to sugar beets this year near town. They will not even reserve enough of their own land to sow for hay.

The storm stopped operations in the beet fields of the Salinas district for a time, but it is expected that shipments will be resumed before the close of the week. It is estimated that there are over 8000 tons of beets yet in the fields in that district.

Napa.

Napa Register: G. J. Turton, the nurseryman, suggests an easy and inexpensive method of sprinkling the main county road through the valley in summer time. It is to put a large, square tank on a wagon-bed, and with it a gasoline engine and pump; to hitch a team to the outfit; to hire a man by the month to drive it up and down the valley, and by means of a sprinkler attachment lay the dust; the water used to be pumped from wells sunk at intervals along the roadside. Mr. Turton says in most cases the wells would be sunk free of charge by farmers benefited by the process, and in his judgment one man and team thus employed will keep nine miles of road in order the season through.

Nevada.

Grass Valley Union: Theo. Van Slyke, who was in town yesterday, said that one day this week a herd of eight deer passed within a short distance of his house, going at a leisurely walk. He had visions of venison steaks, but being a sportsman and a respecter of the law he permitted them to go their way without molestation.

More than a year ago the Grass Valley Sportsman's Club turned loose several Mongolian pheasants in Pleasant valley. During the past season nothing had been heard from the birds, and it has been a mooted question with the members of the club whether they had left the country, or had fallen a prey to pot-hunters or predatory animals. But it appears the birds are all right, as a number of them were seen during the past week, not far from the point they were observed a year ago. This encourages the belief that the pheasants will thrive in the foothills of California.

Orange.

Santa Ana Blade: In a talk with a gentleman who has large interests in the coming barley crop of the San Joaquin ranch, a *Blade* reporter was informed that many of the farmers had been getting quite blue and discouraged, more especially those who had sown early. Some of the barley is up and had become badly wilted for want of rain; but now, with the present fine rainstorm, all felt hopeful and were in a happy condition of mind. He says that after the present storm is over, work will be pushed ahead with renewed vigor, and that, with the grain already sown and the amount to be put in, there will be some 25,000 acres of barley put in on that ranch the present season.

San Bernardino.

Ontario Observer: One of our orange-growers has pulled and buried about 50 boxes of oranges. He claims that the fruit colors and ripens more rapidly and is sweeter than when left to mature on the trees.

Redlands Citigraph: H. H. Ford has an eight-acre orchard on Redlands Heights, which is two and a half years of age, from one-year-old Navel buds. The yield of the trees this year is 70 boxes, which is certainly a good showing for so young trees.

Ontario Observer: To be within the truth, the *Observer* stated that the damage done the orange crop by the recent blow does not exceed five per cent. The fact is, the damage does not amount to two per cent. Nearly all of the oranges that were felled to the ground have been marketed at \$1.25 per box, which of itself is a fair price. The green oranges that were stored

in boxes have ripened nicely, and are in demand at the same price. The actual loss is found to be infinitesimal.

San Diego.

Escondido Advocate: A Julian apple grower brought down a ton of fine apples last Saturday and sold them to Stevenson Bros. for 2½ cents a pound. Fifty dollars for a load of Julian apples beats Kansas corn at 15 cents a bushel all hollow.

A convention in favor of a new county met at Perris, San Diego county, the other day. The boundary lines adopted include Alessandro and the northern part of San Diego county as far as the second standard south S. B. M., which includes \$5,000,000 of taxable property and 6500 people. San Jacinto is the proposed name of the new county.

A few weeks ago the first pineapple of this year's raising was plucked, says the *San Diego Sun*, and those who assisted the grower to eat it pronounced it superb. A large apple is now ripe. It is about 7½ inches long by 6 in diameter and is of a rich gold color. It is inspected daily by numbers of visitors. Mr. Morrison has held the plants back and expects to have a crop next summer of at least 500 pineapples.

A correspondent, says the *San Diego Union*, recently suggested that an attempt be made to raise coffee in this county. It is not practicable to do so. A tropical climate is necessary. Coffee needs an abundance of water. Central American plantations get 180 inches of rainfall annually. Successful coffee culture is impossible without an abundant water supply and a higher temperature than are naturally obtainable here. Then, too, the cost of labor is so much less in the tropics than here that it makes an almost impassable barrier against would-be California coffee cultivators.

San Joaquin.

Stockton Mail: No more streets should be "improved" by the process of grading and graveling. It is a waste of money. Gravel will not stand the wear. If you don't think so just borrow a neighbor's rig and drive over any one of the recently graveled streets that is subjected to much travel—Butter street, for instance, north of Miner avenue. It has been a terrible drain upon the vitality of Stockton, this improving of streets that are scarcely better afterward than they were before. Some streets have already cost more than the best pavement would have come to in the first instance, and they are now not only well nigh impassable, but destined to remain a continual source of outlay in keeping them in any shape at all. The cheapest material is by all odds the dearest in the end.

Santa Barbara.

Lompoc Record: Stock is beginning to show the good effect of new grass already. This ought to convince our eastern friends that California is the place to live.

Santa Maria Times: A day's ride through the agricultural and horticultural sections of this region will fill the most despondent man with hope. Farm work is going on briskly, and orchards formerly neglected are now clean and highly cultivated.

Santa Clara.

Some discussion is going on regarding the best variety of orange to plant in Los Gatos. Dealers complain that the Navel is too large, as they are sold by the dozen and not by the pound as apples are. Dr. McMurtry, who has been experimenting with several varieties, has these memoranda of his results: Navel, too large for profit, is subject to the ravages of plant lice; Mandarin, Oonshiu and Satsumi (all of one kind), too small, very slow growth, unsuitable for the stock generally used, and is tasteless; Paper-rind S. Michaels, thin skinned, ripens early, is not excessively acid, and sells better than the larger varieties. The Navel is a splendid looking fruit, looks well in a front yard, and will probably hold its own as the best for show.

Santa Cruz.

The *Moon* man was in the Shandon and Cholame country last week and can vouch for the statement that the farmers are putting in a larger acreage of grain this year than at any season before. The country from Paso Robles to Cholame and beyond is one vast stretch of newly-turned earth. The farmers out that way feel jubilant over the prospect for good crops.

Solano.

Reporter: The few orange trees in Vaca valley old enough to bear are pretty well loaded this winter with the golden fruit. We notice the two in Col. A. M. Stevenson's front-yard on Bush street with a fine crop on them. The Martell ranch has been shipping oranges for several weeks.

Solano Republican: The other day a fox made its appearance at Patrick Lang's place, a few miles east of Suisun, and, having attracted the attention of Mr. Lang's dogs, they gave chase. The dogs brought the fox to bay, and Mr. Lang delivered the coup de grace by rendering Mr. Reynard hors du combat with a shillelah.

Sonoma.

Santa Rosa Democrat: "A snow year is claimed by climatic observers to be a good year for agriculture. If this is so, we are in for a good prospect this season, as our upland surroundings are handsomely white-capped."

Our special reporter from Cloverdale sends a full account of the storm in North Sonoma and Mendocino. The reports indicate the heaviest rainfall ever known in that section. Over ten inches of rain in the space of three days is in the nature of a cloudburst.

The grain warehouse at Pieta was badly wrecked in the recent storm. The water undermined the foundation and the wind blew the roof off. The company had a big force of men at work there Sunday, and by night about 100,000 bushels of grain had been moved into cars.

A big farm was sold cheap at Cloverdale recently. Robert Forsythe, acting as his own auctioneer, sold the Mrs. Breitlauch place, four miles from town, consisting of 160 acres of hill land, to the highest bidder, realizing only \$12 per acre for it, or about one-half its appraised value. Land speculators did not seem to be very plentiful.

Petaluma Courier: A gum-tree on David Wharf's farm, six miles from Petaluma, on the Santa Rosa road, was torn up by the roots by the recent gale. What makes this circumstance notable is the fact that that particular gum-tree was planted by Mr. Wharf 30 years ago, and that it had successfully withstood all previous storms.

Tehama.

Corning Observer: There were over ten tons of turkeys shipped from Corning station to the city the week before Christmas, making about 20 tons for the season. Good prices were received for them.

Tulare.

Porterville Enterprise: Dave Vaughn brought 12 navel oranges into town from the Frost orchard this week. They weighed 13 pounds. Fact.

There were 68 cars of freight shipped from the little town of Exeter last month—41 of them being grain and 18 being wood. The total amount of the freight handled, in pounds, was 1,666,550.

Visalia Times: L. A. Johnson and Jim Fisher recently traded for a ranch in Sonora, old Mexico, which contains 1,700,880 acres. L. A. has been corresponding with reference to the title, and found it is all right. It came near paralyzing him when he found there were no taxes on his new acquisition.

There was an interesting rabbit hunt on Christmas between the Traver and Reedley teams. The hunt was given by the Traver team for a prize of \$50, and the contest was to have been between several clubs; the others failed to appear. The Traver team won first money, shooting 122, and Reedley second with 118.

Lemoore Leader: J. T. Burch, of the S. P. Co., let out for rent about 125,000 acres, and expected to let 75,000 more this week. The demand for pasture lands is immense, and a large number of sheep-owners is now on the west side rustling for pasturelands. The rental is small on these plains, being only 12½ cents an acre.

Ventura.

Free Press: The Frederick boys killed a wild hog in a jungle on the north side of their place the other day. The hog weighed about 300 pounds. They report seeing some more wild hogs, but could not get near enough to shoot them.

Yolo.

While duck-shooting on the overflow in Yolo county, Louis Melchoir fainted and fell from his skiff and was drowned. The body was recovered. The deceased was a native of Austria, aged 40 years, and was an accomplished violinist and pianist.

NEVADA.

In commenting on recent tables, the *Carson Appeal* says: There were assessed in the State of Nevada in 1892, 166,874 head of cattle valued at \$2,300,483, or between \$13 and \$14 a head. In glancing over these tables, one is struck by many curious things. For instance, Humboldt county turns in 27,417 head of cattle, including cows, beef cattle and stock cattle, valued at \$352,923, but not a single bull shows up on the tax-rolls of that county. The same state of affairs exists in Nye, Elko, Esmeralda, Douglas, Churchill and White Pine. Stock cattle are assessed less than beef cattle, and this is probably why the stock cattle of the State as turned into the assessor number 146,885, while the beef cattle make the modest showing of only 9436. The horses in the State foot up 48,861, valued at \$1,077,358, or a little over \$22 a head. This does not speak much for Nevada horses when they average so low; but possibly the high grades of horses were overlooked when the assessors were around. Mules in Nevada are quiet, only numbering 1320, valued at \$46,576, and they don't seem to kick at the figures. The sheep industry foots up 319,717 sheep, valued at \$647,649, or about \$2 a head. Charles Wallace, the assessor of Eureka county, assessed his own sheep. He had 100 head of a choice breed, and he turned them in at \$10 a head.

OREGON.

A sack-sewer at the Pendleton, Or., flour-mills sewed 600 fifty-pound sacks within five hours, which is at the rate of two sacks a minute. Six stitches were taken in each sack. The young man claims the championship of the Northwest in the sack-sewing line.

The Oregon State Board of Equalization finds Oregon's assessment a badly mixed affair. Some counties have assessed mortgages at 50 per cent some at 66, some at 75 and many at face value. Horses and mules range all the way from \$160 to \$57; cattle from \$10 to \$77; swine from \$1.50 to \$4.25; and sheep from \$1.70 to \$2.10.

Henry L. Shelton of Seio, Or., butchered an ordinary-looking hog last week, says the *Oregonian*, which was found to possess two stomachs and two complete sets of intestines. Shelton says he never observed anything peculiar about the animal when alive except that he possessed a voracious appetite both for food and drink.

WASHINGTON.

A well-organized band of cattle-thieves is at work on the Columbia river stealing cattle from stockmen on the Oregon side and selling them on the Washington side.

A bill will be introduced in the next Washington legislature abolishing poll tax; also one that in incorporated cities there shall be but one assessment for municipal, county and State taxes.

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ESTABLISHED 1878

TRAGEDY PRUNES,
OLYMAN PLUMS,

The Two Best Shipping Varieties for Profit.

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FRUIT, NUT & ORNAMENTAL TREES, etc.
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Illustrated, Descriptive and Priced Seed Catalogue for 1893 mailed free to all applicants. Address

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McKEVITT'S EARLY.

The New Yellow Freestone Peach.

FIRST AND BEST OF EARLY YELLOW PEACHES.

RIPENS IMMEDIATELY AFTER THE ALEXANDER (White Cling), which is the earliest peach in market.

Fruit is round, of medium size, VERY HIGHLY COLORED, flesh firm and sweet. THIS PEACH HAS BEEN SUCCESSFULLY SHIPPED EAST FOR FIVE YEARS and is no new, untried variety.

Tree healthy, strong grower, and heavy bearer, never having missed a crop. A limited number of yearling trees for sale this season. Apply early before stock is exhausted.

GIANT OAK FRUIT CO.,

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Tulare County customers can obtain stock from above Company at Farmersville, Tulare Co.

1,000,000 TREES,

COMPRISING A GENERAL ASSORTMENT OF

Fruit & Ornamental Trees & Plants, Shrubs, Roses, Etc.

ALSO A FINE STOCK OF

ORANGE AND LEMON TREES FOR SALE AT LOW PRICES.

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640 ACRES.

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FANCHER CREEK NURSERY,

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1,000,000 FRUIT TREES,

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—A large stock of—

Bartlett Pear Trees and French Prunes

On Myrobalan Stocks, at Low Rates.

Also, a general assortment of Apple, Pear, Peach, Nectarine, Plum, Cherry, Quince, etc., grown in sandy loam, without irrigation, which gives a fine proportion of roots. I offer no trees but what are grown in my own grounds and known to be true to label and free from scale bugs. Address: W. H. PEPPER, Petaluma, Cal.

Owing to age and poor health, I will sell my place and business at a bargain. Place consists of 250 acres of land, good buildings, 50 acres in orchard, and a large Nursery stock, together with horses, wagons and implements, complete, for carrying on the business. A good opportunity for enterprising men with capital to step into a good-paying business. For further particulars address, as above.

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French Prunes on Peach, Almond,
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Leading Varieties, in large quantities.A General Assortment of Deciduous Fruits
All our stock is grown without irrigation and is guaranteed. Drop us a "Card," and we will send you our price list.

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FRENCH PRUNES on Peach and Myrobalan, 1 Year Old. CHERRIES, PEACHES and APPLES 1 and 2 Years Old. Also a very Large and Complete Stock of SHADE AND ORNAMENTAL TREES. The Finest Stock of ROSES in California. Write for Prices. H. GILL,

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BLUE GUMS,
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For sale in lots to suit. Write for prices delivered on wharf in San Francisco. For large orders we have special inducements. Address

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20,000 June Buds on Almond Roots.

IXL, Ne Plus Ultra and Nonpareil.

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Apples, Almonds, Apricot, Pear, Plum, Peach and Cherry. Also fine stock Olives, Oranges, Lemons, Nut Trees and Small Fruits; Magnolias, Camellias, Palms. Large stock of Roses, Clematis, Etc., Etc.

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Nurseries are at Acampo on Stockton R. R., and we have an office and tree yard in Sacramento from the 1st of December to the 15th of April.

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A pamphlet on Almonds mailed free of charge on application. A large supply of the GOLDEN PEACH and FRENCH PRUNE. All kinds of leading fruit trees for sale. No charges made for baling trees. Address

PERCY W. TREAT.

Davisville Nurseries,

Davisville, Cal.

Seeds, Plants, Etc., Continued on Pages 18 and 19.

How the Lucifer Match was Invented.

It is not generally known that it is to Isaac Holden, M. P., that we owe the invention of the lucifer match. The discovery was, he has told us himself, the result of a happy thought. In the morning, I used to get up at four o'clock in order to pursue my studies, and I used at that time the flint and steel, in the use of which I found very great inconvenience. Of course I knew, as other chemists did, the explosive material that was necessary in order to produce instantaneous light, but it was very difficult to obtain a light on wood by that explosive material, and the idea occurred to me to put sulphur under the explosive mixture. I did that and showed it in my next lecture on chemistry, a course of which I was delivering at a large academy. There was, said Mr. Holden, a young man in the room, whose father was a chemist in London, and he immediately wrote to his father about it, and shortly afterward lucifer matches were issued to the world. I believe that was the first occasion that we had the lucifer match. I was urged to go and take out a patent immediately, but I thought it was so small a matter and it cost me so little labor that I did not think it proper to go and get a patent, otherwise I have no doubt it would have been very profitable.—Pall Mall Gazette.

ELECTRICITY DEFINED.—The different opinions vary as the shades of colors of a rainbow. These also existed as to the rationale of electric agency, but modern science confidently asserts that the old idea of electricity as a "fluid" has been exchanged by the well grounded theory that it is a latent energy which may at any time be called into action by either chemical or mechanical means, thus creating in the molecules of matter a modification of motion, which for simplicity has been appropriately termed an "electric current." The production of electrical phenomena may be brought about in three distinct forms: Static electricity, or electricity in rest, and producible by frictional excitation; galvanic electricity, or the constant current, generated by chemical, and possessing important chemical properties; faradic electricity, or electricity induction of secondary currents in an adjacent conducting body, by the action of the primary galvanic current or of powerful agents.—BLEYER.

STAMPING LETTERS.—An electrically controlled machine which will effectively stamp 30,000 letters in an hour is one of the interesting inventions that has been adopted in the postoffice department. The letters are placed upon their edges in a horizontal hopper, and an ingenious device carries one at a time between two feed-rolls. In this way the first separation is effected. A second set of feeding rolls performs another part of the work. In a simple way the inking rollers are reached, when the envelopes are stamped and passed on, one at a time, to the stacking table. A register shows the number of envelopes canceled. The date and hour in the die must be changed by hand. The various rollers are run by belts, passing over different-sized pulleys, which are in turn connected by gearing to the axle of the motor.

THE PROPER REMEDY.—A Fairfield, (Wash.) elevator man went to his supper and when he returned his warehouse was in flames. The moral ought to be obvious to all warehousemen, viz: Never go to supper. Or, if you do, take your warehouse with you.

KNABE PIANOS

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DIVIDEND NOTICE.

SAN FRANCISCO SAVINGS BANK, 532 CALIFORNIA STREET, CORNER WEBB. Branch, 1700 Market Street, corner Polk.—For the half year ending with Dec. 31, 1892, a dividend has been declared at the rate of five and one-tenth (5 1/10) per cent. per annum on Term Deposits and four and one-fourth (4 1/4) per cent. per annum on Ordinary Deposits free of taxes, payable on and after TUESDAY, Jan. 3, 1893. LOVELL WHITE, Cashier.

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How Sponges are Gathered.

Arrived at what he fancied may prove a profitable ground, the captain of a sponging schooner sends out a boat to investigate, meantime standing off and on until a discovery is reported. Then all hands, save only the cook, or if she is a large vessel, the captain and cook, tumble into the small boats and the fishing—if fishing it can be called—is begun.

The vessel has towed astern just half as many boats as she has men in the crew, and now two men are assigned to each boat. One of them stands well aft and sculls with a long oar, while the other bends low over one of the gunwales in a most constrained position, and with head buried in a water-glass eagerly scans the bottom as he is moved slowly over it. The water-glass is simply a wooden bucket, having no bottom, that is held an inch or so below the ruffled surface, and these clear waters plainly reveal all submerged objects to a depth of 40 or 50 feet. As a further aid in overcoming ripples or moderate waves, each small boat is provided with a bottle of oil so hung over the

bow as to slowly drip its contents into the water.

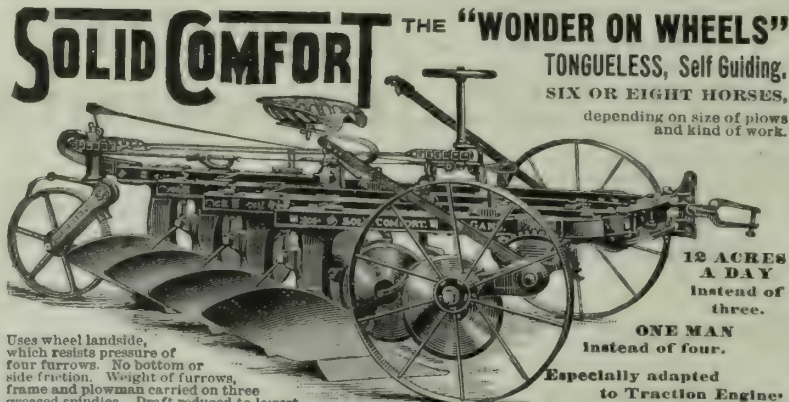
Through this magic glass the observer sees darting fish, richly-tinted seafans and feathers, branching coral, gorgeous anemones, bristling sea porcupines, and the myriad other curious tenants of these tropic waters. While seeing these he makes no sign, until a small, dark object that, to the untrained eye, differs in no respect from the loggerheads surrounding it, comes within his range of vision. Then, without removing his gaze, he reaches for the long-handled sponge-hook or rake lying behind him, and using it with one hand, quickly tears from the bottom a black, slimy mass that he triumphantly pronounces to be a sheep's wool or grass sponge of the first quality.—Scribner's Magazine.

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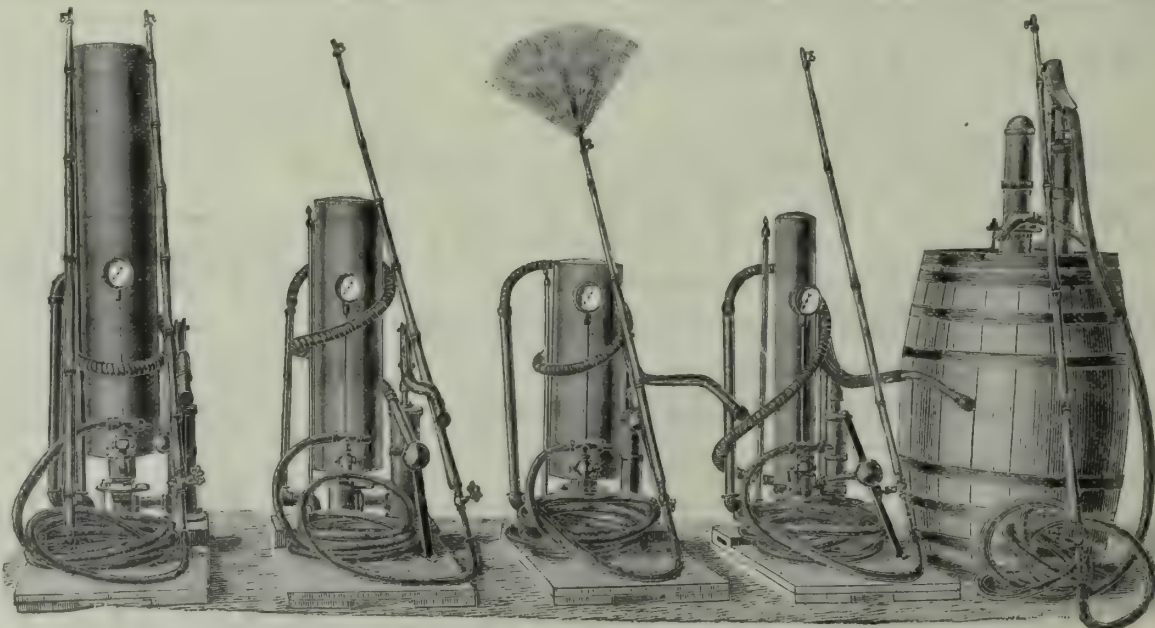
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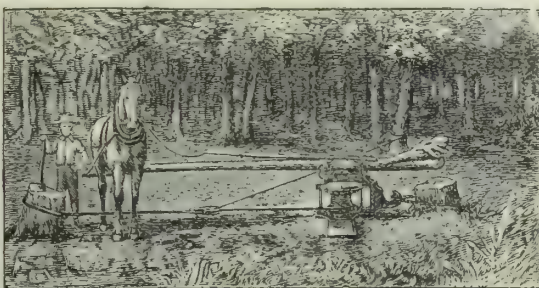
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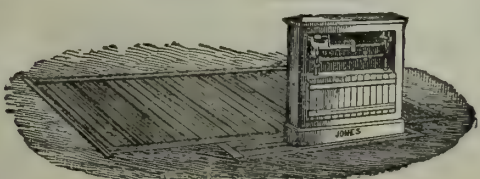


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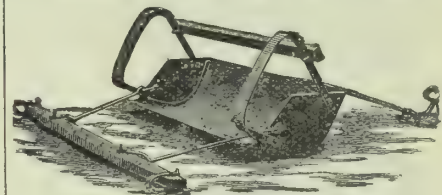
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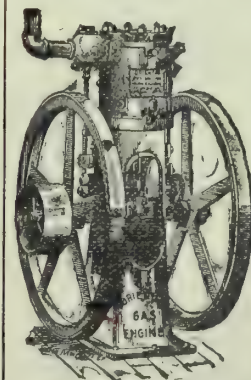
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S. H. MARKET REPORT

Market Review.

SAN FRANCISCO, Jan. 4, 1893.

The after-holiday season has not been marked by special activity among jobbers, though conditions do not differ materially except in one or two lines from a month since. The wheat market shows a firmer tone, as a natural result of the after-holiday reaction and the slightly better conditions that surround the trade. Receipts of various farm products from throughout the State have been exceptionally light, except butter and eggs, and as a consequence quotations have been firmer than might otherwise have been expected.

The Wheat Market.

A slight decrease in estimates of the visible supply in the United Kingdom has been partly responsible for an advance in quotations, and the market shows generally a better tone than has prevailed for some time. The enormous visible supply, however, discourages any marked advance or decided confidence, and it is not to be expected that an entirely healthy tone will prevail until crop prospects are better known and there is a diminution of resources. Cargoes on the way to Europe at this time are about the same as one year since, while there is a large excess of the visible supply over the same period one year since. In the United States, reserves have accumulated and held up in an unexpected manner, being now double that of one year since. At that time there was a strong demand, and of course great inroads were made upon stocks. If, however, the history of the past counts for anything, producers have reason to expect very much better prices during the year. It is a fact that since our exports of California wheat began there has been no year except one in which the price did not reach \$1.50 per cental and more. The exception was in 1888, when the highest quotation was \$1.45, and the lowest \$1.20. Notwithstanding the almost unprecedented conditions, we have not touched the lowest figure here, nor do we seem likely to.

Reports from the interior as to the coming crop, are of a most satisfactory nature. Climatic conditions for ploughing and seeding have been exactly right in all parts of the State, and, unless some unforeseen contingency arises, the crop of 1893 will be very large. On the contrary, early conditions have not been favorable in the remainder of the United States, and Government reports are that conditions for a heavy yield are not so good as they were one year since at this time. The same state of things prevails in the United Kingdom. There may be a shortage elsewhere, the great visible supply may find ready means of exhaustion, and the California grower next summer may discover himself in very happy circumstances.

Barley.

Barley is steady and is on the whole in fair condition. Holders have not been disposed to make offerings, and quotations are inclined to be upward. Choice feed is in demand, and brewing is uniformly steady.

Oats are easy and stocks are large, though particularly choice are not plentiful.

Fruits.

The cold weather of the past few days has retarded consumption of oranges, and the market has been somewhat weak. Receipts are free, and the demand slow. The quality of all California oranges shows improvement. Mexican limes are very stiff, and the demand active under light receipts. Higher prices for limes have ruled during the entire week. California limes do not show such activity. Japanese oranges are firm at quotations. They are selling well even at Los Angeles, the home of the citrus fruit. Lady apples range as high as \$3.00 for very choice. A lot from Tuolumne county in half barrels were offered at \$7 and \$8. Sound winter apples generally bring good prices. Poor, small winter pears are in large quantity, and sell slow.

Dried Fruits.

There is no activity in dried fruits. Dealers complain that all their sales are in small lots. Receipts of raisins have been light during the past week. The general condition of the market, however, is fairly satisfactory, and the prospects for better prices are believed to be good.

Vegetables.

Potatoes are steady and receipts are free. There has been no change in quotations during the week, though extra choice bring higher prices. New cucumbers from southern California have appeared in the market and sell for \$2.50 per dozen. New tomatoes have also arrived, and jobbers quote from \$1.25 to \$1.50 per box. Green peas are here, but are generally dingy. Asparagus brings good prices. There is no material change in onions, prices ruling somewhat weaker under free receipts.

Poultry.

Investigation of our quotations will disclose that the whole range of quotations has been raised. Turkeys are again up, and better prices are offered for hens, ducks and geese. Receipts of good poultry are light, and the demand has been very active during the week. Two cars of eastern stock were placed on the market yesterday.

The game market has a decidedly upward tendency to-day under very light receipts. Quail are restored to the figures of \$1.25. Dealers claim that they expect large receipts every day. They say they can give no quotations to-day, in the absence of offerings.

Dairy Products.

The butter market is now in favor of consumers, with large receipts. Even choice is weak. Cheese is in good condition, and quotations rule higher than a week ago, especially for finer grades. There is a good demand for new.

Eggs also are weak throughout the whole list.

Provisions.

Hams and bacon are very stiff, the local market being affected by conditions East. There seems to be good reason to expect that quotations will be higher. Stocks East are very small, and the stock yards are doing less work than for several years.

Miscellaneous.

Honey is scarce and the demand fair. There is no change worth noting in wool or hops.

Hay shows no change, though there is good demand for choice alfalfa.

Beans are in good shape, with good demand and firm prices.

Buckwheat is largely nominal.

In livestock, hogs and mutton have both developed an upward tendency.

Breadstuffs on Passage.

The quantities of wheat and flour on passage for Europe during each week in December were as follows:

	United Kingdom.	Continent.
Week ending—		
6th, quarters.....	2,245,000	944,000
13th.....	2,865,000	855,000
20th.....	2,733,000	820,000
27th.....	2,697,000	772,000

In the last three weeks of the month there was a falling off for both the United Kingdom and Continent. For the week ending January 2d, however, there was a small gain for the United Kingdom, the quantity being 2,733,000 quarters. At the close of the same week there were 712,000 quarters afloat for the Continent, or 60,000 less than in the previous week.

English Wheat Market.

English farmers' deliveries of wheat in December were reported as follows:

	Quarters.	Av. Price.
8d.....	53,975	27s 0d
10th.....	53,117	26s 10d
17th.....	54,799	26s 4d
24th.....	50,478	25s 9d
31st.....	36,885	25s 8d

At the close the average price per quarter was 1s 4d lower than at the beginning of the month, as against a similar decline in November. Prices in England have reached the lowest point on record.

Imports into United Kingdom.

The weekly imports of wheat and flour into the United Kingdom in December were as follows:

	Wheat, qrs.	Flour, bbls.
Week ending—		
6th.....	408,000	233,000
13th.....	306,000	234,000
20th.....	421,000	327,000
27th.....	272,000	283,000

Totals.....1,402,000 1,077,000
Against 1,542,000 qrs. wheat and 1,191,000 bbls. flour in November.

Visible Supply of Wheat.

During each week in December the visible supply of wheat in this country east of the Rocky mountains was reported as follows:

	Bushels.
Week ending—	
3d.....	72,581,000
10th.....	75,571,000
17th.....	78,321,000
24th.....	79,834,000
31st.....	81,294,000

The last week of the month shows a gain of 8,713,000 bushels as compared with the visible supply at the beginning of the same. The gain for each week was as follows: Week ending 10th, 2,990,000 bushels; 17th, 2,750,000; 24th, 1,513,000; 31st, 1,460,000. In each instance it will be seen the weekly gain has been cut down.

Stocks in Liverpool January 1st.

	Wheat, qrs.	Flour, bbls.
1892.....	675,000@700,000	380,000@400,000
1893.....	360,000@380,000	120,000@130,000

Local Tonnage Statistics.

The following is a summary of the engaged and disengaged tonnage here and on the way to this and neighboring ports

	1892.	1893.
Chartered for grain.....	26,421	83,992
Miscellaneous charters.....	10,894	16,727
Disengaged.....	139,323	85,273

Totals.....176,638 135,992

At neighboring ports—

Total tons for 1892.....24,924

Total tons for 1893.....49,560

TONNAGE ON THE WAY.

	1892.	1893.
To San Francisco.....	265,983	276,612
To San Pedro.....	7,474	6,135
To San Diego.....	11,673	20,174

Totals.....285,030 302,921

The disengaged list consists of 73 vessels, of which 15 are American, 2 are Nicaraguan, 3 are German, 1 is Norwegian and 51 are British.

The list of vessels in port chartered for grain numbers 17, of which 13 are British, 1 is Swedish, 2 are Italian and 1 is German.

Miscellaneous charters include 3 for Hawaiian Islands, 3 for New York, 1 for United Kingdom via Puget Sound, and 1 for West coast via British Columbia.

The vessels chartered to load wheat have a total carrying capacity of about 42,300 tons. At this time last year the tonnage under engagement for grain-loading amounted to 89,932 tons, with a carrying capacity of about 134,400.

The Market for Pork Products.

C. E. Whitney & Co., in their trade circular under date of Saturday, write as follows in reference to the market for pork products:

During the past few weeks the situation in the pork market has been growing more and more serious. The receipts at the main packing centers for the past week have been about 360,000 hogs against 570,000 for the corresponding week last year. From November 1st to date the receipts are 2,700,000 against 4,500,000 for the same period last year. At the same time the heavy demand for the hog product is almost unabated and prices are being daily forced higher and higher by the absolute legitimate causes, i. e., short supply and long demand. All advices from hog-raising sections point to a continued short supply, and prices will stop advancing only when they become so high as to cut the demand down to an equality with the production. It is hard to say where the packing house product is coming from to run through the coming summer, as this is the time of the year when the season's supply is usually laid away, while this year it is a hard matter to supply even present wants, to say nothing of the future.

Exports of Flour.

The export values of flour from San Francisco in the given years were as follows:

	1892.	1893.
1892.....	\$1,552,501	\$1,081,678
1891.....	\$1,527,436	\$1,631,472
1890.....	\$1,709,537	\$1,600,147
1889.....	\$1,523,327	\$1,771,539

making a total of \$12,697,637 for the eight years, or an annual average of \$1,587,204.62.

With new steamship lines running from Victoria and Tacoma there has been keen competition on the part of the Oregon and Washington millers to secure a larger share of the China trade, and evidently they are in a measure realizing their hopes, though there was no particularly large decrease in the quantity of flour shipped from this port in 1892. Somewhat lower prices have ruled this year, but this has been mainly incident to lower prices of wheat and partly to competition.

The Wool Trade in 1892.

George Abbot furnishes the following report of wool receipts, productions, etc., in 1892:

WOOL PRODUCTION IN 1892.

Receipts at San Francisco:		
January, bags.....	395	August..... 5,182
February.....	15	September..... 9,620
March.....	6,599	October..... 15,444
April.....	20,765	November..... 2,436
May.....	11,975	December..... 640
June.....	10,660	
July.....	3,930	Total..... 87,561

Pounds.

Spring Wool, 52,021 bags.....17,166,930

Spring Wool, shipped from interior.....4,776,000

Total Spring.....21,942,930

Fall Wool, 30,540 bags.....12,216,000

Fall Wool, shipped from interior.....1,220,000

Total Fall and Spring.....34,778,930

Pulled Wool, shipped from San Francisco and interior.....1,024,000

Total production of California.....35,802,930

On hand December 31, 1891.....2,500,000

Oregon, 10,305 bags.....3,503,700

Nevada and Territories.....1,500,000

Foreign, 6,478 bags.....1,489,940

Grand total.....44,796,570

EXPORTS.

Domestic, Foreign, Pulled and Scoured—Pounds.

Per rail, inclusive of shipments from interior.....24,185,195

Per steamer, via Cape Horn.....699,408

Per sailing vessel.....3,066,496

Total exports.....27,841,099

On hand December 31, 1892, 1,500,000 pounds. Value of exports, \$6,000,000.

N. B.—Difference between receipts and exports arises from consumption of local mills and wool on hand awaiting shipment in the grease or scoured. Foreign wool is chiefly from Australia in transit to Eastern markets. The weights of above are gross. Total of bags, 3 lbs each. Pressed bales shipped, 14 lbs each.

According to Mr. Abbot's records the largest production was in 1876, being 56,550,973 pounds. During the past ten years the production has been estimated as follows:

Years.	Pounds.
1883.....	40,843,690
1884.....	37,415,330
1885.....	36,561,390
1886.....	38,509,160
1887.....	31,564,231
1888.....	32,569,972
1889.....	34,008,370
1890.....	34,854,640
1891.....	33,183,475
1892.....	35,802,930

Produce Receipts.

Receipts of produce from all sources at this port for 7 days ending January 4, 1893, were as follows:

Flour, qrs. sals.....	47,401	Chicoory, bbls.....	40
Wheat, cts.....	136,323	Hops, bbls.....	14
Barley, ".....	24,296	Wool, bbls.....	152
Eye, ".....	11,289	Hay, ton.....	1,560
Oats, ".....	4,273	Straw, ".....	131
Corn, ".....	4,273	Wine, gals.....	143,560
Butter, ".....	384	Brandy, ".....	43,850
do bxs.....	384	Raisins, bxs.....	2,935
do bbls.....	384	Honey, cs.....	—
do kegs.....	384	Peasants, sks.....	—
do bags.....	384	Almonds, ".....	58
do bxs.....	384	Mustard ".....	—
do bbls.....	384	Flax ".....	2,126
Eggs, doz.....	19,540	Popcorn ".....	—
Beans, sks.....	2,326	Broom corn, bbls.....	—
Potatoes, sks.....	20,966	Leather, rolls.....	126
Onions, ".....	2,738	Tallow, cts.....	400
Brass, sks.....	5,361	Hides.....	1,587
Buckwheat ".....	1,769	Pelts.....	877
Middlings ".....	1,769		

Markets by Telegraph.

British Grain Trade.

LONDON, January 2.—The *Mark Lane Express* says: Owing to small deliveries English wheats are in increased demand and prices 6d better. Another week's frost will probably cause values to increase 1s 6d. A review of last year's trade shows a fall during the year of 10s 7d per quarter. Indian wheat is 9d, Russian and red winter 6d and fine white foreign 3d dearer.

Wheat Supplies in England.

LONDON, Jan. 3.—Wheat and flour on passage to the United Kingdom, 2,733,000 qrs.; Continent, 712,000. Imports of wheat into United Kingdom during the past week, 215,000 qrs.; flour, 209,000 bbls.

Indian shipments of wheat during the past week, United Kingdom, 10,000 qrs.; Continent, 20,000. Stocks in principal ports of United Kingdom lighter than has been anticipated; total, 3,500,000 quarters.

The stocks on hand Jan. 1st were as follows:

	Wheat, qrs.	Flour, bbls.
1893.....	250,000@260,000	775,000@800,000
1892.....	525,000@550,000	420,000@440,000

Grain Futures.

Liverpool.

The following are the closing prices paid for wheat options per cwt. for the past week:

	Dec.	Jan.	Feb.	Mar.	April.	May.
Thursday.....	56 7/8	56 3/4	56 1/2	56 1/4	56 1/4	56 1/4
Friday.....	56 7/8	56 3/4	56 1/2	56 1/4	56 1/4	56 1/4
Saturday.....	56 7/8	56 3/4	56 1/2	56 1/4	56 1/4	56 1/4
Monday.....	56 7/8	56 3/4	56 1/2	56 1/4	56 1/4	56 1/4
Tuesday.....	56 7/8	56 3/4	56 1/2	56 1/4	56 1/4	56 1/4

The following are the prices for California cargoes for off coast, nearly due and prompt shipments for the past week:

	O. C.	P. S.	N. D.
Thursday.....	30 1/2	31 1/2	30 1/2
Friday.....	30 1/2	31 1/2	30 1/2
Saturday.....	30 1/2	31 1/2	30 1/2
Monday.....	30 1/2	31 1/2	30 1/2
Tuesday.....	30 1/2	31 1/2	30 1/2

Today's cablegram is as follows:

LIVERPOOL, Jan. 4.—Wheat, firmly held. California spot lots, 3s 4d; off coast, 3s 3d; just shipped, 3s 3d; nearly due, 3s 3d; cargoes off coast, firmly held; on passage, quiet but steady; Mark Lane wheat, turn dealer; French country markets, firm.

Eastern Markets.

The following shows the closing prices per bushel of wheat for the past week at

New York.

	Day.	Dec.	Jan.	March.	May.
Thursday.....	77 1/2	77 1/2	77 1/2	77 1/2	77 1/2
Friday.....	77 1/2	77 1/2	77 1/2	77 1/2	77 1/2
Saturday.....	77 1/2	77 1/2	77 1/2	77 1/2	77 1/2
Monday.....	77 1/2	77 1/2	77 1/2	77 1/2	77 1/2
Tuesday.....	77 1/2	77 1/2	77 1/2	77 1/2	77 1/2

The following is to-day's telegram—per bushel:
New York, Jan. 4.—Wheat, 78 1/2 for January, 79 1/2 for February, 81 1/2 for March, 83 1/2 for May, 85 1/2 for June and 84 1/2 for July.

Chicago.

	Day.	Dec.	Jan.	May.	July.
Thursday.....	77 1/2	77 1/2	77 1/2	77 1/2	77 1/2
Friday.....	77 1/2	77 1/2	77 1/2	77 1/2	77 1/2
Saturday.....	77 1/2	77 1/2	77 1/2	77 1/2	77 1/2
Monday.....	77 1/2	77 1/2	77 1/2	77 1/2	77 1/2
Tuesday.....	77 1/2	77 1/2	77 1/2	77 1/2	77 1/2

The following is to-day's telegram—per bushel:
Chicago, Jan.

Additional Grange News.

ENTERPRISE GRANGE.—Election, Dec. 5, 1892; officers chosen: N. G. Wilson, M.; J. A. Simons, O.; Geo. Artz, L.; J. O. Sherwood, S.; W. Coy, A. S.; Geo. Wilson, C.; Mrs. Simons, T.; Minnie Toomey, Sec.; F. A. Schultz, G. K.; Etta Plummer, Ceres; Hattie Bonlin, P.; Grace Toomey, F.; Alice Chase, L. A. S. Date of installation, Jan. 7, 1893.

A Grange Watch Meeting.

The watch night social of Sacramento Grange proved a pleasant occasion. Patrons and their families to the number of 125 assembled to participate in the merrymaking. The program was brief and was presented by members of the Grange. First was a tableau, "Under the Mistletoe," followed by an instrumental duet on piano and violin. The curtains were then withdrawn, revealing "The Belle of the Grange," which was neither more nor less than a brand new dinner bell. A vocal solo preceded the tableau, "Bachelor's Dream," wherein a forlorn Granger fell asleep while darning his sock, and a beautiful maiden appeared and completed his task without disturbing his sonorous slumbers. A charade in which one brother had charge of the culinary department, another rocked the cradle, and a past State master handled the family washing in a masterly way, while the ladies discussed the current topics, was entitled "Woman's Rights." Sixteen young people in costume and masked appeared upon the floor and danced the Bellamy Quadrille, or Looking Backward, and the applause which greeted the performance was uproarious. After a grand march, quadrilles, waltzes and polkas followed each other in rapid succession, and youthful feet kept time to the music while the older people watched the dancing and had a social converse.

Refreshments were served in the banquet hall, and as midnight approached the Virginia reel was danced and the old year passed away and the new was ushered in by friendly handclaps and interchange of greetings.

We passed out from the glare of gaslight to where the night's sable curtain was brilliant with starry luster and confined by a silver crescent, and Jack Frost had liberally bestowed his frozen moisture, which scintillated in the warm, soft light, and went out several ways.

P. STEINHAGEN & CO.



406 & 408 DAVIS ST. S.F.



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THERE is not a seedsman or nurseryman in the country who exercises more care in the production of pure seeds with strong germinating qualities, or in growing strictly fine bulbs and plants than does H. W. Buckbee, of Rockford, Ill., who has an illustrated advertisement in another column of this paper. He produces and has for sale all kinds of farm, garden and flower seeds, plants, bulbs, etc., and sells them at prices that virtually defy competition. His beautifully illustrated catalogue with descriptions, prices, etc., will be furnished free as per advertisement.

TWENTY-SEVENTH INDUSTRIAL EXPOSITION OF THE MECHANICS' INSTITUTE, AND PRELIMINARY WORLD'S FAIR EXHIBIT OF CALIFORNIA.

Opens January 10, 1893.

Closes February 11, 1893.

NEW FEATURES!

Among which will be the Annual Exhibition of the Northern California Citrus Fair Association, a Grand Display of Natural Products of Various Counties of the State, the Largest Collection Ever Seen in This City of Valuable Statuary and Paintings, an Orchestra of Fifty Musicians, Including Noted Soloists and Miss May Cook, the Young California Cornetist, Six Large Aquariums, Machinery in Motion, Objects of Art, Industry and Manufacture.

Admission:

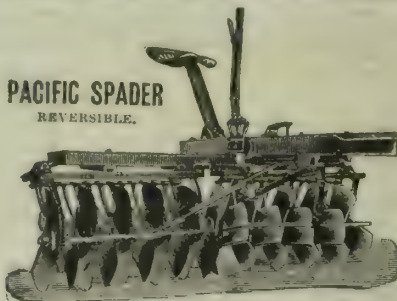
Adult's single admission in daytime, 25c; evening, 50c. Child's single admission, daytime, 15c; evening, 25c. Season tickets issued only to members of the Mechanics' Institute. Double season ticket, \$2.50; single season ticket, \$1.50.

Season tickets may be obtained by non-members at the following rates: Double season, \$6; single season, \$4, which includes membership in the Institute, subject to confirmation by the management and dues for the present quarter.

IRWIN O. STUMP, President.

THE LATEST STYLE PULVERIZER! THE PACIFIC SPADER!

Operated by one small boy. No Man required.



Spader throwing Soil from the Center.
The Pacific Spader and Vineyard Cultivator does more work in one stroke than a Disc Harrow in ten. Size, 64 to 12 feet.

TRUMAN, HOOKER & CO.,
San Francisco and Fresno.

SIZES:—		
No. 5D—	54-foot Spader.....	18-inch Blades
No. 8D—	7 " " " " " " " " " "	18 " "
No. 10D—	6 1/2 " " " " " " " " " "	20 " "
No. 14D—	7 " " " " " " " " " "	20 " "
No. 16D—	8 " " " " " " " " " "	20 " "
No. 20D—	10 " " " " " " " " " "	20 " "
No. 24D—	12 " " " " " " " " " "	20 " "



AN OLD STYLE PULVERIZER.

Especially adapted to pulverizing "bottoms"—one man and a small boy can operate it.

Linden, Cal., Nov. 26, 1892.

Messrs. Truman, Hooker & Co.,
San Francisco, Cal.

Gentlemen:—I was induced by your agent, Mr. I. O. Fowler, to purchase one of your PACIFIC SPADERS, which I have tested on some very hard land and must say it does its work to perfection. I will say to all who contemplate purchasing a Cultivator to take the Pacific Spader every time. I remain
Yours very truly,

C. V. Webb.

GIRLS JACKETS!

Real nice one, too—latest style out. PRETTY CAPS TO MATCH

!FREE!

Colors are gray mixed and light tan mixed, the new popular fabrics—not dark. We have only 75 left, and they will not go round.

AGE 4 ARE	\$2.50—POSTAGE 18c.
AGE 6 ARE	2.75—POSTAGE 20c.
AGE 8 ARE	3.00—POSTAGE 22c.
AGE 10 ARE	3.25—POSTAGE 24c.
AGE 12 ARE	3.50—POSTAGE 25c.

Caps to Match Go with the Coats.

You will be asked \$5.00 for these elsewhere. We have LADIES' COATS \$3.75 to \$12.00. Long Coats, last year's style, 30 left, were \$12.00 to \$20.00, now \$5.00 to \$8.00. Our list tells about 'em. Send for it—FREE—to

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OLD GUNS TAKEN IN EXCHANGE.

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Seeds, Plants, Etc.

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PEACHES,
ROYAL APRICOTS,
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GRAPE VINES.

General Nursery Stock.

ORANGE AND LEMON TREES.

Some choice Orange and Lemon land planted and cared for, at rock prices.

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Palm and Citrus Nursery AT MONTECITO.

OLIVES, LEMONS, ORANGES

And all Citrus Trees in variety.

And especially PALMS and TROPICAL FRUIT AND ORNAMENTAL TREES, best adapted to California and its subtropical sections.

A large stock of CHERIMOYA (Custard Apple) and ALLIGATOR PEARS.
The JAVA PLUM (Eugenia Jambolana), a handsome fruit-bearing tree from Java, mailed free for 50c.

Address:

KINTON STEVENS,

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APPLE SEEDLINGS, Home Grown,
BARTLETT PEARS, WINTER APPLES

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Grown in the open ground, namely: MANZANILLO or Queen's Olive, NEVADILLO BLANCO, PICHOLINE, Etc.

OLIVE TREES

For sale at bed-rock prices. We are again in the market with Clean, Healthy stock, grown entirely without irrigation.

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DURHAM, DEVON AND POLLED ANGUS

BULLS AND HEIFERS,

Recorded and guaranteed fine bred, FOR SALE, single or in carload lots. Prices very reasonable. Address:

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See our prices before buying. They are very low.

ROOTGRAFTS

Apple Grafts at \$3.50 per thousand.
Prune Grafts (on Mariana Stocks) at \$9 per m.

Pear Grafts at \$8.00 per m.
All first class and best of material used. f. o. b.

APPLE SEEDLINGS.

No. 1, graded 3-16th, and all up to \$4.10 per m; and Pear Stocks, same grade, at \$7.50 per m, f. o. b. Free of disease. We are strictly wholesalers, and grow nothing but the above stock. Our trade has grown to immense proportions (second to none) through the merits of our goods.

Send for samples. For full particulars, address H.C. GRAVES & SONS, Lee's Summit, Mo.

FREE CATALOGUE, SEEDS, PLANTS, BULBS, Etc.

HOME-GROWN NORTHERN SEEDS.
Money made by laying my seeds.

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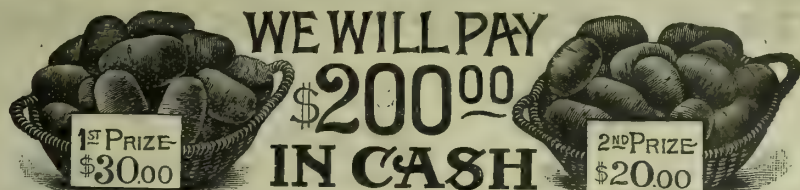
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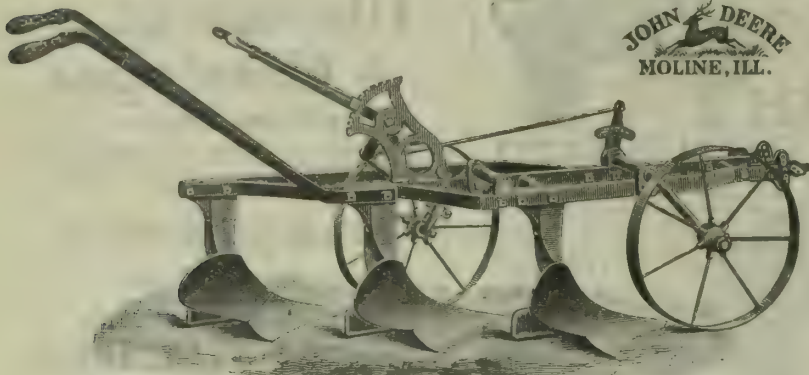
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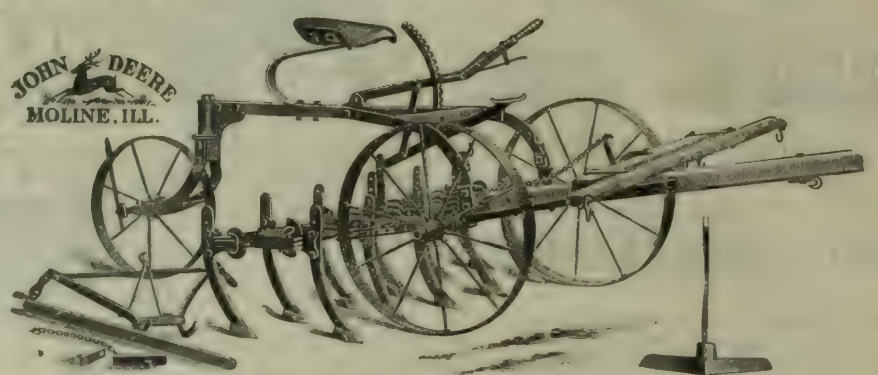
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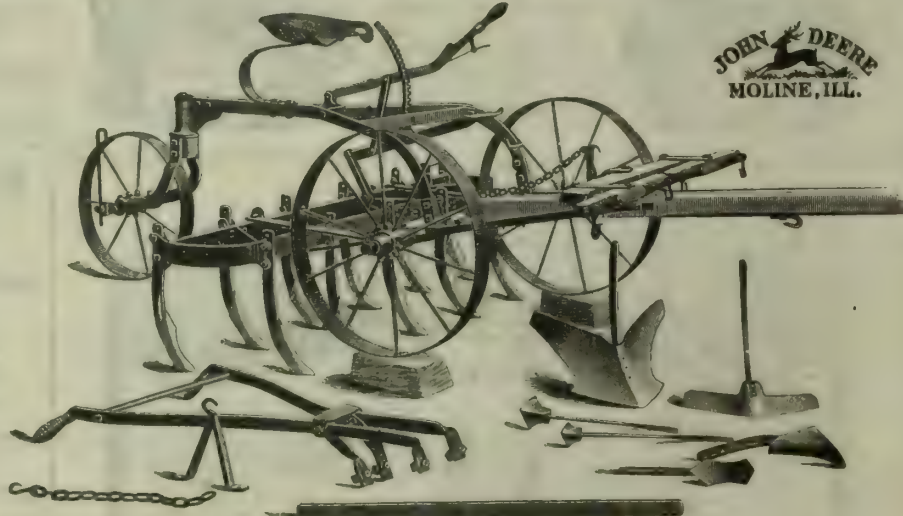
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As will be seen from the illustration, the pump is very compact and strong. It is perfectly double-acting and has a brass-lined cylinder. The motion of the piston is horizontal. The handle is so arranged that the leverage is very powerful, and the movement is easy and natural. The air chamber is unusually large, admitting of the continuous and even discharge necessary for good and thorough spraying.

The valves are metal and have metal seats. They all lie directly beneath the air chamber and are readily exposed on loosening four bolts, and without touching the cylinder.

The pump has a double suction and a double discharge, one each on either side. The above cut shows the pump in operation with four lines of discharge hose. It can be readily arranged for a less number if desired. With this pump one man can easily keep four men busy spraying, as well as attend to the team and stirring of the liquid. We believe the pumps supply a long felt want, as, for service, convenience, easiness of operation and durability, they are far superior to any other in use.

Our BAMBOO EXTENSION is an admirable invention. The operator of the pump, by the use of this extension, can get to all parts of the tree while on the ground, also saving himself from getting his hands and face burnt from the solution. As a rule, the man who does the driving of the team does the pumping, and the party who has charge of the Bamboo Extension does the spraying. This is the very best pump made, without any exception.

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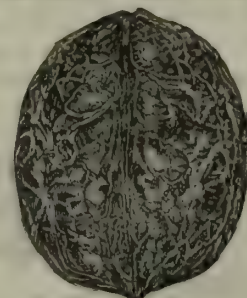
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PACIFIC RURAL PRESS

Vol. XLV. No. 2.

SAN FRANCISCO, SATURDAY, JANUARY 14, 1893.

THE DEWEY PUBLISHING CO
Office, 220 Market St.

Eastern Shipment of California Grapes.

The eastern shipment of table grapes is one of the great lines of our fruit industry. It constituted one of the earliest efforts in that direction, beginning "in a small way as soon as the first overland route was opened, and increasing beyond all early estimates of probabilities. Though orchard fruits have won the precedence in weight of shipments in recent years, the vineyard product has brought vast sums of money to the State, and will continue to do so. Very much has been learned in the production of grapes suitable for shipping. Methods of culture, selection of locations and soils and of varieties and methods of packing for distant shipment, have been learned at the cost of expensive experience, and the business is far safer and surer now than when the pioneer growers and dealers of the Sacramento valley first entered upon the dangerous venture of shipping an untried product at the almost incredible freight rates which then prevailed.

Yolo county can claim honorable age as a shipper of table grapes as well as in the raisin industry. The honorable pioneers, G. G. Briggs and R. B. Blowers, will never be forgotten for their efforts in this line. Since then, other men and other regions have in later days grown more grapes and made more money than did they. The production has extended from the vicinity of Sacramento to the coast valleys and hillsides on the west and to the foothills of the Sierra Nevada on the east. It has also extended considerable distances northward and southward in the great valley. Each region has now its special season of ripening and its varieties which it produces in especial excellence.

The engraving on this page shows grape-picking for shipment on a grape-farm in Yolo county. It is common to seek the shade of trees to pursue the careful work which must be done in trimming the bunches and placing them in the receptacles to best endure the journey. One large grower near Sacramento, though successful and well-to-do, and prominent as well in public affairs, insists on packing with his own hands the bulk of his product, and he works with extreme rapidity and with the aid of as many as he can use to fetch and carry. The prices he receives and the fame of his brand are full reward for the devotion. Other shippers use many hands at packing-time, as the picture shows, and the packing season is an event of social as well as industrial importance, as the belles of the vicinity do not disdain to enlist their slender fingers in this service, and they do well. Naturally, the scene is not strictly business, for the attraction of the camera is great, and loiterers have been drawn from a wide area. Still, in its main features, the picture is true to life—the long table

at which the packers sit; the large boxes just brought in from the adjacent vineyard; the wagon half-laden with well-filled crates—all these and other features of the picture are characteristic of the scene which the subject suggests.

COMMISSIONER PERRY of Orange county reported to the southern California horticultural commissioners that he has fumigated 47,000 trees at less expense than 25 cents per tree, and he adds the gratifying intelligence that in his district the scale has almost entirely disappeared.



PACKING GRAPES IN YOLO COUNTY FOR EASTERN SHIPMENT.

John Scott, commissioner for Los Angeles, reports that he has made sturdy efforts to abolish diseases in trees by fumigation, and has been fairly successful. Trees that were found to be diseased have been cut down by the hundred, and everything has been done that would conduce to a healthy growth. The old stocks, when cut down, have been destroyed by fire in most instances, which generally obliterates all vestiges of disease.

AMONG many other schemes for county division in California is one to split Tulare into four quarters, making as many new counties. It is a real pity that there are not enough counties in the State to go around among all aspiring towns which wish to be county seats. But perhaps we might as well wish for the millenium at once and have complete happiness come to everybody all in a heap.

THE ingenious calculation is made that the Fresno raisin pack for 1892 would load a train ten miles long. One thousand, nine hundred and sixty cars, or to put it in pounds, 41,148,000 pounds of raisins, in 1892, and none in 1882, tells the story of Fresno's marvelous development as a great fruit-raising country.

The Coming Rose Show.

The State Floral Society has just issued its premium list for its next rose show, which will be held in the Mechanics' Pavilion, San Francisco, beginning Wednesday, April 26, and continuing four days. The society announces the intention to make this the most extensive flower show ever held on this continent. This may be rather an ambitious undertaking, but as the World's Fair does not open until May it may be quite possible to do it. The experience of the society in filling the main floor of the Mechanics' Pavilion twice last year gives it confidence toward an end which we hope will be realized. There are \$3000 in premiums offered and the list shows a breadth, variety and uniqueness in awards which can hardly fail to awake exhibitors and delight the public. Every flower-grower who reads the RURAL should send for a copy of the premium list and see if there is not some class in which their best work can be introduced to the public. W. H. Smyth, 224 Market street, is the manager for the society, and he will honor all requests for information.

HAPPY is the lot of the rancher who planted potatoes, and plenty of them, last season, and has held on to them up to this time. There is a notable disparity between supply and demand in the markets, and extra choice are now rated as high as \$1.40 and \$1.50 per cential. Many esculents arrive in frozen condition, and of course do not sell well. But for those which are in first-class condition, there is a rosy prospect of still higher prices. The

homely "murphy" may not be a thing of beauty, nor even a joy forever, but it has just now for the producer golden qualities of the most satisfactory kind.

THIS is the season of poultry shows on the Pacific coast. Last week a successful three days' exhibit was made at Salem, Or., and this week at Seattle, Wash., a similar show has been held. Both attracted much attention and large attendance, and the exhibits were varied and creditable. This week, Petaluma has been the Mecca of California poultry-raisers and fanciers. Enough is known already of the exhibition to warrant the statement that it has been a veritable triumph for its promoters.

THE California scale for judging citrus fruits has been forwarded to the proper authorities at the World's Fair. It is not yet determined whether it will be used for the entire range of fruit exhibits, but it will at least be used for judging California exhibits.

THE importation of raw sugar into the United States during the last fiscal year free of duty amounted to 1,300,000 tons, or 130,000 carloads.

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ANY subscriber sending an inquiry on any subject to the RURAL PRESS, with a postage stamp, will receive a reply, either through the columns of the paper or by personal letter. The answer will be given as promptly as practicable.

ALFRED HOLMAN.....General Manager

San Francisco, January 14, 1893.

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[NEW THIS ISSUE.]

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Nursery Stock—Herman Schwarz, Sacramento.
Nursery Stock—A. Mottier, Middletown, Cal.
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Red Seal Granulated Lye—P. C. Tomson & Co.
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Cattle—Boynton Bros., Hollister.
World's Fair Guide—Columbian Visitor's Guide Co., Chicago.
Broodmares at Auction—Killing & Co.
Wagons and Carriages—California Wagon and Carriage Co.
Land for Sale—John F. Byrbee.
See Advertising Columns.

The Week.

Nearly the whole week a dense fog-cloud has palled the northern and central interior of the State; the central coast and the southern areas have had clear skies with sharp mornings and warm days. It is probable that the winter has done its worst, and this is all we get of the great aerial movement which has knocked the bottom out of eastern thermometers—a mere outer fringe of a great storm, chilly, it is true, but balmy as compared with the centers. This is the old-fashioned California winter; may the style never go out.

Much field work has been done of late. The weather has favored seeding, and a wide area has received wheat which is too cheap to sell. Tree-planting has proceeded in full measure, and all accounts indicate its unusual extent in all parts of the State. Buds are already swelling in the warmer regions, and the glories of February are assured.

THERE is no occasion for farmers and live-stock men to get excited over the present condition of the pork market. It is true that prices have taken an almost unprecedented jump, and still have a very emphatic upward tendency. But the causes are natural. There is a serious shortage in the supply, which the course of nature and the efforts of the producer will in time no doubt correct. Salted and smoked meats are now so high as to be almost a luxury, and, if prices advance much more, it is probable that the consumers will change to cheaper meats—spring chicken, mayhap—and the demand will not be so pressing. The indications, however, are excellent for good prices for some time to come, and if you are going to smoke hams or bacon, or pack pork, don't be in too big a hurry for fear the market will collapse, and turn out an inferior product. Choice meats are assured of a good sale any time; poor, almost never.

Fruit Culture in Its Infancy.

Fruit culture in California has acquired large dimensions; but it is clear that it is, so to speak, as yet only in swaddling clothes. Preparations for the planting of new orchards are at this season very much more extensive than ever before, and nurserymen everywhere report a very general demand for trees. Advice from southern California are that the proposed acreage of deciduous fruits—peaches, apricots and prunes—is more than 100 per cent larger than ever before for one year. These figures are probably an exaggeration, but it is unquestionably the truth that this year's planting will increase the acreage in those fruits to a greater degree than in any former year. The orange acreage, too, is being largely added to, but not in the same proportion as the lemon. There are many who believe that a wider and more profitable field will open up before California lemon culture than any other fruit, not even excepting the orange. The advance in methods of growth and cultivation during the past few years has been sufficient to make the California lemon a powerful and successful rival to the most famous foreign products; and it is not seriously doubted that it will become, in time, actually superior in quality and appearance, if, indeed, it is not now entitled to that high distinction. California is the only State in the Union where the lemon has been or can be raised in commercial quantities. The consumption in the United States is almost entirely of the foreign lemon, the California product cutting an almost inappreciable figure in the total. Knowledge as to the proper culture of the lemon has become so general in this State, and natural conditions of soil and climate of certain regions are so favorable, that the industry is assured of a permanent place in the fruit interests of the State, if a market can be found. Ability to compete with the foreign lemon in quality and price, the increasing consumption in the United States, a natural preference that Americans might be expected to have for a home article, and the limited area in which the lemon can be profitably grown in the United States, seem to leave absolutely no question that this latter great desideratum will be permanently provided and its culture more widely engaged in with safety.

The California orange is making steady advances in the markets of the world. Reasonable prices and education as to its merits and qualities appear to be all that is necessary to assure its more general use. Precisely the same can with truth be said of most of the deciduous fruits, and the nuts, raisins and other peculiar products of California.

The advance in fruit-growing is not by any means confined to southern California. It is general throughout the State. One section is the complement of the other. The northern fruit belt is more than ever demonstrating its value and advantages. Southern California is a counterpart of the north in production of citrus fruits as well as prunes, apricots, peaches, pears, apples, etc., which achieved their first commercial prominence at the north. The present northern citrus fair is a revelation of the giant possibilities of northern California. It is an education in itself to behold the magnificent display at the fair. Northern California has climatic and soil conditions which are doing their full share in placing our State in the very front rank of fruit regions. And its growers are not in any respect inferior to any others in capability, enterprise or knowledge of the best and most valuable methods. They know how to fight pests and insects, and to surround orchards with the most approved methods of cultivation. They understand the relation of their industry and their products to general conditions and to the markets. They are, as a rule, men of intelligence, energy, and mental activity and acuteness.

The future of the fruit industry in all California cannot be estimated. It is folly to predict what it will be in a few years. Growers need not always expect flowery paths of ease in cultivation or in sale of their output. Their foreign rivals will not surrender without a stubborn contest. Nature may not always smile on their orchards. Pests and insects do not die easily. Frosts will come, storms will rage, winds will blow. Transportation companies do not always afford cheap freight rates. Buyers may not at all times be in accord with sellers. Middlemen may not be easily controlled. Many drawbacks may be encountered. But, on the whole, our natural advantages are superior, our methods good, and our opportunities excellent. Let us do our best to take advantage of them.

THE income from walnuts to the Las Nietos and Rancho Walnut Growers' Association of Rivera for 1892 was \$94,825.71. The association delivered to the buyer 12,061 sacks of walnuts, or 1,257,474 pounds. The crop loaded 71 cars. Total shipment of walnuts from Rivera this season was 82 cars, 13,704 sacks, or 1,425,854 pounds, something over \$106,000 worth of nuts.

A Grain Farmer for the Prison Board.

Senator Ostrom, of Yuba county, has put forth a very proper and forcible claim that the Board of State Prison Directors should include among its members a grain farmer who knows something about grain bags. His claim did not avail anything immediately, but it is well to have it upon record and it will ultimately prevail.

The proposition is the most reasonable that could be put forward. The only article manufactured at the San Quentin prison is the jute grain bag, and this industry was originally undertaken for the express purpose of furnishing the grain-producer cheaper bags. But the farmers were satisfied that they had not been treated fairly in the sale of the bags—that speculators and large-scale agriculturists had been favored, and the small farmer, whose living, precarious as it is, depends upon his own toil and thrift, had been left out in the cold. It was in the hope of remedying this, Mr. Ostrom said, that a well-informed grain farmer is needed on the Prison Board, so that he might point out the evils to the other members who are not farmers.

The fact that the desirability of having upon the Prison Board a representative of the class whom it is intended to benefit has been so long overlooked, is simply illustrative of the small account which is generally taken of farmers even in the special matters in which they are most concerned. If the State Prison was making bags for coffee-dealers, or for peanut-venders, or even game bags for pot-hunters, the most natural popular impulse would be to put representatives of these distinguished callings upon the board, in order that the bags might be properly made and disposed of. But inasmuch as it is simply a bag for a farmer, why any lot of serviceable politicians will do. These men not only know better than the farmer does himself what kind of a bag he needs to put his grain into, but they could, every last one of them, in their own conceit, tell the farmer how he could improve his grain-growing and all that.

There will come a time, and it is not far distant either, when the public will accord to the farmer the distinction of being something of an expert in his own line. It will come just as soon as he learns to assert his own claims to such consideration. Even such audacity as Senator Ostrom displayed in daring to announce to the California Senate that a farmer knows something about his own affairs and claims the right to regulate them, is of value in hastening the desirable end.

Agricultural Depression in England.

Our English farming friends are again to undertake to legislate themselves into prosperity or perhaps to pass laws against depression. It is a difficult task, and most efforts in that direction fail. They have begun upon the present undertaking somewhat differently than they did a decade ago when some sort of a high joint Agricultural Commission sat and rode for months taking testimony, and formulated a formidable report in which farmers were advised to abandon unprofitable lines of work and go to making jam because the vacancy in the English people which could be jammed full of jam was something remarkable. This was the leading cure for depression ten years ago, and the result was that the disease passed quickly from acute to chronic, and the English farmers, having lost confidence in Royal Commission prescriptions, resolve to cure their own ills by cooperation and organization. The situation thus becomes more hopeful, but the treatment will be long and largely experimental. An organization is planned which will include landlords, tenant farmers and laborers. The *Mark Lane Express* has little faith in its benefiting its clients, the tenant farmers, as they are merely in a position to be ground between the upper and the nether millstone, for, between the landlord on the one side and his laborers on the other, the poor farmer grows weary of life and would gladly even fly from ills he knows to evils he wots not, but he is so laden down that he cannot raise a feather. Still, cooperation and organization may show the farmer something. If he cannot live as a third of a thing, he may learn how to make himself a larger fraction. In any event, there will be something new, and it cannot be worse than that which has been.

THE Mechanics' Institute and Northern Citrus Fair—"dress parade for the main show in the big tent at the World's Fair"—opened in San Francisco last Tuesday night "in a blaze of glory," the local press picturesquely informs us. The displays of citrus fruit, confined almost entirely to oranges, are magnificent and are far finer, more complete and artistic than at any previous fair. With the exception of an exhibit from Tulare county, the displays are entirely from northern California. Butte, Sacramento, Placer and Yuba counties are represented in a splendid manner. The RURAL PRESS next week will contain a complete description of the fair and its leading features.

From an Independent Standpoint.

The first notable attempt since the election to lay out the future policy of the defeated party comes from Senator Dolph of Oregon. In the *North American Review* for January he discusses the question, "Does the Republican Party Need Reorganization?" and answers it by giving an outline of the course which, in his judgment, the party should follow. Mr. Dolph does not accept any of the common theories as to the cause of the Republican defeat. To attribute it to those who were in charge of the campaign would, he thinks, "belittle the struggle;" to attribute it to hostility to Mr. Harrison would, he thinks, be totally misleading; nor, in his judgment, is the defeat justly chargeable to the tariff policy, or other policies of the party. It came about, he declares, from a "spirit of unrest," a sort of "warfare with existing conditions." Proceeding to the probable future policy of the party, he declares that it should stand in opposition to free silver coinage; that it should continue to advocate the policy of protection, and that it should not abandon the principle which lay back of the Force Bill. Above all, he declares the Republican party should stand firm in maintaining the doctrine of centralization in government as laid down by Hamilton and as supported by the decisions of John Marshall. It needs no reorganization, he says, but, rather, to go forward in support of the principles for which it has stood in the past. "I will not venture to predicate," he says, "the definite steps which the party may be expected to take, but I will suggest a matter which might well be made prominent in the next declaration of party principles. It is the subject of immigration, now demanding the serious consideration of the American people. The rush of foreigners to our shores is so great and the immigration is of such a character as seriously to test our powers of assimilation, if not to menace our institutions. The annual increase by immigration of artisans, mechanics and laborers causes undue competition with labor in this country. Some legislation is demanded for the preservation of American institutions and the protection of American labor." We quote this recommendation in full, because it is the only addition to the party doctrine which the writer proposes.

Mr. Dolph fails to comprehend the situation and therefore fails to grapple with its problems. He charges the recent defeat to a general dissatisfaction with existing conditions, and yet, singularly enough, has nothing to offer by way of compromising this dissatisfaction save the single scheme to regulate immigration. Does Mr. Dolph suppose for a moment that the political discontent of the country, which resulted in the defeat of his party, is concerned only or chiefly with the immigration question? If this is the limit of his view, he is a man of less discernment than his fellow-citizens have generally supposed. If the results of the late election mean anything, they mean dissatisfaction with the extreme features of the protective tariff; disgust with the growth of wealth and privilege on the one hand and of poverty on the other; dissatisfaction with a system which permits trusts and corporations to engross the fat, leaving to producers only the bone; dissatisfaction with the increasing value of money under the system of a single gold standard; dissatisfaction with recent pension legislation; and profound distrust of the legislative branch of the government—particularly of the Senate. Whether or not the Republican party is justly blamable for these causes of discontent, there can be no doubt as to the fact that by many thousands of voters they are charged up against it. If the Republican party is to be rehabilitated and to recover its lost power, it must face the new issues; it must not be content to follow Mr. Dolph's plan of clinging fondly to traditions and offering to the prevailing spirit of unrest the one only project of immigration reform. If the Republican party wants to succeed, it must not accept the leadership of those who, like Mr. Dolph, appear blind to the new issues in American affairs. There are men in the Republican party who see farther than Mr. Dolph, and who may be depended upon to provide a more promising scheme of policy; and if it were not for this prospect, the outlook would be hopeless indeed.

The project to unite the representatives of rural constituencies at Sacramento into an association for the promotion of legitimate legislation has failed; and there is no reason to hope that it will come to anything during the present session. It will not, in fact, come to anything until the rural representatives are masters of themselves; and this will not be until there is a change in the methods by which legislative candidates are put in nomination and in the methods by which campaigns are promoted. In theory, members of the legislature are selected by the people of the districts to which they stand accredited; in fact, four out of five are selected by the managers of special interests subject to legislation. What the

districts do in reality is to ratify at the nominating conventions and at the polls a choice previously made by interested parties and imposed upon the people by familiar methods of political management. A "representative" selected in this way is no representative at all; he is the mere creature of some "manager," not more the master of his own courses than a beast in harness.

Some of our readers, perhaps, have not forgotten the experience which Mr. Berwick, of Monterey, detailed in the *RURAL* last September. He was nominated for the legislature (by what party it does not matter) and accepted the nomination with frank and honest pride, construing it as a mark of confidence on the part of his fellow citizens, pleased with the chance to serve their interests. But, a few days after the convention, he was called upon by the county committee to pay a specific assessment "for campaign purposes," equal to full half of the salary of a member of the legislature. Mr. Berwick was shocked; he refused positively to buy a seat in the legislature, declaring that he would be elected fairly and squarely, or not at all. It turned out, of course, not at all; but his candidacy was a notable thing, for it was an object lesson in honest politics. There was, he is able to declare, one candidate for the legislature who paid no assessments, who pledged no support to any manager, who subsidized no newspaper, who bought no favor of any kind, who asked no man to vote for him. It was a noble success, because it was a sign that decency of political sentiment is not entirely dead.

If the representatives of rural constituencies in the legislature were men like Mr. Berwick; or if, being who they are, they had been elected by the methods of his candidacy, there would be no difficulty in bringing them into an association outside of political lines for the protection and promotion of the particular interests which nominally they represent. But, under the circumstances of their nomination and election, it is out of the question; they will do the work expected of them by the political and corporation managers because they are bound by ties which they cannot break. We hope for nothing at the hands of this legislature; we expect to see, among the results of the session, the election of a United States Senator friendly to corporation interests, the grip of the Railroad Commission made tighter than before, all the corporation demands fully answered, extravagance in appropriations, a horde of crumb-pickers made fat, and a multitude of legitimate interests neglected. If the outlook is a blue one, it is not bluer than the realities of former years.

There will, we trust, be a legislature in California some time that will remember the purposes for which it was elected by the people, and will devote its time in a business-like way to legitimate subjects of legislation; but it will not be so long as the existing system of nomination and of campaigning is the practice of the State. So long as this system is retained, it will (excepting in occasional instances) bar men of independence and character from the legislature. Such men will not buy office or accept it upon degrading terms, and without such men there is no reason to expect good laws.

The senatorial situation at Sacramento promises to lead to a deadlock. Neither of the three parties has a majority on joint ballot, and neither seems able to get help in the matter of electing a senator from the other two. The Democrats, who lack only a vote or two of a majority, have, in their caucus, nominated Mr. White of Los Angeles, but they have not votes enough to elect him. The Republicans declare that they will stand as a unit for a candidate of their own, and it is understood that the Populists have signed a pledge to hold together. Clearly, the Populists have the bull by the horns. They are in a position to combine with whichever of the other parties will name a man to their liking. If they use their power wisely, and through it secure a senator who will stand by the interests of the people as opposed to the interest of the railroads, it will give their party a mighty boom. To join in the election of White would be a sheer waste of opportunity and fatal blunder. It looks as if the contest would last till toward the end of the session. Nothing could be more unfortunate for the interests of general legislation; for it will take time and energies which ought to be otherwise employed, and will enter as an element of bargaining and jobbery into subjects that ought to be settled upon consideration of their merits alone.

The extravagance of the legislature is likely to reflect serious discredit upon the party (the Democratic) which practically controls both houses on all ordinary questions. On Monday of this week the number of standing committees in the Assembly was arbitrarily increased from thirty-one to forty-three, with no other purpose than to give each of the forty-three Democratic members a committee chairmanship, which carries with it the appointment of a clerk. For this addition of twelve to the roll of clerkships there is no sort of necessity or excuse. Already the employees number about one hundred and

fifty—one for each member of the legislature, with some thirty odd to spare.

In response to many inquirers we print below the full presidential vote cast in the late election. It is given in a form designed to show the proportionate strength of each party in each State. Except in one case of a few remote counties, this report is official.

STATES.	Cleveland.	Harrison.	Weaver.	Bidwell.
Alabama.....	138,138	9,197	85,181	238
Arkansas.....	87,834	46,974	11,831	113
California.....	117,908	117,756	25,226	7,187
Colorado.....	38,614	52,982	1,877	1,877
Connecticut.....	82,395	77,025	805	4,025
Delaware.....	18,581	18,077	566	.....
Florida.....	30,143	.....	4,843	561
Georgia.....	129,386	48,305	42,939	988
Idaho.....	.....	87,994	10,250	288
Illinois.....	424,149	397,325	10,685	24,590
Indiana.....	262,817	253,929	22,198	13,044
Iowa.....	196,408	219,373	30,616	6,372
Kansas.....	.....	157,237	163,111	.....
Kentucky.....	175,424	135,420	23,503	6,385
Louisiana*.....	87,922	25,332	.....	.....
Maine.....	48,044	62,871	1,045	3,062
Maryland.....	113,866	92,636	796	5,877
Massachusetts.....	176,813	202,814	3,348	7,539
Michigan.....	202,296	222,708	19,792	20,857
Minnesota.....	100,575	122,736	30,398	14,079
Mississippi.....	40,237	1,406	10,256	910
Missouri.....	267,353	226,349	41,102	4,318
Montana.....	7,534	1,883	7,250	517
Nebraska.....	24,740	86,895	82,587	.....
Nevada.....	711	2,822	7,267	.....
New Hampshire.....	42,081	45,658	292	1,266
New Jersey.....	171,042	156,068	969	8,131
New York.....	654,908	609,459	16,430	39,459
North Carolina.....	132,951	100,346	44,732	2,636
North Dakota.....	17,527	17,354	17,360	.....
Ohio.....	404,115	405,187	14,852	26,012
Oregon.....	14,234	35,002	26,875	2,258
Pennsylvania.....	452,064	516,011	8,567	25,011
Rhode Island.....	24,335	27,069	227	1,634
South Carolina.....	54,698	13,384	2,410	.....
South Dakota.....	8,907	34,825	26,382	.....
Tennessee.....	136,477	99,973	23,622	4,856
Texas.....	239,148	77,475	99,688	2,165
Vermont.....	16,325	37,992	.....	1,424
Virginia.....	164,058	113,217	12,190	2,681
Washington.....	29,922	34,461	19,264	2,487
West Virginia.....	84,467	80,293	4,166	2,145
Wisconsin.....	177,448	170,978	9,870	13,045
Wyoming.....	.....	8,377	7,586	539
Total.....	5,567,990	5,176,611	1,025,060	258,347

*The vote credited to Harrison in Louisiana was cast for a fusion ticket containing the names of four Republicans and three Populist Electors.

Mr. Blaine is worse again and now lies at the point of death. His physicians declare that recovery is impossible.—The complication in Kansas created by the candidacy of Mrs. Lease, the Populist orator, for the U. S. Senate has been removed by her withdrawal from the contest.—Lorenzo D. Lewelling, Populist, was inaugurated Governor of Kansas on Monday of this current week.—Gen. Benjamin F. Butler died at Washington city Wednesday morning of this current week, aged 75 years; Senator McKenna of West Virginia died at Washington city on Tuesday of this week.

THE *RURAL PRESS* notes with regret a scheme to place the orange of southern California in direct competition with those from northern California at the present northern citrus fair. The proposition has been seriously made to have a decision as to the merits or superiority of one over the other, the advocates of each section to put up \$100, and the winner to devote the proceeds to some charitable institution. The contest should not take place for a variety of good and sufficient reasons. It would be certain to engender a great deal of ill-feeling, and, whatever the result, it would be neither conclusive nor satisfactory. The conditions that surround the culture of the orange, north and south, are different, and must always remain so. The test could not therefore be entirely fair to both. The *RURAL PRESS* sincerely hopes this ill-advised and hasty proposal will be indefinitely postponed and never heard from again.

MR. JOHN F. BYXBEE of 42 Market street, this city, has sent a postal card to each member of the legislature asking that he "lend his influence to repeal that portion of the game laws whereby quail can be taken in no other manner than by being shot." He says: "I am informed that one-half of those shot either die in the brush or are so badly mutilated as to be unfit for food. Allow them to be trapped and be killed in the same manner as the domestic fowl, and we have a wholesome and toothsome dish."

THE third annual show of the Sonoma County Poultry and Pet Stock Association began at Petaluma last Tuesday and continued during the week. There are in all about 1500 entries, Brown Leghorns predominating, followed by White Leghorns. Light and dark Brahmas are not so well represented. There are 78 entries of pigeons by the Pacific Coast Pigeon Club. More extended notice of the show will be given in next week's *RURAL PRESS*.

THE maple-sugar product of the United States this last season was 3,500,000 pounds, on which the government bounty was \$60,000, only a part of which has been paid.

THREE MILLION dollars is the estimated gross income from the southern California orange crop for 1892-93. At the present rate of growth it will not be many years until it is \$10,000,000.

ASSEMBLYMAN TALBOT has introduced in the State legislature a bill to appropriate \$10,000 for the purpose of sending an expert to foreign countries to import parasites in the interest of horticulturists.

THE prune crop of California last year is estimated at 30,000,000 pounds; the hop crop at 39,750 bales; the raisin crop at 57,162,000 pounds; the wheat crop at 38,554,000 bushels, and the barley crop at 12,333,000 bushels.

It is reported that 200,000 acres of the great Miller & Lux tract, in Kern county, have been sold to an English syndicate for \$2,500,000, and that the property will be surveyed, subdivided, and platted immediately, with a view to colonization the coming spring.

THE latest statistical reports say that the irrigated acreage of California now comprises 3,500,000. Irrigation, it is said, has cost \$20,000,000, but the value of the land has increased many times that amount, and very much more than pays interest on the investment.

THE Sutter County Farmer, an excellent paper, appears this week in a new dress and improved make-up. Speaking of newspapers, the Woodland Mail got out a very creditable New Year's number, containing a variety of useful information about Woodland and Yolo county.

THE State Board of Trade, at its meeting Tuesday, listened to an admirable essay on irrigation by B. M. Le-long, secretary of the State Board of Horticulture. Among other things, the board passed resolutions of regret for the death of John Q. Brown, ex-secretary and manager.

It appears that during the past year the production of beet sugar in California increased from 8,000,000 pounds of the previous year to nearly 23,000,000 pounds. The sugar industry is reaching such great proportions that it is likely Congress will meet strong opposition from a new and powerful interest if it attempts to abolish the sugar bounty.

THE man who paints his yard fence, cleans up his premises, whitewashes his barn and outhouses and keeps the weeds from growing on the sidewalk in front of his gate, wisely says the *Tulare Times*, is a greater benefactor to a city than the individual who spends his time on the street corners prating about a silurian city and the dead condition of his adopted home.

RECEIPTS of California wines at New York by sea last year were greater than ever before, amounting to 4,298,567 gallons. The receipts of California wines in New York by railway were still larger. They aggregated 6,136,219 gallons, over half a million gallons more than the year before. This makes a total of over 10,000,000 gallons of California wines delivered in New York last year.

An address has been sent out by the Sacramento Board of Supervisors to like bodies in several river counties asking that representatives be sent to a convention to be held in Sacramento January 18th, for the purpose of considering the matter of reclaiming valuable lands now subject to overflow from the rivers. The matter is a very important one to Yolo, Sutter, Colusa, Yuba, Butte, Sacramento, Solano and other counties, and it is expected that the convention will be a large one.

SOME feeling has been created among California vineyardists over an announcement that one judge shall determine the merits and qualities of all wines at the World's Fair, and make the awards. It is claimed that a strong prejudice exists against California wines among eastern dealers and winemakers, because of its successful competition there, and their antagonism may have weight with a single judge. The local Viticultural Commission will endeavor to secure an increase of the award committee to five.

HAWAIIAN BANANAS are to have a rival in the San Francisco market in the appearance of shipments from the United States of Columbia, by way of New Orleans, to the extent of two carloads. They have already made their presence felt. The fruit is pronounced of excellent quality, and was unloaded in fine condition. It was shipped from Santa Marta, Columbia, to New Orleans, and re-shipped thence by rail. The first trip required five days, the second six. It will doubtless be found that the South American banana, left with due carelessness upon the sidewalk, possesses equally meritorious slipping qualities to trip up the hasty passer-by as its Hawaiian competitor.

THE National League for Good Roads has requested Dr. H. Latham to promote the organization of a league in this State. With this object in view, the doctor proposes addressing the newspapers of the State, asking them to use their influence to induce the boards of supervisors of their respective counties to appoint delegates to attend a convention to be held at Sacramento some time before the adjournment of the present legislature, so that any recommendations which may be made can be promptly acted upon. Any intelligent means that will forward the movement for good roads—better roads, the very best roads—deserves the pious support of every newspaper and every citizen of California.

THAT California can produce good cotton has been known for years, but that it can produce it profitably with available labor supplies and at ruling rates has not yet been fully determined. One of the best samples of Cali-

fornia cotton yet brought forward is that recently sent to the Agricultural Experiment Station at Berkeley by E. L. Menefee of the Flemming place, northeast of Visalia. The sample was examined by Dr. Loughridge of the Station staff, who is from the South and an expert on cotton, and he pronounces it excellent. He says the bolls are as large as he has seen and the cotton itself is very fine. The ordinary yield in the South is about 1200 pounds to the acre in the seed, and Mr. Menefee's will average nearly 1500, which is equal to the finest yield in the South and on rich lands.

A FARMERS' INSTITUTE will be held under the auspices of the Grange at Tulare on Saturday, January 21st. The sessions will open at 10 A. M. and continue throughout the day, and they will be conducted by Prof. Wickson of the State University. The subjects will be varied, including fruit-producing and marketing, dairying, etc., and well-informed local speakers as well as from abroad have been secured. An effort will be made to give the meetings more clearly the institute character than those previously held in Tulare, and the time will not be divided with any other organization. All are invited to attend and participate. Much of the success of an Institute depends upon securing the wide interest of the community at large, and this we hope will be effected.

CHICAGO papers are busily engaged in diffusing information that hotel and lodging rates at the World's Fair will be very reasonable and even cheap; and, in proof, submit the following as the average to be charged, ascertained by a systematic canvass of the city: Single room, single bed, one person, \$1.36; double room, double bed, one person, \$2.12; double room, double bed, two persons, \$2.70; double room, two double beds, two persons, \$3.50; double room, two double beds, three persons, \$4.15; double room, two double beds, four persons, \$5.50. The Chicago press has unwittingly shown that the "gouge" is to be universally practiced by hotel and lodging-house keepers, and private landladies anxious to turn a more or less honest penny by renting rooms. The prices are outrageous. A respectable and comfortable room, for which in Chicago the charge will be \$2.12 per night, can be obtained in San Francisco for fifty cents.

THE annual Tournament of Roses at Pasadena was held last week and was a gorgeous success. Features of the parade were: A party of cavaliers; the Columbia Hill Tennis Club in uniform, the lady members riding in a finely decorated coach, preceded by outriders; Carlton guests in Wiley & Greeley's six-in-hand team, decorated with calla lilies, red roses and evergreen; young equestriennes in bifurcated skirts; beautifully adorned phaetons; lady guests from the Raymond, in a buckboard drawn by white horses; sixteen frocked butchers riding burros; the tastefully and elaborately decorated carriages; young ladies riding ponies gaily caparisoned; and many other beautiful and novel things. All this in January, when Old Boreas is supposed to desert the hyperborean regions, and, attended by chilling blasts, desolating blizzards, snow, ice, and other unwelcome concomitants of the frigid arctic, make his conquest of the temperate zone. Think of young ladies on horseback in bifurcated skirts in January!

The Forfeited Railroad Grant.

The railroad lands belonging to the Southern Pacific Company in the southern part of the State, which were declared forfeited to the National Government by a recent decision of the United States Supreme Court, have been officially described or designated as follows:

The grant includes all unoccupied Government land lying 30 miles on each side of the railroad track from the ocean shore at San Buenaventura to Los Angeles. It then continues along for 30 miles each side of the surveys from Los Angeles through the county of San Bernardino to the Colorado river at The Needles. A Los Angeles expert, who had made a specialty of investigating these lands, states that "there are none fairer in the southern part of the State." These lands embraced within the grant, which are designated as being "desert waste," are susceptible of the highest cultivation. The Wright irrigation district, which lies contiguous to part of the forfeited grant, furnishes an illustration of the productive capacity of these lands. In Ventura county all the available valley lands have been sold. In the mountainous districts, however, there are thousands of acres worth taking up. In Los Angeles county, in the northwestern part, there are but few acres of any value remaining, and the same state of things exists until within a few miles of the bounds of San Bernardino county is reached. From there to the Needles plenty of vacant tracts can be had for the taking up.

Gilt-Edge Broodmares.

On the 27th of this month an opportunity will be given to get the produce of the best stallions in California. Senator Leland Stanford has commissioned Messrs. Killip & Co. to sell a draft of grandly-bred mares from the famous Palo Alto Stock Farm. These mares are by Electioneer and other of the noted sires, and are in foal to Nephew, Azmoor, 2:20 1/4; Electricity, 2:17 1/4; Whips, 2:27 1/4; Piedmont, Alban, Langton, Good Gift and Sport, 2:22 1/4. As the sale is to be absolute and strictly to the highest bidder, the opportunity of a lifetime to obtain not only a grand broodmare, but the foal as well, is afforded by this sale. See the advertisement in this week's issue. Catalogues containing names, breeding and time of foaling may be had by addressing Killip & Co., auctioneers, 22 Montgomery street.

THE Tubbs Cordage Co has discharged all its Chinese employees. They have gradually been putting white men and boys at work for some time past, and the entire rope works will be run in future without any Chinese.

Low Returns from Pears Shipped East.

APTOS, CAL., January 8, 1893.

TO THE EDITOR:—The general tendency throughout the State of constantly increasing its orchards and fruit products; the cry that lots of money has been made and is to be made in that line, will certainly gladden the heart of many a fruitgrower like myself who finds the planting and care of a new orchard a nonpaying business. But the time flies fast, and in the near future we may look for a sweet reward.

Last year prices of good fruit were not bad, and having some extra fine pears, I ventured, with hundreds of others, to ship them East, and I wish to give those of my colleagues who feel interested in the subject the benefit of my experience.

Facts and figures do not lie and often go a long way in proving that there is a screw loose somewhere.

I found sending pears to New York and Boston a rather expensive piece of business, but do not intend to force my individual experience upon any one as sufficient proof that "all is not gold that glitters."

My pears were sent through a large shipping concern, and went partly to New York and partly to Boston, viz., 22 boxes to the first-named place and 24 to the latter.

The car which went to New York must have been a very unlucky one. It contained 468 boxes of pears, which sold for an average of \$1.08 1/2, and, according to my bill, the expenses of loading, freight, refrigerator, icing and commission footed up to \$1.23 per box. Consequently, here was a dead loss of nearly 15 cents on every box outside of the grower's expenses for picking, packing, hauling, etc.

Out of the 468 boxes in that car only 134 brought more than \$1.23, but they averaged only \$1.46, and consequently did not swell the bank account of their happy owners much.

The other car did somewhat better and contained, with other fruits, 215 boxes of pears, which sold in Boston for an average of \$1.62 1/2. The expenses, as above, were \$1.45 per box, and we were getting rich at the rate of 17 1/2 cents per box for 45 pounds of pears, picked, packed and delivered into the bargain.

The customary multiplication table of the real estate agent, viz., so much per tree, so many trees per acre, and so much for ten acres, would certainly make here a glorious effect.

As I happened to receive and read to-day the pamphlet "Fruit vs. Wheat," an address before the State Horticultural Convention at San Jose, by Gen. N. P. Chipman, I was forcibly impressed with the truthfulness of his conclusion where he says that the real problem with us is one of transportation and distribution.

It is certainly to be hoped that of the thousands of fruit-cars sent East this last season but few have made as poor a showing as the two cited above, but if we could get more downright facts and less general information, it would be better for all concerned.

E. C. WILLEKES MACDONALD.

[It is just as well to look occasionally at low-water marks, and our correspondent's experience will serve a good purpose. The fruit-producers have often to pocket losses like that described, and yet persistence in well-doing, viz., growing and marketing good fruit, yields fair rewards on the whole. The practice, which our correspondent deplores, of taking exceptionally good figures and multiplying them by all the acres out of doors, is pernicious and an injury to the State. To counteract such misleading reports, we are quite willing to give an occasional reference to the processes of subtraction and division.—ED. PRESS]

The Value of Poultry.

SANTA ROSA, CAL., Jan. 2, 1893.

TO THE EDITOR:—I will give the exact production of my chickens for one year, and hope some one will give the cost of the food, as I have fed mostly corn of my own raising:

Jan. 1, 1892, commenced with 80 hens.
Jan. 1, 1893, I have 90 hens.
Average through the year, 85 hens.
They laid during the year 8841 eggs.
Average each hen, 10 1/2 dozen eggs.
Weekly market receipts during the year, \$176.11.
Sold chickens during the year, \$25.10.
I have on hand in value over the 80 that I commenced with, \$15.90.
Total receipts, \$217.11.

So you will see my 80 hens averaged \$2.71 each.

W. S. GREEN.

Self-Sucking Cow.

COMPTON, LOS ANGELES CO.

TO THE EDITOR:—Can some of the readers of the RURAL PRESS give a good remedy to prevent a cow from sucking herself.

NELSON WARD.

[We know of nothing except the mechanical devices usually employed; viz., the light oval board which fits into the nostrils and falls over the mouth when the head is raised, so the cow cannot mouth the teat; also the harness with a light wooden bar on each side of the cow so she cannot get her head around to the udder. The nostril apron is sold at the dairy implement stores. Can any reader give something better?—ED. PRESS]

THE Tulare irrigation district has been successfully completed. The district has 112 miles of canals, main and lateral, not counting small distributing ditches owned by private individuals, which are connected therewith. Of flumes there are 1622 lineal feet, and 270 check-weirs, drops and headgates, and innumerable bridges. All told, 1,148,628 feet were used in the various structures. The cost for irrigation of good farming and alfalfa lands will not exceed \$1 per acre per year. What is a dollar an acre to insurance for a first-class crop?

POULTRY YARD.

Artificial Incubation as Compared with Natural Method.

LODI, December 29, 1892.

TO THE EDITOR:—In a former article I have treated of this matter, with a promise to speak more fully of it at some future time. I have said that for many reasons incubation was altogether preferable to the method of hatching with hens and I also say that the natural method or the "old hen" method has nothing to recommend it over the artificial. To sum up, *pro* and *con*, please take notice that first while the hen is sitting there are three weeks of what would have been otherwise egg-producing comparatively wasted, as the machine would have done it at much less cost with much less care and labor and more thoroughly as to results, while meantime the hen would have been defraying the cost of the hatch in eggs. To hatch say 300 eggs, from 20 to 24 hens would be necessary, then, supposing that you had your required number of "biddies," we must take the risk of some among them being nervous or flighty and unreliable sitters and incompetent as mothers or careless and clumsy in their movements among the eggs and young chicks, thus destroying many—all of which faults the incubator with proper treatment is free from. Supposing you to have secured 24 hens, suitable in all respects, which is not by any means an easy thing to do and which calls for a testing of each hen with say three or four porcelain eggs for three or four days, in order to make sure as far as you can of the hen's settled intention to carry the matter right through to a successful issue, your next step is then to prepare 24 nests for them in a body in one house or isolated ones placed here and there as you find suitable places. Sitting them all together in one house reduces, I think, the amount of care and labor materially as then one has them where the care of the whole is not very much greater than the care of one sitter would be. Still, arrange it as you may, it will require an average of two hours each day easily to feed and water them, and occasionally clean out their quarters and supply dust baths, shells, insecticides, &c., all of which must be faithfully done; while the incubator exacts only an occasional look at the thermometer, a slight turning up or down of the wick of the lamp, turning of the eggs and keeping your lamp filled and trimmed as often as found necessary—all of which does not require more than a half hour each day. Then as to expense in material: with an incubator of approved construction, between three and four gallons of coal oil is amply sufficient for the hatch, or say five gallons for hatching and brooding the chicks—and I have found Pratt's Astral, at an expense of 20 cents per gallon, to be as good as the best—which, as compared with the time and labor necessary in the care of the hens and the expense of feed, &c., makes, I think, a much more favorable showing for the artificial method than for the natural one, to say nothing of the number of eggs that number of hens would give one in three weeks' time, say from 17 to 20 dozen, at an average price of 30 cents per dozen.

Then, your incubator, supposing everything to be as it should, will make a much more thorough hatch than the hens, supposing them to have had every advantage and to have done their best. This, as every practical poultry raiser will admit, I think, is a correct showing of the two methods. More than this, and which is no inconsiderable point, your artificially hatched chick will be found free from lice which, with your utmost care, will not always be the case with chicks hatched under hens.

Having thus, as I think, conclusively demonstrated the superiority of incubator to the hen as a hatcher, it now remains to say something of the care and method to be observed in conducting an incubator hatch to make it a successful and satisfactory one. Of the standard incubators, one will do as well as another (beware of machines of "home construction," or you will come to grief as surely as you pin your faith on them). Supposing it to be set up in a suitable place, a house or a room free from draughts and of as even temperature as possible, light your lamp; then, when your thermometer indicates a temperature of 104° in your egg-chamber, it will be necessary to turn down your wick somewhat and keep your egg-chamber at that degree of heat, or as nearly so as possible, taking care, however, not to let it get above that at any time, or cooked eggs will be the result, and, of course, no chicks. When you have secured this result, place your eggs in the trays in the egg-chamber, and you will see that the temperature rapidly drops, which is due to the eggs being cold; but as the eggs warm, it will come up again; and here it will be well to say that a very short time with the temperature at from six to ten degrees higher than the proper one is sufficient in which to cook the eggs, and when that is done you may as well suspend operations on that hatch and commence anew, as hatching cooked chicks has never yet been done.

Letting the temperature fall somewhat is not so disastrous and may not affect the vitality of the egg if not too long continued. I have had it fall below 90° during the night, and the eggs in the morning to seem cold, without its apparently disturbing the hatch. Still, it is to be avoided by all means, and the temperature kept as near as possible to 104°. Here authorities differ somewhat, some advocating the keeping of the temperature at 102° during say the first half of the hatch, and increasing it gradually to 104° or even to 105°. Others again advise never allowing it to exceed 103°. My own experience has satisfied me that 104° straight is good enough for me, and I do not often go under 90 per cent of chicks. I use the "Golden Gate," which is not any better, perhaps, than many others of standard make; and, in fact, no machine is good without careful and unremitting attention to even the smallest and seemingly most unimportant requirement, and this is the "rock that many split on," and the secret of many a poor hatch and

the condemnation of many a good machine. Anyone of ordinary intelligence can successfully run a good incubator if he holds himself strictly and unremittingly to attention to all details, and unless he does, no amount of intelligence can hope for successful hatching, however good the incubator may be.

I do not know that hot-air machines are in any way preferable to hot-water machines, and am inclined to think that they are not; still, I have used only hot air ones, and find them to be sufficiently good.

No one can hope for his first experience with any machine to be a satisfactory one. My first trial resulted in a loss of six hundred eggs, done to a turn. I could not have cooked them better with the help of a stove, and I realized that I had not been careful enough, and that if I really wanted chicks (and I did) that I must neglect nothing, and I proceeded, forthwith, to act on that knowledge, and found that it paid, and it will pay always, and a contrary course only tends to convince one that there is nothing in incubators.

There are many varieties of hot air incubators, some in which the eggs are turned automatically all at once, and others in which it is necessary to turn them one at a time by hand, which is much the best method, as being the more reliable, for by the first method many eggs escape turning, some at one time and some others at another, whereas by the hand method, although it takes somewhat more time to do it, you are certain that all are turned which is an important matter. Many makers of incubators, having in view the reputation of their machines for thorough hatching, refuse to turn out a machine with the automatic egg-turning attachment, knowing that thereby they risk the incomplete turning of the eggs, and the consequent condemnation of their machine. In some, the eggs are placed in trays which are filled with sand moistened with water as near the temperature of the eggs as possible each time the eggs are turned, which should be each morning and evening. In others in which the bottom of the pan is formed of wire cloth the eggs are placed, and pans of water placed under them to supply the required moisture. After using both methods I have settled on the moist sand as preferable in most respects. And now Mr. Editor, as perhaps I have already claimed more space in your valuable journal than this article is entitled to, I had better close for the present and endeavor to say more some other time.

T. B. GEFFROY.

Expensive Food for a Hen.

WILD FLOWER, CAL, Dec. 30, 1892.

TO THE EDITOR:—A new source of supply of the precious metal has been discovered at Wild Flower that bears a close analogy to the famous goose of the fable.

Recently, a lady of the neighborhood, in preparing a chicken for the table, found a silver dime of the 1891 coinage. The coin resembled in color a bright gold piece, and the finder took it to be a five-dollar gold coin. Its present appearance is very flattering to the digestive apparatus of the fowl, for it is very much abraded, the milled edges having disappeared, and it is apparent that, had a reasonable time been allowed, the chicken would have accomplished this gastronomic feat with less inconvenience than Mark Twain's reports occasioned the camel. Thus we see the effects of the cataclysm of People's Party politics since even the domestic fowls demand free silver.

The owner of the chicken expressed his satisfaction that it was only ten cents, else, says he, "every chicken on the place would be immediately sacrificed as a votive offering to Mammon."

READER.

Points on Ducks.

1. The Pekin is considered the most rapidly-growing breed.
2. The weights (Standard) of adults are as follows: Pekin drake, eight pounds; Aylesbury drake, nine pounds; Rouen drake, nine pounds; Cayuga drake, eight pounds; Muscovy drake, ten pounds. The duck of each breed is one pound less in weight than the drake.
3. Pekins and Aylesbury breeds are white, Cayugas black, and Rouens of varied color. The Muscovy does not really belong to the duck family, as their eggs require the same period for hatching as those of the goose, while the produce of a mating of the Muscovy with other breeds causes a sterile hybrid.
4. Feed ducklings on soft food always, and have plenty of drinking water near, as a duckling will choke to death if deprived of water while eating dry food.
5. Very cold water for drinking will cause cramps in ducklings.
6. When crowded in yards, ducklings often die suddenly, due to eating the filth in the yards.
7. Ducklings throw the water out of the troughs because they are then washing their bills. They always aim to keep their nostrils clean.
8. They are kept in brooders in lots of about 50, under a brooder a yard square in a brooder house 6x10 feet, with a yard 6x16 feet, but as they grow rapidly they soon crowd the brooder, and may then be kept in a warm room.
9. Have board floors for grown ducks, with cut straw, or litter, on the floor. Cheap, partition nests are sufficient.
10. Dampness is fatal to ducks, both adults and ducklings, hence they must have *dry* sleeping places.
11. It costs only six cents to produce a pound of duck. Ducks eat twice as much as chicks, but they make up by growing twice as fast.—Poultry Keeper.

The Charm of Chicken-Raising.

It is astonishing how the charm of chicken-raising grows on one and how it affects one's powers of observation and memory. It is true that there are incident to such a life what the world might call annoyances and discomforts, but to the true artist in fowl culture they are but disagreeable incidents—the bitter which comes with the sweet.

There are rats and weevils which must be kept from perches and nests, but who can describe the manly sense of protectorship and responsibility created by such efforts?

There are chicken-houses to be kept neat and clean, shells to be baked or broken, feeds to be mixed, but from the sense of knowledge which comes with acquired skill in all those branches, what innocent and agreeable pride and self-respect do not spring? What traits of patience and diplomacy are exhibited in the skillful treatment of the obdurate and aggressive hen that is determined to sit even when she ought to be laying?

What gentleness and forethought must be exhibited in the proper care of the downy brood fresh from the well-kept nest or the more roomy incubator! Nay, it is rather the life of a poet and a philosopher combined, and the man who has thus stood the test successfully should be entitled to the *summa cum laude* of nature's best school.—Fancier.

ON KEEPING EGGS.—To keep eggs we know of no more simple and efficient way than the one we have always practiced, says the Lancaster, Ind., *Farmer*, and which was successfully practiced by our father for the last 30 or 40 years. This is by taking none but perfectly fresh and sound eggs and setting them in layers on the top or small end, in a box or basket or anything that will hold eggs. We do not put anything between them, nor do we put them up "air tight," but we always keep them in a cellar. Eggs that we have put away in this position, were, after being kept six months, as good and fresh as the day they were laid, and we have never found one that was spoiled or stale among them, when thus served. We feel confident that they would keep good and fresh for one year.

JUDGING THE AGE OF POULTRY.—Examine the feet and legs; the size and appearance of the spurs form a guide, as we are told by an expert in the *New York World*. The skin of the pullet or cockerel is smooth, and has a fresh appearance, while that of the adult fowl yearly grows coarse and more shriveled. Place the thumb and forefinger on each side of the back near the "pope's nose" and press. In young birds the part is supple, in old ones it is difficult to bend. If, in feeling the tip of the breast-bone, the grizzle forming there is tender and supple, the bird is young. Ducks that have arrived at the age of two or three years have a deep depression down below the breast feathers, and their waddle becomes more and more ungainly.

THE DAIRY.

A Proposed Anti-Oleomargarine Law.

At the request of the Dairymen's Association, Senator McAllister of Contra Costa and Marin counties has prepared and will urge the passage of the following oleomargarine bill before the present session of the legislature:

An Act to prevent deception in the manufacture and sale of butter and of cheese, and to appropriate money for its enforcement. The people of the State of California, represented in Senate and Assembly, do enact as follows:

SECTION 1. That for the purposes of this Act, every article, substance or compound other than that produced from pure milk or cream from the same, made in the semblance of butter, and designed to be used as a substitute for butter made from pure milk or cream from the same, is hereby declared to be imitation butter; and that for the purposes of this Act, every article, substance or compound other than that produced from pure milk, or cream from the same, made in the semblance of cheese, and designed to be used as a substitute for cheese made from pure milk or cream from the same, is hereby declared to be imitation cheese; provided that the use of salt, rennet and harmless coloring matter for coloring the product of pure milk or cream shall not be construed to render such product an imitation; and provided that nothing in this section shall prevent the use of pure skimmed milk in the manufacture of cheese.

SEC. 2. Each person who manufactures imitation butter or imitation cheese shall mark by branding, stamping and stenciling upon the top and sides of each tub, firkin, box or other package in which such article shall be kept, and in which it shall be removed from the place where it is produced, in a clear and durable manner, in the English language, the words "imitation butter" or "imitation cheese," as the case may be, in printed letters in plain Roman type, each of which shall not be less than one inch in length by one-half of an inch in width.

SEC. 3. No person by himself or another shall knowingly ship, consign or forward by any common carrier, whether public or private, any imitation butter or imitation cheese unless the same be marked as provided by section two of this Act; and no carrier shall knowingly receive, for the purpose of forwarding or transporting, any imitation butter or imitation cheese unless it shall be marked as hereinbefore provided, consigned, and by the carrier receipted for as "imitation butter" or "imitation cheese," as the case may be; provided that this Act shall not apply to any goods in transit between foreign States and across the State of California.

SEC. 4. No person shall knowingly have in his possession, or under his control, any imitation butter or imitation cheese unless the tub, firkin, box or other package containing the same be clearly and durably marked, as provided by section two of this Act.

SEC. 5. No person by himself or another shall knowingly sell or offer for sale imitation butter or imitation cheese under the pretense that the same is pure butter or pure cheese; and no person by himself or another shall knowingly sell any imitation butter or imitation cheese unless he shall have informed the purchaser distinctly, at the time of the sale, that the same is imitation butter or imitation cheese, as the case may be, and shall have delivered to the purchaser at the time of the sale a statement clearly printed in the English language, which shall refer to the articles sold, and which shall contain, in prominent and plain Roman type, the words "imitation butter" or "imitation cheese," as the case may be, and shall give the name and place of business of the maker.

SEC. 6. No keeper of a hotel, boarding-house, restaurant or other public place of entertainment shall knowingly place before any patron for use as food any imitation butter or imitation cheese unless the same be accompanied by a placard containing the words "imitation butter" or "imitation cheese," as the case may be, printed in plain Roman type, and by a verbal notification to said patron that such substance is imitation butter or imitation cheese.

SEC. 7. No person by himself or another shall knowingly peddle, sell or deliver from any cart, wagon or other vehicle, upon the public streets or highways, imitation butter or imitation cheese unless said cart, wagon or other vehicle shall have on both sides the placard in printed letters of plain Roman type, each of which letters shall be not less than two inches in length by one inch in width, "Licensed o

ell imitation butter," or "Licensed to sell imitation cheese," as the case may be.

SEC. 8. No action can be maintained on account of any sale or other contract made in violation of or with intent to violate this Act by or through any person who was knowingly a party to such wrongful sale or other contract.

SEC. 9. Every person having possession or control of any imitation butter or imitation cheese which is not marked as required by the provisions of this Act, shall be presumed to have known, during the time of such possession or control, that the same was imitation butter or imitation cheese, as the case may be.

SEC. 10. No person shall efface, erase, cancel or remove any mark provided for by this Act, with intent to mislead, deceive or to violate any of the provisions of this Act.

SEC. 11. No butter or cheese not made wholly from pure milk or cream, salt and harmless coloring matter, shall be used in any of the charitable or penal institutions that receive assistance from the State.

SEC. 12. Whoever shall violate any of the provisions or sections of this Act shall be deemed guilty of a misdemeanor, and shall, upon conviction thereof, be punished, for the first offense, by a fine of not less than seventy-five dollars nor more than one hundred and fifty dollars, or by imprisonment in the County Jail for not exceeding thirty days, and for each subsequent offense by a fine of not less than two hundred and fifty dollars nor more than five hundred dollars, or by imprisonment in the County Jail not less than thirty days nor more than six months, or by both such fine and imprisonment in the discretion of the court.

In the remaining provisions the Governor is empowered to appoint a State Dairy Bureau of three persons—one to serve three years, one to serve two, and one to serve one, from April 1, 1893. Thereafter as their terms expire, appointments shall be for three years. Members shall serve without compensation, and shall make biennial reports to the legislature "of the number of assistants, experts, chemists, agents and counsel employed and of their expenses and disbursements, with such other information as shall be for the advantage of the dairy interests in the State and of all investigations made by them, with all cases prosecuted and the results of such prosecution."

The Board is empowered to enforce all the provisions of the Act, and to employ a secretary at \$1200 per year. The chairman is vested with the same powers to administer oaths, etc., as a justice of the peace.

Whoever shall have in his possession any imitation butter or cheese shall be construed to have possession of the property with unlawful intent.

District attorneys are made prosecuting officers.

The sum of \$10,000 is appropriated to carry out the purposes of the Act.

Dairy Notes.

It is easier to sell 30-cent butter for 35 cents than to sell 20-cent butter for 10 cents a pound, and the buyers are better satisfied.

A dozen eggs are worth now about as much as a pound of butter. The eggs can be made for ten cents; can the butter be made for the same money? No! But don't sell the cows and buy hens with the money; it takes a genius to make money with a big lot of hens. Keep the cows and let the firm be Butter, Eggs & Co.

The Jersey cow could easily be made a larger animal by breeding for that purpose, but she probably would lose, or at least not gain, in butter production, while she would require more food. One might as well try to combine the size of the draft horse and the speed of the racehorse as to try to make the cow that is distinctively a milk or butter producer at the same time a beef animal.

A correspondent of the *Farmer's Review* tells how he keeps his butter in good condition. He says: "Three years ago I adopted the plan of making the butter into rolls, wrapping them with cheesecloth (parchment paper I consider the best), packing into new pork barrels, and covering with a strong brine that will float an egg. Cover the butter with a brine, so that the air will not come in contact with it again until wanted for use. Time seems to have no effect on the butter when properly handled this way. My butter is just as fresh to-day as when it went in the brine."

While a "not very good" cow may not lose us money in an average season, she will in a season of high price for feed and a not corresponding high price for dairy products. The very best cows pay right along regardless of weather, price of feed or price of dairy goods. Of course they do not pay so well when feed is abnormally high and milk and butter sell at normal prices, but they will pay something when the other kind don't pay anything. The moral is, keep good cows. Easier said than done, but still it can be done. Always? Yes, always. When money is scarce (as it is with most farmers of late years), the way is to hire or buy a pure-bred bull to breed the common cows to.

THE STOCK YARD.

The Fat-Stock Show at Chicago.

Written for the RURAL PRESS.

It looked at one time as if there was to be no show of fat-stock at Chicago this year, but, thanks to the exhibition of pluck on the part of breeders of both cattle, sheep and pigs, there was a show, notwithstanding the fact that the Iowa State Board of Agriculture, under whose patronage it had been held for several years, had said that there could be no fat-stock show this year. This was a severe blow to those who had been at the expense and trouble of preparing animals for the expected annual exhibition, and for Christmas beef.

To have deprived intending exhibitors of bringing their fat-stock together in the usual way would also have cut off from them the most advantageous manner of disposing of them.

A little friendly rivalry among breeders is a good thing both for the advancement of the breeders and the breeds of live stock represented by them. Even the difficulties encountered in the breeding and rearing of live stock fre-

quently act as a spur on to higher efforts and greater perseverance, especially with the few who do not know the word "can't." Whatever of benefits were to be derived from the trials and disappointments of the hour, the breeders in the present instance seemed fully bent on reaping to the utmost extent possible under the circumstances.

We have now, at last, the "precedent," that a cattle show can be held in these United States, independent of all State Boards of Agriculture. We may not, but hope to, live to see the day when there will be real agricultural and live stock shows in California, conducted in the interests of agriculturists generally, and supported by tillers of the soil and breeders of all kinds of improved live stock in a manner suitable to afford instruction to all who go to them with the object of learning by the experience and example of exhibitors, free from the baneful influences of horse-racing with its ever recurrent attendant gambling. These ought to be relegated to their proper place, apart from things agricultural. All who are in the habit of attending our fairs cannot but admit that they are unduly fostered and encouraged for the good of the community at large.

To return to the "Emergency Show," as it has been called. When those who had interests at stake found that the Iowa State Board had given up the idea of a fat-stock show, they went to work, in conjunction with all interested parties who were willing to give financial help, and were thus able, within two weeks' time, to raise the sum of \$1500 in cash, to be offered in premiums, which was paid out to successful exhibitors on the 13th and 14th of December, 1892, as follows: To cattle, \$1000; sheep, \$250; and hogs \$150, so that the working expenses could have been but little.

There were 56 head of cattle exhibited, about 20 of which were Shorthorns, 17 grades and crosses, the remainder consisting of Herefords, Devons and Aberdeen-Angus.

Sheep were represented by four breeds, viz., Southdowns, Oxfords, Leicesters and Merinos, while there were only two exhibitors of swine, who showed specimens of Victorias and Yorkshires.

The premium for the best herd in the show was awarded to the Van Natta Herefords, which were, says the *Breeders' Gazette*, "in the judgment of some, the best-fitted string of cattle ever seen at an American Fat-Stock Show."

The sweepstakes premium for the best beast in the show went to J. H. Potts & Son's Shorthorn steer King, his competitors being the Van Natta Hereford Jerry Rusk and Atkins & Andrew's grade Angus.

In regard to prices obtained for the show cattle that were sold, the last named brought \$6.75 per 100 pounds, live weight; several Hereford steers sold for \$7 per 100 pounds, one two-year-old belonging to S. Van Natta selling for \$7.50 a hundred. The champion steer, Potts & Son's two-year-old, King, sold for eight cents a hundred—weight 1600 pounds—thus realizing \$128, besides \$280 won in prizes, a total of \$408.

We do not have in California the well-fed, finished steers that sold for the above-named prices. There is one very good reason for not having them; that is, because the price of dressed beef here is no more than the price per pound, live weight, in Chicago, consequently it would not pay to produce such here.

Smoking and Curing Bacon.

In view of the rising prices in smoked and salted meats, farmers will not find amiss the following hints as to the best methods of curing bacon, by A. B. Barrett, in the *American Cultivator*:

The value of bacon depends first upon a proper piece of good meat, and then everything is in the curing and smoking. Good smoking gives to the meat a delicious flavor that often enhances its value from one to two cents a pound, and it is of importance that every one smoking bacon for the market should endeavor to add this quality. The farmer who has only a dozen or so of hocks for this purpose can do the work a great deal better than the large curing-houses, where so many are handled that it is impossible to give proper attention to each one. Besides, the farmer often has all the facilities to do the work well, and plenty of time in the fall and winter to devote to the work.

The flesh surface of the hams and shoulders should first be scrubbed carefully until they are clean, and then fine black pepper should be sprinkled thickly over them from a tin box. Some use equal parts of black and red pepper, but the former used alone gives as good results. Ordinary twine should then be fastened in the hock end of each ham and shoulder, and in the thick side of each middling, to suspend them from the hooks in the curing-house.

The smokehouse should have cement, brick or hard earth floor, and the fire made in the center of the room. This should be started with dry stuff, and as it burns well, smother it with green hickory or green chips from oak, hickory or other logs. Chips will often be too dry, and it will be necessary to wet them with water to keep them from blazing. Everything depends upon the fire now. It must be regulated so as to not get too hot nor too cold. A good smoke and no blaze is required. Water and chips are the means by which to regulate it in this way.

Half a day at a time for a week or two weeks will suffice to cure the hams well, and this slow method is better than a quick, continuous smoking. The more that it is smoked in this slow way the better will its color be. After it is nearly smoked enough give it another turn in the house occasionally until late in May. The smoke is the safest way to keep the bacon bug or "skippers" out of the house and the meat. It is also better for the meat to give it such an occasional smoking.

Those who market their bacon and hams within a few weeks will rush the curing process through, but the meat is never so good for this haste. The more the bacon is smoked the better it will keep through summer. The hams will have to be changed occasionally in the smokehouse,

those in the center being removed to the sides, and the latter to the center of the place. Uniform color is thus obtained for all. There is not much risk in curing hams this way if the house is properly constructed and the fire watched. The newer methods of using acids and a quick fire, cannot begin to produce as good meat as that cured by this old process.

Hogs Becoming Valuable.

The live stock market has been a source of perplexity and confusion to dealers during the past year, so far as it relates to hogs. Notwithstanding the fact that receipts in 1892 at Chicago were 7,700,000, being the second largest on record—the leading year was 1891, with 8,600,000—there has been during the past three months a scarcity without precedent for a term of years. The total for the year 1892 is 900,000 less than in 1891, but it is nearly 100,000 larger than the previous largest receipts, except 1891, over 600,000 larger than in 1880, when 7,059,355 arrived, which are the fourth largest receipts on record. In 1889 Chicago received less than 6,000,000 and in 1883 only 4,921,712 arrived, so that receipts for 1892 are very large in comparison with average receipts since 1887.

In the first three months of 1892 there was a decrease of 578,539, as compared with 1891, with an advance in prices of about 35c per 100 lbs. The next three months there was a strong gain in receipts and the loss as compared with the first six months of 1891 was reduced to 236,000 head. Prices during the second quarter advanced 75c on choice heavy, only 30c on common mixed and light and 65c on fancy light. By the end of the third quarter the loss in receipts compared with 1891 had been entirely made up with 17,303 hogs to spare, the September receipts alone increasing 112,000 head. In August prices reached the top price outside of the last month, \$6.27½, being \$1.55 above January prices, but the liberal September receipts and the traditional idea that prices must be broken badly just before the winter packing season, caused a decline of 57½c on best hogs, which began to be more plenty, and little or no change on the common hogs, which had been desperately low all year. The talk of country stock-shippers about November hogs being marketed in September, made little or no impression upon the general trade, but when October receipts fell off 137,000, the packers and traders were puzzled and prices slowly crawled up about 25c during the month. The November decrease of 362,552 hogs was less sudden, but about as surprising as a thunder clap out of a clear sky; but the packers were so badly on the wrong side of the provision market that they fought hard and quite successfully the advance in prices, which amounted to only about 10c for the month. In December, however, with a decrease in receipts of nearly 400,000 compared with the corresponding month in '91, hog prices went up like a balloon dragging an insufficient anchor, and closed at the highest point of the year, \$7, for prime hogs, being \$2.95 above the low point at the opening of the year.

Receipts of hogs the last three months of 1892 decreased over 900,000, and there are many in the trade that think the decrease the first three months of 1893 will be very heavy in comparison with the first half of 1892. The unvarying strength and decided upward tendency of prices indicates that this opinion prevails in the most effective places, viz., among buyers, and there seems to be every reason to expect a further advance in prices, even over present high quotations.

THE FIELD.

The Year in Napa County.

NAPA, Dec. 30, 1892.

TO THE EDITOR:—A retrospect of the old year, viewed from an agricultural standpoint, shows that the past twelve-month has been a prosperous one to very many farmers of this county, and, of course, satisfactory to such. There are those whose affairs have not prospered as anticipated. There are those likewise situated in every portion of the State. But, on the whole, the year just passed has been one of advancement. Where judgment has been at fault in managing the farm, lessons should be learned that shall profit during the new year. Mistakes are made in one or another department of farm labor during any year, but they may be turned to good account if the experience gained, sometimes costly, is kept in mind during coming time.

Of all our farmers probably fruitgrowers fared the best during 1892. With fair crops and excellent prices came satisfaction and the stimulus to enter upon planning and execution for the months to come. Farmers of this class are well satisfied with the outlook. Old orchards will be enlarged and new ones planted. Although considerable fruit was shipped from Napa and vicinity last season, the amount will undoubtedly increase from year to year.

Grain and hay raisers had fair to good crops. With this little fault could be found. But prices for both products have thus far ruled low, and a large quantity is still held for higher figures than have thus far been offered. With the expense and hard work incident to raising hay and grain there is little cheer in having to dispose of them at prices that have for some time ruled. Still a large acreage has been sown this season and more will be planted. One season with another, farmers in general do fairly well, and they plant and sow and reap in hope. "Never say die" is a good motto for individuals of all classes who may for the time being be unsuccessful.

Likewise there are many vineyardmen and winemakers who are not satisfied with the way things have turned the last season. The phylloxera has ceased not, day nor night, to ravage many a vineyard south of the Calistoga district, and the acreage will be reduced this spring. For this disease—to check the spreading of these ravenous insects—

there has been found no remedy. Then, again, the price of wine has been so low that many cellarmen have been unwilling to dispose of vintages, waiting patiently the better times that scores are sanguine will soon come.

The only salvation of vineyardists in this and other parts of the State is in planting anew with resistant vines. So far these have proved a success here as elsewhere.

Quite a number of farms change hands from time to time in the county and now and then some of the larger tracts are divided. Newcomers from different portions of our land, pleased with our climate, soil and location, settle here, bringing capital, new ideas, and make many improvements. We want more such.

There is a great future for Berryessa valley, situated in the northeastern part of our county. A large tract of very fertile valley land, with much hill land adjoining, noted for the excellent pasture produced, is cut off from railroad centers. The large amount of grain there produced must needs be hauled a long distance to Napa or to Winters at considerable expense. The land is still held, for the greater part, in large tracts. Excellent wheat is grown there and the location is well adapted to fruitgrowing. All that is needed to make this one of the most prosperous portions of the State is a railroad.

The same may be said of many another location in this State. The time must come when small lines of railroad will tap these now isolated but fertile tracts, developing the resources of the State in a remarkable manner, adding much to its wealth and drawing from abroad a large and desirable population. How few of the residents of this State realize that within our borders we have an empire of our own?

The first heavy storm of the season damaged many of our mountain roads to considerable extent. Where the water was allowed to run for any distance in the road great gullies were formed and the repairing of these highways will entail much expense. Whether the new road law, which goes into effect with the new year, will lessen the burden of taxpayers and give us better roads remains to be seen. The workings of this law will be watched with much interest in all parts of the State. If this shall prove the road law we have so long been looking for it will bring relief in more ways than one. We shall see.

Cutting & Co., of San Francisco, are preparing to plant two or three hundred acres of very good land to orchard, about four miles southwest of Napa. Soil and location will be in favor of the success of this enterprise; the fruit can be shipped to San Francisco or to eastern points by rail from Napa or to points in this State by water from Sausalito.

Here, at Soscol, is the large and well improved farm of Judge J. A. Stanley. Dairying forms a prominent feature of farm operations. At considerable expense a very complete plant has been erected and this is the best equipped dairy in the county. The judge has quite a large vineyard of resistant vines that is doing well. It is no longer a matter of doubt as to the success of planting resistant vines, particularly the Riparia, in this county. Vinifera, when grafted on such roots, grow thriftily, bear good crops and resist the attacks of the phylloxera.

The Storm in Butte County.

YANKEE HILL, BUTTE CO., CAL., Jan. 1, 1893.

TO THE EDITOR:—The greatest storm for years has just gone and passed, and left its many marks which will long be remembered. Such tremendous winds—leveling fences, uprooting gigantic trees; I never saw the like before. I think that it must have attained a velocity of 60 or 75 miles per hour. And the terrible rains! They tore out a great deal of late plowed and seeded ground. I should judge that in the last storm about 20 inches of water fell. By taking a look up the Sacramento valley you can see enough to form some idea of the amount, etc.; but it did some good after all. It took away all the frosty weather, and now the grain is just rushing forward finely and begins to look lovely. But the roads! O, gracious! All torn to pieces and no wonder, for our road officers have done nothing all fall to keep the water from washing the road away every time it rained. That's the way the money goes, and the taxpayers have to foot the bills. It beats all, as the old woman said, how things work.

Well, we shall soon have a new deal in regard to our road law, and it is to be hoped it will be a great improvement on the old system. But what can be expected if we only have a wooden man for officer? Now, if the weather continues this fine for a few days, I think the pruning hooks and shears will have to be brought into requisition. We have had fine Muscatel grapes on the vines, but the last prolonged storm rather wasted them. When the long-looked-for and long-hoped-for railroad gets to running along the North Fork of El Rio Plumas we can get rid of our splendid fruits and nuts before such bad weather sets in. With many prayers for the new road, and wishing everybody a very Happy New Year, I remain (almost a Granger),

WM. H. MULLEN.

The European Hop Crop.

Frank H. Mason, United States Consul-general at Frankfurt, Germany, sends to Washington the following estimate of the hop crop in Germany and Europe for 1892. The statistics are in metric pounds, being one-tenth greater than American pounds:

Country.	Quantity.	Country.	Quantity.
Germany—	Met. lbs.	Austria-Hungary	Met. lbs.
Bavaria	22,500,000	Belgium	9,000,000
Württemberg	6,000,000	France	5,000,000
Baden	5,000,000	Russia	2,500,000
Alsace-Lorraine	6,500,000	Great Britain	36,000,000
Prussia	3,500,000		

Total for Germany, 43,500,000; Total for Europe, 101,500,000.
*Equal to 40,000,000 English pounds, 101,500 gross tons.

The hop product of Germany has fluctuated from year to year during the past decade between a minimum crop of

36,296,000 pounds in 1882 and a maximum crop of 71,565,500 pounds in 1889, the annual average for the ten years being 52,542,100 pounds. The foregoing estimate, therefore, reckons the German crop of 1892 at 3,300,000 pounds less than that of 1891 and 9,042,100 pounds below the average of the past ten years.

HORTICULTURE.

The Orange Crop.

RIVERSIDE, CAL., Dec. 31, 1892.

TO THE EDITOR:—I notice in your Christmas edition a statement that the output of oranges from southern California will be 7000 carloads this year. I think you are at least 2000 carloads too high in your estimate.

Riverside is not expected to produce over 2000 carloads, and the balance of San Bernardino will not much exceed 250 cars, and I feel confident all the rest of southern California will not exceed 2750 carloads. It is usual, at this season of the year, for buyers and interested parties to give out the idea that there is to be an immense output, and consequently prices will rule lower. The truth is good enough in California, and I am sure that you have not made this statement for any other purpose than an item of good news. After a regular reading of the PACIFIC RURAL PRESS for over 17 years, I want to say that it stands at the head, in my estimation, in its effort to give facts as they are.

Our crop this year is not as large as in former years, but the quality is very fine. Never before had Riverside so brilliant a prospect on January 1st, as in the year 1893. A good crop, the fruit exceptionally smooth and of fine appearance. The little low temperature we had through December was an advantage rather than a detriment. It caused the fruit to ripen earlier, and now the Navels have put on their rosy hue and are fast maturing to gratify the most esthetic palates. Indeed, contrary to the usual experience at this season, they are very sweet and juicy.

The growers and packers of Riverside and San Bernardino county have concluded not to indulge in the pastime of Kilkenny cats, but are trying to formulate plans for the better distribution of our crop. It is the intention to stop all consignments and sell all the fruit f. o. b. Riverside, except, of course, culls and second-grade fruit. A uniform system of packing and uniform price will do much to place our fruit in the position it deserves. Indiscriminate consignments demoralize any market. Some of the best commission men in San Francisco and other cities have frequently told me they would prefer to buy oranges if there were no consignments. The demand would then control the supply. While we do not expect exorbitant prices, by concerted action we can secure a fair price for a good article. Prices will be fixed every Saturday for the ensuing week, and by holding back the shipments, merchants never need fear the disastrous effects of a falling market. The Riverside Press has published the articles as agreed upon; but there will be some minor changes made to-day. The f. o. b. prices to-day are Washington Navels \$3.50 and Seedlings \$2.25 per box, which are very satisfactory.

There is a growing feeling in Riverside for a permanent organization of every orange-grower in the city into a corporation, with a board of trustees of say 11 of the most advanced, best-posted men. They are to elect a president and secretary, and thus pave the way to have all the fruit grown in Riverside manipulated by one agency. Hire a man who has the brains and business experience to manage it, if we have to pay the salary paid Mr. Leeds by the traffic Association, \$10,000 a year. This would only be a trifle over 1½ cents a box for this year's output, and the expense would rest on the income. We can't jump into new things. We must take time to grow. We must educate people by experience. We have had some experience on the wrong side of the ledger account. If our present movement proves somewhat satisfactory, it will encourage our people to pool their issues in some way to secure the best results.

The rains have been very welcome, and the seeding of barley seems to be the business most in hand at present, trusting for the later rain to mature the crop. Feed has been high. Alfalfa-hay from \$11 to \$14 per ton during the past year. Rain means plenty of cheap feed and general prosperity all round. We are glad to see that the farmers in the northern citrus belt have had such copious showers. Their prosperity is ours. We are mutually dependent. Prosperity in one part of the State affects all other portions.

D. W. MCLEOD.

[As stated last week, the RURAL PRESS did not estimate that the southern California orange output would be 7000 carloads, and our correspondent labors under a misapprehension.—ED.]

Large Area of New Orchards.

The Pomona Progress has prepared a statement of the estimated planting of new orchards in southern California for the next four months and some formidable figures are developed. Reports from nurserymen in every locality in Los Angeles, San Bernardino and San Diego counties show that the demand for prune, apricot and peach trees for planting has never been as large at this season as this. In some places the stock of prune and apricot trees has already been contracted for by men who are going into deciduous fruit-growing on an extensive scale. In Pomona, Santa Ana and San Jacinto valleys there are many acres which have heretofore been occupied by wheat and barley fields that are now to become orchards.

In San Bernardino county the olive and prune are to be set out on several thousand acres near Alessandro and Rialto. In Orange county there are reports of a movement for planting olives on the soil that was formerly occupied

by vineyards which the vine disease killed. The Progress estimates that about 9000 acres will be planted to prunes alone in southern California this season, and says that the prosperity which has attended every form of deciduous fruit grown in this region during the past has given this unusual impetus to fruit-growing operations. The bringing of many thousand more acres of land under irrigation systems and improved and easier methods of preparing fruit for market have also had their influence. The Progress says there is as yet no reliable estimate made on the extent of the planting of orange and lemon orchards in the southern counties.

For Pernicious Scale and Lecaniums.

Mr. R. Wilkin gives the Ventura Free Press a formula for spraying deciduous trees, which he says is the best wash yet used for destroying the San Jose scale:

The orchardist should watch the weather, and as it only rains about once a month in southern California, he should spray his orchard as soon as possible after a rain, so the wash will have a longer time to stay on the trees. If a rain should follow soon after spraying, the trees should be sprayed again after the rain. Use a nozzle that will throw a fine spray and go around the tree and wet every particle of the bark. Follow the directions exactly in preparing the wash and you will be successful.

FOR PERNICIOUS SCALE AND LECANIUMS.—The following are the proportions of materials for the rosin wash for winter use upon deciduous trees:

Rosin.....30 pounds.
Caustic soda (70 per cent).....9 pounds.
Fish oil.....4½ pints.

Directions for Preparing this Wash.—Place the rosin, caustic soda and fish oil in a large boiler, pouring over them about 20 gallons of water, and cook thoroughly over a brisk fire for at least three hours; then add hot water, a little occasionally, and stir well, until you have not less than 50 gallons of hot solution. Place this in the spray tank and add cold water to make 100 gallons altogether. Never add cold water when cooking.

A. J. Cook's formula for kerosene emulsion for citrus trees, most successfully used in winter, is: Put ¼ pound of laundry soap in two quarts of water and boil until the soap is dissolved; then add, while yet hot, 1 pint of kerosene oil and vigorously stir until it is permanently mixed, that is, until when allowed to stand the oil will not rise to the surface; when ready to use add water enough to make 15 pints in all. Apply the emulsion with a spraying pump until every leaf and part of the tree is fully wet.

Fruit-Raising Pays.

A press dispatch from Pomona testifies to the extensive preparations going forward in Southern California to an enlargement of the fruit industry. It says:

"Not in several years has there been such preparations for planting orchards in this region as this season. Thousands of acres that have heretofore grown barley or wheat in Los Angeles, San Bernardino and Orange counties are to be set out to young orchards before April or May. In every valley and locality in this part of California men are busy turning over the soil and surveying sections for orchards, and are getting the soil in readiness for planting. The nurserymen and dealers in farm implements unanimously report a general activity in their business.

"The planting of new orange orchards in the warmer parts of Southern California will be as large as ever, but there is going to be ten times more lemons planted this season than ever before.

"Olives and prunes have returned royal profits to all growers in this part of the State this year, and new orchards of these fruits are to be planted on an enormous scale in Los Angeles and Orange counties. Apricots and peaches will be set out to the amount of several hundred acres in Pomona valley, and in Ventura county more than in any section in five years, because of the money that has been derived from such fruits during the past year.

"The Pomona Progress estimates that the fruit-planting operations in Southern California this winter will be fully \$2,000,000 in value."

To Amend the Irrigation Law.

A meeting of delegates from various irrigation districts of the State was held in Sacramento last week to consider subjects upon which legislation may be deemed advisable by the present session. E. DeWitt, president of the State Association, presided at the meetings, and L. M. Holt, editor of the Orange Belt, at Rialto, officiated as secretary. Among other prominent persons in attendance were C. C. Wright, author of the Wright irrigation law; W. W. S. Green, editor of the Colusa Sun; E. H. Tucker, of Selma; P. Y. Baker, P. L. Reed, A. J. Pillsbury, J. W. Mackey, and E. D. Vogelsang, of Tulare; D. Robinson and Samuel Merrill, of Rialto; T. A. Wells, of Kern county; E. T. Casper, of Poso, and R. B. Beaver, of Escondido.

A number of amendments to the irrigation laws were discussed and will be recommended for passage to the legislature. The Wright Irrigation Law, as originally adopted, was an excellent measure, but experience has demonstrated the advisability of some amendments. One of the amendments proposed is that the school fund of the State should be invested in irrigation district bonds.

Other minor amendments of a corrective nature were discussed and will be presented to the Legislature.

VINEGAR and pickle factories are increasing in this city. In 1891 there were six of them, with an output of 970,000 gallons of vinegar and 120,000 gallons of pickles, worth in all \$200,000. Now there are fourteen factories, turning out over 1,000,000 gallons of vinegar, 150,000 gallons of pickles and the joint product is valued at \$250,000.

THE HOME CIRCLE.

The Song of the Dairy.

Written for the RURAL PRESS by ISABEL DARLING.

I pledge your health in a glass of white wine,
Cool, creamy and sweet,
White wine,
The wine that is mine,
Without tariff or duty, and sweet,
O sweet with the sweetness of grass and of clover,
And tinted with buttercups. Full, brimming over,
The glasses are waiting of wine,
White wine,
The wine that is cool
And pure as the depths of the forest-fed pool
That peeps at the sun and ripples
With the merriest dimples,
The daintiest twinkles,
That somehow remind us of bells all a-tinkle
Far off on the hills. Fill the glasses again
With wine that will bring us no sorrow nor pain,
The wine that will cost you no license nor fine,
White wine,
Cool, creamy and sweet, and fit for a fairy,
The wine of the dairy,
The strength of the clover and grass.
Come, fill up your glass
With wine,
White wine!

Last Year.

I.

You thought, O Love, you loved me then, I know,—
For that I bless you, now when Love is cold,
Remembering how warm the tale you told
When winds of autumn fitfully did blow,
And by the sea's perpetual ebb and flow
We wandered on together to behold
Noon's radiant splendor, or the sunset's gold,
Or beauty of still nights, when moons hung low.
Your voice grew tender as you called my name,—
I heard that voice to-day,—was it the same?—
The old time's music trembles in it yet;
Your touch thrilled through me like a sudden
flame,
And then a sweet and subtle madness came,
And lips, cold now, my lips had quickly met.

II.

Ah, Love, you must remember, though, to-day,
There is no spell to charm you in the past,—
So dear the dream was that it could not last;
Full soon our pleasant skies were changed to gray,
The sun turned from our barren land away,
And all the leaves swept by us on the blast,
And all our hopes to that wild wind were cast,—
For dead Love's soul there is no place to pray.
But still the old time lives in each our thought,—
In our regretful dreams the old suns rise,
And, from their shining, memory bath caught
Some lingering glory of the glad surprise.
When Love rose on us, like the sun and brought
ur hearts their morning under last year's skies.

LOUISE CHANDLER MOULTON.

Homonyms.

Written for the RURAL PRESS by AUGUSTA E. TOWNER.

SOME of the little eccentricities of our mother tongue are receiving considerable criticism at the hands of my youngest nowadays. English, as she is spelled and pronounced, makes them "cross," they say. The homonyms, especially those that are spelled as well as pronounced alike, they decry, as though they were the invention of the arch-enemy specially to vex their adolescent minds, or, if not so bad as that, of some crazy, crotchety Cadmus who had bewitched the language.

Laughing and sympathizing, I have been telling them about the many other languages which have contributed words to our language, and for their benefit, with aid of dictionaries, grammars, and so on, have been tracing some of these ridiculous homonyms to their source. Here are some I amused them with the other evening:

Bay, an arm of the sea bending in, is from the Anglo-Saxon *baean*, to bend.

Bay, a color, is from the Latin *baidein*, brown, chestnut-colored (applied only to horses).

Bay, the laurel, is from *baion*, the Greek name for a tree; and

Bay, to bark, and bay to face pursuers, are from the French *bayeur*, to bark.

Box, a case made of wood, is from the Anglo-Saxon, *box*.

Box, a blow on the head or ears given by the hand, is from the Welch *boch*, the cheek; and

Box, a tree, is from the Latin *buxus*.

Gall, the bile, is from the Anglo-Saxon *gealla*, the gall.

Gall, to fret by rubbing the skin, to vex, is from the French *galer*, to scratch, to rub; and

Gall, an excrescence on an oak tree, is from the Latin *galla*.

Jar (noun), a discord, (verb) to quarrel, is from the Anglo-Saxon *gryn*, angry; and

Jar, an earthen vessel, is from the French *jarre*.

Sap, the vital juice of plants, is from the Anglo-Saxon *sap*, juice; and

Sap, to undermine, from the French *saper*, and so on.

Then there are a few homonyms derived from the same root which interest my little folks greatly, as

Board (noun), a flat piece of wood; a table; food; and

Board (verb), to lay with boards; to live at a price.

These are both from the Anglo-Saxon

bord, an edge; a side. As the Anglo-Saxon table was formed "merely by placing a board on trestles at the time of eating," the table simply being designated by the name of board, one can readily conceive of the transitions by which *board* should come to mean not only a flat piece of wood and to lay with boards, but a "table," "food," and "to live at a price."

Some homonyms of this class are derived from different roots of the same language, as

Fleet, a company of ships, from the Anglo-Saxon *fleota*, or *fliet*, a ship; and

Fleet, swift of pace, from the Anglo-Saxon *fleogan*, to fly.

"But, mamma, how did it all come about? How did it? What made them get words from other languages, and then go and spell them wrong—different? Did the schoolma'am say they might? Did wise folks do it on purpose?"

"Say, is there a book where I can see how little boys and girls spelled things way back centuries ago? Was it always as hard? And—"

To stop them I write out for their amusement some of the sentences I learned when little; to illustrate that certain of these funny words have the same sound but different meanings.

"While sitting at my bay window, which commands a view of the bay, I noticed that the bay trees had put forth many tender shoots. As I contrasted the green of the bay leaves with the blue of the bay, some hounds on a neighboring hill began to bay at a deer at bay, greatly to the terror of a fine bay feeding in the meadow to my left."

"And then—"

"The tender heir of Baron Eyre, of Ayr, ere (if e'er) he sallies forth to take the air, follows Dr. Hunter's maxim, and airs his pocket-handkerchief."

There are many homonyms whose separate derivation is shown by their different spelling. But one is as curious as these children of mine to know by what gradation *Knight* came to be pronounced like *night*; *knew* like *gnu* and *new*; *gneis* like *nice*; *know* like *no*, etc.

I have a friend who declares this tendency in our language to use the same sound for several ideas is all owing to those "miserable punsters;" "that the inveterate punster and irrepressible conundrum-maker are ruining the language, that they may rejoice in chances to ply their craft, and soon our language will be like the ancient Arabic which had a hundred and fifty meanings for one sound." But my friend is something of a pessimist. I do not agree with him, yet I confess I am sometimes sorry for the dear little children learning to spell and define our "vaunted vernacular."

TWO REMARKABLE EPITAPHS.—The two most remarkable epitaphs in the United States are those of Daniel Barrow, formerly of Sacramento, Cal, and that of Hank Monk, Horace Greeley's stage-driver. The former reads as follows: "Here is laid Daniel Barrow, who was born in Sorrow and Borrowed little from nature except his name and his love to mankind and his hatred for redskins: Who was nevertheless a gentleman and a dead shot, who through a long life never killed his man except in self-defense or by accident, and who, when he at last went under beneath the bullets of his cowardly enemies, in Jeff Morris' saloon, did so in the sure and certain hope of a glorious and everlasting morrow." Hank Monk's epitaph reads thus: "Sacred to the memory of Hank Monk, the whitest, biggest-hearted and best known stage-driver of the West, who was kind to all and thought ill of none. He lived in a strange era and was a hero, and the wheels of his coach are now ringing on the Golden Streets."

CARE OF THE HAIR.—The hairbrush should have long, soft bristles that will go quite through the hair and remove every particle of dust, and must, above all things, be immaculately clean. A comb is rarely necessary if the hair is well brushed, but when used should be a coarse one. A fine comb is apt to break and split the air. At night the hair should be braided loosely, tied with a soft ribbon and allowed to hang. In this way a complete rest is afforded it and it is prevented from breaking. Some care should be given to the selection of pins. Coarse, rough or sharply-pointed pins should be avoided, as they will eventually spoil the most beautiful hair. The best and safest pins are those made of amber or tortoise shell.—Godey's Magazine.

THE CORRECT NAME.—Old lady—"Oh dear, oh dear." Young woman—"What's the matter, auntie?" Old lady—"Oh, there's lots of trouble ahead. I've been down town to the astrologer and he cast my horoscope."—Judge.

Knew When He was Through.

A farmer in Greene county, Pa., hired as his assistant during the busy season a recent importation from the Emerald Isle.

The young man was engaged one evening, and at the breakfast table the next morning his employer said:

"Well, Pat, have you had enough breakfast?"

"Oi have, sorr," replied Pat.

"Then now pitch in and eat your dinner," said the farmer, "for we are going to work to-day at the far end of the farm and we won't have time to come to the house to eat dinner."

Pat resumed his eating, and when he stopped his employer asked:

"Have you had enough dinner?"

"Yes, sorr."

"Well, we must put in a good long day to-day. So you had better eat your supper, too, before we start."

Pat went to work again at the eatables, and finally laid down his knife and fork.

"Had enough supper?" asked the farmer.

"Yis."

"Then now we will go to work."

"Worruck, is it?" asked Pat, in well-feigned surprise.

"Of course," replied his employer.

"Oh, no," replied Pat, with a shake of his head; "where I kim from we never worruck after supper, sorr."—Life.

Happiness Defined.

Wanting nothing and knowing it.
The mental sunshine of content.

A "will-o'-the-wisp" which eludes us even when we grasp it.

Excelsior! The ever-retreating summit on the hill of our ambition.

The prize at the top of a greasy pole, which is continually slipping from one's grasp.

The only thing a man continues to look for after he has found it.

The bull's-eye on the target at which all the human race are shooting.

The goal erected for the human race, which few reach, being too heavily handicapped.

A wayside flower growing only by the path of duty.

A bright and beautiful butterfly, which many chase but few capture.

The interest we receive from capital invested in good works.

The birthright of contentment.

A treasure which we search for far and wide, though oftentimes it is lying at our feet.

The summer weather of the mind.

The dancing of the heart to its own music.—London Tidbits.

A Different Version of an Old Tale.

The present Columbian times have recalled to public memory the biography of Christopher Columbus as it was written by a schoolboy in the Midlands, England, 20 years ago. The master told the boys to write each a short essay on the great navigator, and the following is the only one that has withstood the ravages of the tooth of time. We give it complete: "Columbus was a man who could make an egg stand on end without breaking it. The King of Spain said to Columbus: 'Can you discover America?' 'Yes,' said Columbus, 'if you will give me a ship.' He had a ship and sailed over the sea in the direction where he thought America ought to be found. The sailors quarreled and said they believed there was no such place, but after many days the pilot called to him and said: 'Columbus, I see land.' 'Then that is America,' said Columbus. When the ship got near, the land was full of black men. Columbus said: 'Is this America?' 'Yes, it is,' said they. 'I suppose you are the niggers?' 'Yes,' they said, 'we are'; and the chief said: 'I suppose you are Columbus?' 'You're right,' said he. Then the chief turned to his men and said: 'There is no help for it; we are discovered at last.'—Milwaukee Evening Wisconsin.

A MAIL CONTRACT FOR A CENT.—A man in Boonsboro, Washington county, Md., thinks the times are out of joint. He offered to carry the mails between Boonsboro and Keedysville daily, except Sunday, free of charge. The distance between the two towns is some three miles, and the bidder thought he was bidding low enough to secure the contract; but it was not awarded to him. Another man offered to do the work for an annual compensation of one cent, and to him the contract was awarded. Now the man who wanted to do the work free of charge is trying to find out why he was not permitted to do so.

San Francisco Fashion Notes.

Written for the RURAL PRESS.

Dear Katie: Fashion changes so often, it is almost impossible to keep up with it; however, I will describe, as best I can, some of the latest styles in regard to dress garments.

Fur is very much worn at present, not only as a trimming, but for complete mantles. Shoulder capes made of black fur, with high standing collar, are both stylish and pretty. Many coats or jackets are trimmed with fur, having narrow pipings of the same on the collar and cuffs. A number of three-quarter jackets are made with the Watteau plait, extending from the neck down the middle of the back, where the plait hangs loose and is fastened at the waist with a leather belt or one made of the coat material.

Some of these coats have three small capes combined in one, attached to the jacket; each cape is trimmed with the fur. Large buttons on coats are still worn, but not so much as formerly, the fur having almost entirely taken their place. Mantles of light cloth are pretty, made with high puffs on the shoulder, or having a smaller cape of the same trimmed in narrow fur, with a high, standing collar. For evening wear, mantles are made of the most delicate shades of fabric, and are trimmed in light fur or passementerie.

Collarets of fur are quite fashionable, while the long ostrich boa seems to be in full sway.

Hats of every size and description are worn, ranging from the small toque to the wide-brimmed felt hat. Small hats are always pretty and dressy, especially for evening wear. The old-fashioned turban is again coming into style. It is made of buckram, and is covered in velvet of different shades, having rosettes of the velvet, in place of a wing or feathers, to finish it, although many prefer the feathers or aigrette to the rosette; but either are pretty. For instance, a turban of brown velvet is trimmed in rosettes of pale blue. The hat is plain, with a fold of the velvet around the edge, having a rosette of the blue velvet in front, instead of a wing or feather.

Toques are still worn, and are principally trimmed in velvet, and are completed by loops of ribbon velvet, or a bird or wing of some kind. Buckles are still in great demand, not only for hat trimmings, but also for dresses. Oval-shaped ones, with brilliant stones, are used mostly for hats, and are put in the large butterfly bows which are worn so much on hats. Plaid ribbons are used a great deal now for trimming children's hats. The butterfly bow is the favorite mode for trimming.

The high-crowned hat still continues to be worn. The trimmings are brought more to the sides than to the front, improving the looks of the wearer by taking away the broad, coarse look from the face. The dark felt hats are twisted into various shapes, being broad in the front and narrow in the back. Some of these hats are very pretty when trimmed. A large white felt trimmed with black velvet, and tips to match, make a pretty combination. Another pretty and stylish hat is one made of dark green velvet trimmed with small feathers to match, having a few loops of velvet ribbon brought to the front, and is completed with either a pompon or a beautiful bird.

The bell-skirt is still worn, being made narrow at the top and wide at the foot, with hollow, flowing plaits. The widths are cut lengthwise or on the cross, according to the material. The new velvets in delicate colors are quite the success of the season. Corduroy is very stylish and is used a great deal.

Street costumes of plain cloth, trimmed in shaded velvets, are very attractive; for instance, a dress of steel-gray lady's cloth, trimmed with velvet of a little darker shade, with silk to match. The skirt is made plain, having a fold of velvet round the edge as a border, which gives it a neat finish. The bodice consists of an Eaton jacket, with deep-turned-back lapels of the velvet, and is completed by a vest of the silk, with a strap of the velvet reaching across the front of the waist to keep the vest in place.

The train is no longer worn for the street, but continues to be fashionable for the house. Most evening dresses have long, square trains. For the street, dresses are made so that the skirt just touches the ground. Small checks are again coming into fashion. They are always pretty and neat.

Silk undershirts are all the rage, and are made principally of changeable silk. Some ladies, however, only stitch a silk ruffle inside of the dress skirt, and this gives it the appearance of a whole silk undershirt.

Among the novelties for footwear are many new kinds of slippers for the house. These are made of wools, different shades,

and are trimmed with bows of wide satin ribbon. Instead of using the bows, many prefer an edging made of the worsted itself, and fastened to the top of the slipper, which gives it a neat finish. Slippers of this kind are always comfortable to slip on after being out all day. The soles are very thin, and are made of leather lined with cotton batting.

Owing to the recent rains, gossamers and umbrellas have been used to great advantage. The newest gossamers are made of plaid silk rubber, more the style of a long ulster, with cape and sleeves to match. Many are made Japanese style with false sleeves.

Silk umbrellas with gold or oxidized handles are the height of fashion. ELIZA H.

California Women and the World's Fair.

There has been set apart for the use of the women of California as headquarters and exhibition room, the northwest gallery in the State Building at Chicago, 120 feet in length by 19 feet in width, more than 2200 feet of floor space and the adjacent wall space.

In this is to be collected the very best of our woman's work. It is to be under the control of the State Board of Lady Managers, and they earnestly desire that the display here made may be a credit to the State and reflect honor upon its refined and intelligent women. That this end may be attained, every woman who has anything in the line of industrial, artistic and literary work, anything unique, historic or peculiarly Californian of merit, is cordially invited to contribute by gift, or loan the same to enhance the attractiveness of the space allotted them.

In this department will be placed an art loan, comprising rare, beautiful and expensive articles; a historical collection of interest to the student of history; a souvenir exhibit that will bear testimony to the taste and skill of a large number of our women; a literary exhibit showing what women are doing in the line of literature; an industrial display embracing fine needlework, domestic science, inventions, and every industry in which the women of California are engaged. The works of our skilled artists will adorn the walls; chairs, tables, picture-frames and panels will display our woodcarvers' skill; skins of wild animals on the floors will afford a study of the fauna, and potted plants and shrubs the flora of California. Relics, curiosities, shells, mosses, fossils, stuffed birds, anything of superior merit, and especially those things that are found and produced in this State are wanted.

A careful oversight and safe return of all articles loaned is guaranteed as far as possible.

Now that the matter of space is so advantageously settled, no time should be lost in making the collection. The resources of the State are varied, and every county and almost every town has some striking article or production different from all others. The great variety of our products will prove one of the greatest charms of the exhibition. There is enough patriotism and womanly pride among us to make such a display of the products of hand and brain as will attract the attention of the world.

This is the opportunity of the century—let no woman slight it.

FLORA M. KIMBALL.

Do You Know

That eggs covered when frying will cook much more even?

That if you heat your knife you can cut hot bread as smoothly as cold?

That camphor menthol is an excellent inhalant if one is suffering from catarrh?

That a little flour dredged over the top of a cake will keep the icing from running?

That the white of an egg, with a little sugar and water, is good for a child with an irritable stomach?

That clear, black coffee, diluted with water and containing a little ammonia, will cleanse and restore black clothes?

That a large slice of raw potato in the fat when frying doughnuts will prevent the black specks from appearing on their surface?

That by rubbing with a flannel cloth dipped in whiting, the brown discoloration may be taken off of cups which have been used for baking?

That a little powdered borax in baby's bath water prevents the little one's skin from chafing, and he is not so liable to "break out with the heat?"—ELLA B. SIMMONS, in Good Housekeeping.

YOUNG FOLKS' COLUMN.

Little Orphant Annie.

Little Orphant Annie's come to our house to stay,
An' wash the cups an' saucers up, an' brush the crumbs away,
An' shoo the chickens off the porch, an' dust the hearth an' sweep,
An' make the fire, an' bake the bread, an' earn her board-an'-keep;
An' all us other children, when the supper things is done,
We set around the kitchen fire an' has the mostest fun
A-list'nin' to the witch-tales 'at Annie tells about,
An' the Gobble-uns 'at gits you

Ef you
Don't
Watch
Out!

Onc't they was a little boy wouldn't say his prayers—
An' when he went to bed at night, away up stairs,
His mammy heard him holler, an' his daddy heard him bawl,
An' when they turn't the kivers down, he wasn't there at all!
An' they seeked him in the rafter-room, an' cubby-hole an' press,
An' seeked him up the chimney-flue, and ever'where, I guess;
But all they ever found was thist his pants an' roundabout—
An' the Gobble-uns 'll git you

Ef you
Don't
Watch
Out!

An' one time a little girl 'ud allus laugh an' grin,
An' make fun for ever' one, an' all her blood and kin;
An' onc't when they was "company," an' ole folks was there,
She mocked 'em an' shocked 'em, and said she didn't care!
An' thist as she kicked her heels, an' turn't to run an' bide,
They was two great big Black Things a-standin' by her side,
An' they snatched her through the ceilin' 'fore she knowed what she's about!
An' the Gobble-uns 'll git you

Ef you
Don't
Watch
Out!

An' little Orphant Annie says, when the blaze is blue,
An' the lampwick sputters, an' the wind goes woo-oo!
An' you hear the crickets quit, and the moon is gray,
An' the lightnin' bugs in dew is all-squenched away—
You better mind yer parents, an' yer teachers fond and dear,
An' churish them 'at loves you, an' dry the orphant's tear,
An' he'p the pore an' needy ones 'at clusters all about.
Er the Gobble-uns 'll git you

Ef you
Don't
Watch
Out!

—JAMES WHITCOMB RILEY.

Study of Insects.

Written for the RURAL PRESS.



FOURTY-SEVEN years ago, in southern Wisconsin, two little boys, sons of a farmer, were bemoaning the destruction of their patch of young popcorn by cutworms. Their father suggested: "Catch some of the cutworms, put them into a glass jar, feed them, and learn all you can about them." The advice was followed. The worms buried themselves in the earth in the bottom of the jar, and in due time emerged as butterflies. "Army-worms," "span-worms," "tomato-worms," "wire-worms," and scores of other forms of insect life were experimented with in like manner. One of these boys is now raising fruit in Fresno county. The worms, bugs, and other insects are still his teachers. He has kept them till in the perfect butterfly form, then kept the butterflies till their brood of eggs was hatched, and counted the progeny of various kinds of them. The first San Jose scale he ever saw, he cut a piece of a branch containing them, and keeping it alive in water (to insure the health of the scale bugs during his experiments), inclosed it in a glass jar, and then noted the time and manner of the young bugs emerging from the old parent scales, their conduct, and life history, till they fastened themselves on the bark and covered themselves with scales.

A month ago this student of nature was going with a lot of neighbor farmers to attend the county Farmers' Institute. As they crossed a big ditch, whose banks were thickly set with willow trees, one of the ladies called attention to the swarms of "curious looking butterflies." Our student farmer explained that these were the mothers of the tree borers. Since then several of these insects have been placed in closed jars, with pieces of wood suitable for deposit of their eggs and to serve as a home for the

borers while they remain in the worm or borer state. Thus the little leaven has begun to work. Then the thought occurred: Why not write this for the RURAL PRESS, so that the rural boys and girls all over our coast can be doing likewise! To nobody else in the world is a knowledge of insects as valuable and important as to the fruit raiser. Nobody else has as good an opportunity to study insects. How many of even fruit raisers' children, know the codlin moth by sight? How many know how long it remains in the pupa or worm state? How many have ever kept a moth till its eggs were laid and then tried to learn how long it takes the eggs to hatch, and how many descendants from a single moth? What boys and girls have begun to learn these things? Who will begin now, and ever after continue to learn, and give the world the benefit of their knowledge? UNCLE FRESNO.

Diplomacy.

"Johnny," said his mother, "do you know who ate those cookies I left in the pantry?"

"I do, mamma," replied the noble boy, his eyes filling with tears, "but it would not be manly for me to tell."

And that is how it came that Johnny's brother received two undeserved spankings—one for the cakes he did not steal and another for his truthful denial.—Indianapolis Journal.

The Charm of Pleasantness.

Every woman has an inherent longing to be attractive, and if she has not, she should have. For what would this chaos, doubt and strife of our daily warfare become were it not that sweet woman interposes into it her calming, cheering influences?

And the natural tribute men pay to woman's attractive qualities is admiration. If a woman is incapable of appreciating the homage of man, and treats man's highest gift as though it were vanity, she makes a serious mistake.

But how can a girl best gain the love and respect of others? This is an all-important query, and it is best answered by a concrete illustration drawn from real life. Miss A is beautiful. Her statuesque form and magnificent face are always the same, with a cold, distant aspect which even her undoubted beauty does not redeem from reproach. Miss B is neither so talented nor yet so lovely, but she meets one heart to heart, and her continued pleasantness has a charm which draws around her a devoted circle of appreciative friends. She is her father's confidante, her mother's joy, the recipient of her brother Jack's love trouble and sister Nellie's struggles with French.

Ah, girls, the snowiest skin will some day be fallow. The flush of youth will disappear, the bright eyes grow dim and the nervy limb be uncertain and feeble. But this inward loveliness, this beauty of spirit, is born of heaven and knows no death. The tender ministries of Miss B will creep into any true heart sooner than Miss A's icy beauty. Such a woman in any home is a glimpse of God's sunshine. Beauty and genius are the gifts of Providence, but a good heart all can cultivate.—The Rural Home.

A HORNET AND WASP BATTLE.—While in the kitchen getting dinner, I noticed a hornet and a wasp chasing each other. Suddenly the former caught the latter and they commenced stinging each other. The battle raged so fiercely they did not know they were caught in a glass. The wasp soon received its death blow, and the hornet started to fly away with his prize. He flew around the top of the glass, and, finding he could not get away, decided to lighten his burden. Biting off the wings and legs, he started off again. Still too heavy! So the head came off next, with no better success. Trying again, he separated the body, taking that part which corresponds to our chest. Now, realizing that he was a prisoner, he flew around and around the glass, trying to find a place of escape. Five other yellow-jackets were put in about this time. Three of these he killed; the other two were set free. The hornet, finding he was alone, died shortly after, whether of grief or of poison it is hard to tell.—Claribel M. Hoyt, Vaughn, Wash.

CUSHION FOR BABY.—Give the baby a cushion of his own. Make a case of strong cotton of any kind, fill with straw, husks, feathers, or even paper strips, if nothing else is at hand. Make of any size or shape convenient, and cover with calico, denim, or anything that will wash. Then let him drag it where he likes. No matter if his heels are on it oftener than his head, he will enjoy it all the same.

DOMESTIC ECONOMY.

Tested Recipes.

Written for the RURAL PRESS by ADA TAYLOR SEGRET.

Cracker Pudding.—One quart milk, one cup sugar, six Boston crackers rolled fine, one teaspoonful baking powder, two well-beaten eggs, a little salt, a tablespoonful butter; flavor to taste and eat with a sweet sauce.

Chocolate Pudding.—Let one pint of milk come to a boiling point; add one large spoonful cornstarch (wet in a little cold milk), one-half cup sugar, one teaspoonful of butter and three heaping tablespoonfuls of grated chocolate, having been melted in a little boiling water; boil until thickened; pour into a mold and place on ice; serve with flavored sugar and cream.

Charlotte Russe.—Make a sponge cake by the following rule: Six eggs, one cup sugar, one cup flour, one teaspoonful baking powder, a little salt, and lemon extract; beat the yolks light and mix thoroughly with the sugar, then add half the flour (with baking powder sifted through it) and half of the well-beaten whites; beat well and add rest of flour and eggs; bake to a golden brown. Beat one pint sweet cream and the whites of three eggs to a stiff froth; sweeten and flavor the cream to taste. The cream and eggs must first be beaten separately; blanch and split two dozen almonds and place them on the cake; then pour over the cream and eggs. The cake may be soaked in wine, if liked.

Cocoanut Pie.—Line a pie tin with rich puff paste; take a small pint of milk and let it come to a boil; thicken with a little cornstarch dissolved in two tablespoonfuls of cold milk; remove from the fire and add two well-beaten eggs that have been mixed with one small cup of sugar, one tablespoonful of butter and one small cup of freshly-grated cocoanut; fill the pie tin and bake; beat the whites of three eggs to a stiff froth; add half a cup of sugar and half a cup of cocoanut; spread over the pie and return to the oven, but do not let it brown.

Walnut Cake.—One cup of sugar, one-half cup butter, one-half cup sweet milk, three eggs, two cups flour, two teaspoonfuls baking powder, one cup stoned raisins and one cup chopped walnuts. Flour the nuts and raisins before putting them in the cake.

Bulwer and Tennyson.

Nearly half a century ago Lord Lytton wrote a satire on Tennyson, soon after the laureate had accepted a pension of £200 a year from Sir Robert Peel. Lytton made merry over what he described as

The jingling medley of purloined conceits,
Out-babbling Wordsworth and out-glittering Keats.
Tennyson retorted under the name of "Alcibiades" in the pages of *Punch*, in verses which cleverly caught the weaknesses of the dandy author of "Pelham."

What profits now to understand
The merits of a spotless shirt,
A dapper boot, a little hand,
If half the little soul be dirt.

"MAMMA," said the little Boston Spring Chicken, "did you lie those eggs?" "My dear child," cackled the hen, "will you never cackle English? Hens do not lie they lay."



A cream of tartar baking powder. Highest of all in leavening strength.—Latest U. S. Government Food Report.

ROYAL BAKING POWDER CO., 106 Wall St., N. Y.

PATRONS OF HUSBANDRY.

From the Worthy Master.

SANTA ROSA, Jan. 9, 1893:

Not a few of the Granges in California have already installed officers for 1893. This is as it should be, and is an indication of life and healthy interest. Let all subordinates get to work as early as possible. The aim has been to have each master installed supplied with the new word. If any have failed to obtain it, who are justly entitled, they can get it from the secretary of the State Grange.

The executive committee want to make a thorough and successful campaign in 1893. Can you assist them in the work? If so, what will you do? When, where and how will you do that work? Something definite and specific is what the committee want. "Flock shots" will not bring the results. We must aim right at the mark, and then fire. With the aid of the PRESS, there ought to be a big gain in Grange membership in 1893. The *Farm and Orchard* and the *Tree and Vine* are also good workers in the Grange cause. With well-directed and well-prepared lecture work there is no reason why the Grange should not prosper almost beyond measure this year.

County deputies will soon be named. If any one to whom an appointment is given feels that he or she cannot give enough time and work to the Grange to make a success of it in such county, the master will be obliged, if said deputy will decline to serve and will return the certificate of appointment. The county deputy is a most important officer. His duty is one that no other officer can perform. In all counties where the deputy has shown great interest in his work, the Grange is growing in numbers and has an influence which can not be over-estimated. The zealous county deputy will find plenty of work, both in the organization of new Granges and the visitation and inspection of old Granges. The executive committee hope to be able to find some plan of paying the county deputy a small sum for each Grange visited and for all Grange work done. But, after all, Grange work is self compensatory, if we would only admit the truth. Which one of us would sell, for the dollars and cents they have cost, the many valuable suggestions, the many happy hours, the hundreds of true friends that have come through the Grange? Live deputies and live membership make a live Order.

The legislature is organized, and no doubt the flood of bills to be introduced will far surpass the flood of water which now covers the plains of the great Sacramento valley. How many of these bills will be in the interest of the people? Keep an eye on your senator and on your assemblyman, and notice his bills and his votes. See if they are in accord with your interests. Bennett Valley Grange has requested of the senator and the assemblyman representing them, a copy of each bill introduced in the legislature. The object is a good one and ought to prove beneficial both to the legislators and the Patrons of Bennett Valley Grange. Each can thus be able to advise the other, and thereby prove of great assistance. A mutual understanding will surely do no harm. It would not be a bad idea for each Grange in California to ask its representative in the present legislature to do as has Bennett Valley Grange asked of its representatives.

A kind word costs but little and it usually pays big interest on the cost.

Have you as much confidence in your neighbor as you expect him to have in you?

Do you want the Grange to revive and prosper? If so, what will you do to help it?

Name the master or past master you want for county deputy during 1893.

Get a practical education. It will pay you in the end. Remember practice makes perfect. Theory and practice make a safe combination.

Geo. B. Horton has been elected master of Michigan State Grange. The retiring master, Thos. B. Mars, was a true and worthy Patron. He had many friends in the National Grange. He always intelligently spoke and voted on the issues affecting the Grange. We know all will regret the absence of Brother and Sister Mars, but feel sure they will gladly welcome Brother Horton.

The Committee on Woman's Work has much to do. Won't it suggest some plan whereby the subordinates will raise a snug sum of money for the construction of a National Grange Home? A Temple to Ceres

ought to be built. Let the sisters take the matter in hand. Which subordinate Grange in California will give the greatest number of social entertainments, and which one will raise the best fund? Now is the accepted time.

Arrange in your subordinate Grange for a course of family and Grange readings. It will pay you well.

The Grange is not dead, nor sleeping. There are several members of the Order in the present legislature. See how they vote.

Farmers' Institutes ought to be held all over the State. Where is the legislator who will get an appropriation for that purpose?

Yuba City Grange.

YUBA CITY, Jan. 9, 1893.

TO THE EDITOR:—Yuba City Grange held an interesting meeting on Saturday last. It was installation day, and, as rarely occurs, every officer-elect was present and entered into the spirit of the occasion with zest and good-will, presaging an active and successful campaign in Grange matters during the present year. The installation was "private," or rather with closed doors, and our installing officer was our young and talented Past Master W. D. Woodworth, assisted by another young Past Master, W. J. Hardy. The work was so well done that the Grange tendered them a vote of thanks at the close of the ceremony. Brief remarks were elicited from the new officers as they took their respective positions.

This work concluded, Past Master W. J. Hardy introduced the following, which was adopted unanimously and relates to

HYDRAULIC MINING.

WHEREAS, Hydraulic-mining having filled and choked our streams, covered large areas of the most fertile agricultural land with debris, and has seriously crippled the navigability of our rivers; and

WHEREAS, Said process of mining having been interdicted by Congress, and by both State and Federal courts; and

WHEREAS, Notwithstanding these decisions and the solemn promises by the miners to yield obedience to the decrees, the State Anti-Debris Association feels called upon to doubt the force of watchmen to prevent illicit mining; now, therefore, be it

Resolved, By Yuba City Grange, Patrons of Husbandry, that we will oppose and discountenance any aid by Congress or the State of California looking to the rehabilitation of this system of mining until there shall be a complete compliance with law and the terms of their own making.

Resolved, That a copy of these resolutions be furnished the press and a copy be forwarded to our official organ for publication, and we request all the Granges in this jurisdiction to act upon the same and forward their conclusions to this Grange for transmission to our legislative committees in Washington and Sacramento.

In view of the recent floods and disasters to levees, railroads, bridges, and flooded lands generally, more or less occasioned by filled and choked river channels, the result of mining by the hydraulic process, it is little wonder that this question comes once more to the surface in the shape of resolutions.

A year ago, at the first Miners' State Convention, held at Sacramento, that body acknowledged the injury, admitted the cause, and conceded the justice of the prohibitive decrees, and promised fealty to authority, yet scarcely less mischief was perpetrated than before. While the valley people are loth to hold the Executive Committee of the Miners' Association responsible for the bad faith shown, they are inclined to think so much could not have been done without their knowledge.

Yuba City Grange is therefore right in demanding entire cessation of hostilities as a prelude to an armistice and a request for federal or State aid.

A number of other important matters were touched upon, but the day being far gone and many members having come quite a distance, the meeting adjourned to meet again in two weeks at the usual hour.

GEORGE OHLEYER.

San Jose Grange.

SAN JOSE, Jan. 9, 1893.

The following officers were installed Saturday, January 7th. M., Philo Hersey; O., R. P. McGlinchy; L., Ella I. Saunders; S., Wm. Beauchamp; A. S., G. W. Worthen; C., Mrs. M. Wingate; Treas., G. W. Tarlton; Sec., Mrs. M. J. Worthen; G. K., Miss Alice H. Phelps; Ceres, Mrs. Jennie M. Tarlton; Pomona, Miss Lottie Holland; Flora, Mrs. Arabella Hersey; L. A. S., Miss Lizzie Webb; Organist, Miss Nellie Jefferts; Trustee, Hiram Pomeroy.

The installation was witnessed by one of the State officers, who pronounced the ceremony as most ably performed. Bro. Cyrus Jones urged each member to bring into the Grange at least one new member during the coming year, and showed his good faith before the close of the meeting by securing an applicant for membership.

A beautiful chair was presented by the Grange to the retiring secretary, S. P. Saunders, and nothing but praise was heard of the work of this most efficient officer.

A bountiful Harvest Feast was followed by a program prepared by the young ladies of the Grange. Program—Trio, Miss Webb, Miss Ella Saunders and Mr. Worthen; recitation, Grace Mitchell; instrumental solo, Miss Ross; recitation, Janie Saunders; song, Master Joseph Mitchell; vocal solo, Miss Webb; poem, Mr. G. W. Worthen; reading, Mrs. Holland; remarks by retiring Master Pellet; closing song by the Grange.

M. J. WORTHEN, Sec'y.

The Secretary's Column.

By A. T. Dawsey, Secretary State Grange of California.

E. W. DAVIS, W. M. S. G., will install the officers of Santa Rosa Grange, and A. P. Martin, deputy lecturer, those of Petaluma Grange on the 14th.

INSTALLATIONS TO BE HELD.—Jan. 13, Washington Grange; Jan. 14, North Butte, Magnolia, Petaluma, Sacramento, American River, Santa Rosa, South Sutter, Sacramento Pomona; Feb. 4, Lockeford and Alhambra.

A HINT.—Mrs. May Taylor, of Hale, Missouri, writes this office to know if we have Farmers' Institutes in California. She suggests that ladies contribute essays for the benefit of poultry-raising women for final publication in poultry journals.

S. G. EXECUTIVE COMMITTEE MEETING.

The committee met at Sacramento Jan. 5th. The following legislative committee was appointed: Thos. McConnell (chairman), J. H. McKune, E. Greer, G. Doty, Geo. Ohleyer. R. P. McGlinchy was requested to act as representative for the Grange before committees, etc. Next meeting of the executive committee will be held in San Francisco Feb. 7th. (Further report next week.)

INSTALLATION AT OAKLAND.

One of the proverbially good Harvest Feasts of the sisters of Temescal Grange was heartily enjoyed last Saturday by a goodly number of Patrons of Eden and Temescal Granges. Worthy Master Renwick presided. Judge Blackwood of Eden Grange gave a lively description of old-time Christmas doings on the Atlantic side some 50 years ago. Worthy Master Munson, Bros. Sewell and Payne gave further testimony of "Ye Olden Times."

During intermission, an informal meeting of the members of the Patrons' Relief Association was held. Those present favored the continuation of the organization. The annual meeting occurs January 12th.

An open afternoon session was held, and the following program rendered: Piano solo, Miss Anita M. Dewey; reading, Mrs. L. Shuey; vocal solo, Miss Stella Lufkin; recitation, Miss Bessie Ballard; violin solo, Alfred H. Dewey.

Past Master A. T. Perkins of Temescal Grange, assisted by Past Master Perham of Eden Grange, installed the officers of the two Granges in a very able and satisfactory manner.

Past Master Perkins made a short and eloquent address showing the Grange to possess high and elevating social features in comparison with some other organizations. He made excellent points in various directions. Appropriate remarks were also made by Bros. Hollister, Dewey and others. A vote of thanks was tendered the installing officers. Bro. H. H. Stevens, who is well posted on the subject, was invited and will speak on Silver Coinage, etc., at the next meeting, to be held at 2 P. M., Saturday, January 14th. His address will be followed with a discussion on the Silver Question.

GRANGE ELECTIONS.

(Secretaries are requested to send us as early reports as possible for publication under this head.)

ALHAMBRA GRANGE.—Election Dec. 3; officers chosen: Harry C. Raap, M.; B. R. Holliday, O.; L. Messec, L.; Elam B. Barber, S.; Jas. Kelly, A. S.; Alexander Boss, C.; Henry Raap, T.; Mrs. M. B. Lander, Sec.; Mrs. Lena Raap, G. K.; Mrs. Kate Cousins, Ceres; Mrs. Harriet Bent, P.; Mrs. Laura Rapp, F.; Mrs. Elitha Boss, L. A. S.; James Kelly, Trustee. Date of installation, first Saturday in February, 1893.

INDEPENDENT GRANGE.—Election Dec. 14; officers chosen: W. S. Eliat, M.; Chas. Harrison, O.; Mrs. D. Harrison, L.; F. N. Fisher, S.; Thos. F. Prather, A. S.; Mrs. J. Drace, O.; Chas. Perryman, T.; E. F. Davis, Sec.; A. B. Spencer, G. K.; Mrs. Watkins, Ceres; Miss Maud Spencer, P.; Miss M. T. Fine, F.; Miss Annie Watkins, L. A. S.; E. J. McIntire, Trustee.

SACRAMENTO GRANGE.—Election Dec. 31; officers chosen: Lewis Schelmyer, M.; S. H. Jackman, O.; A. M. Jackman, L.; Daniel Flint, S.; Carl Halverson, A. S.; Sister M. Mullen, C.; M. Sprague, T.; A. A. Krull, Sec.; Charley Hull, G. K.; Atte Plummer, P.; Sister David Reese, F.; Sister Schelmyer, Ceres; Sister Jongman, L. A. S.; Della Krull, Organist. Installation Jan. 14, at 10 A. M., to which all Patrons in good standing are cordially invited.

SOUTH SUTTER GRANGE.—Election Dec. 31; officers chosen: John W. Jones, M.; W. W. Decker, O.; Lucy E. Purinton, L.; Louis Whitlock, S.; Geo. Duff, A. S.; Mary E. Donaldson, C.; J. J. Grunewald, T.; May Donaldson, Sec.; Champ Hicks, G. K.; Edna P. Jackson, Ceres; Mattie Scott, P.

Willie F. Sankey, F.; Frances F. Purinton, L. A. S.; J. J. Grunewald, Trustee. Date of installation, Jan. 14, 1893.

SAN ANTONIO GRANGE.—Election Dec. 3; officers chosen: W. L. Earl, Jr., M.; Mrs. L. Fleming, O.; N. Paulsen, L.; J. O. Earl, S.; J. M. De Long, A. S.; Mrs. E. R. Smith, C.; W. L. Earl, Sr., T.; Mrs. S. S. Paulsen, Sec.; S. S. Hill, G. K.; Mrs. M. Pinkerton, Ceres; Miss L. Zoffman, P.; Mrs. J. Dodge, F.; Miss T. McDonough, L. A. S.

SAN JOSE GRANGE.—Election Dec. 10; officers chosen: Philo Hersey, M.; R. P. McGlinchy, O.; Miss Ella I. Saunders, L.; Wm. Beauchamp, S.; G. W. Worthen, A. S.; Mrs. M. Wingate, C.; G. W. Tarlton, T.; Mrs. M. J. Worthen, Sec.; Miss Alice H. Phelps, G. K.; Mrs. Jennie M. Tarlton, Ceres; Miss Lottie Holland, P.; Mrs. Philo Hersey, F.; Miss Lizzie Webb, L. A. S.; Hiram Pomeroy, Trustee.

Sacramento Pomona Grange.

Sacramento Pomona Grange proposes to take an active part in legislative matters. At its last meeting it appointed a legislative committee to attend upon the doings of the legislature; and resolutions were adopted, with but one dissenting vote, declaring it as the sense of the farmers of that county that they are decidedly opposed to the scheme to get a bill through the legislature to create another superior judge for Sacramento county, for several reasons:

"First—That the county is heavily in debt already, and that the creation of another superior judge would be an excuse for building another courthouse, and thus add to our debts and increase our burdens of taxation.

"Second—That we do not believe that there is any necessity for having a third superior judge for this county at this time. We are led to this conclusion by our experience, and the knowledge we have gained by attending the sessions of the courts in question as jurors of said courts. We are well aware of the fact that the reason given for the need of another superior judge is that the business of the courts is accumulating on the calendars of the courts. This we are willing to admit is true; but at the same time we, as farmers who have to think, plan, and act for ourselves in the management of our farms, believe we can see how the accumulation of cases on our court calendars can be avoided, and we don't believe there is any necessity of their doing so.

"Third—We are more than satisfied with the amount of taxes we are paying now, and are opposed to having our burdens increased to fee officials that we don't believe we need."

The Grange passed a further motion, as the sense of the farmers, "that we are opposed to the repeal of the State poll-tax of \$2, for the good reason that all (less the cost of collection) of said \$2 goes into the school fund, and to this extent compels hundreds of men to pay this small sum toward the education of the rising generation, who would otherwise spend this amount in the saloon, at the gaming table or at other places less reputable."

Woodbridge Grange Installation.

Secretary H. C. Shattuck, of Woodbridge Grange (Lodi), writes under date of 4th inst: Yesterday, Jan. 3d, was a grand day with Woodbridge Grange. The first on the program was a Harvest Feast, to which the members and several invited guests did ample justice; after which Past Master James Perrott, assisted by Sister Alice Ashley, installed the officers of Woodbridge Grange for the ensuing year. The following is the list of officers: H. M. Woods, M.; G. H. Ashley, O.; Miss Melaney McIntosh, L.; John Thompson, S.; Otto Spenger, A. S.; Mrs. G. H. Ashley, C.; Ezra Fiske, T.; H. C. Shattuck, Secy.; James Perrott, G. K.; Miss Cassie Ellis, P.; Miss Belle Thompson, F.; Miss Etta Williams, Ceres; Miss Jennie Williams, L. A. S.; E. G. Williams, Trustee.

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Its area is 5,184,000 acres.

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The home of the peach, French prune, pear and raisin grape.

Planting and harvesting can be carried on every month in the year.

No rocks, hills or stumps on the land.

A failure of crops is unknown on irrigated lands.

Kern county fruits take the first prize at the State Fair.

Land can be made to pay for itself in less than three years.

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Drought is out of the question.

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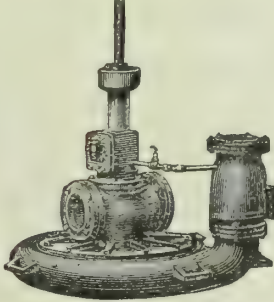
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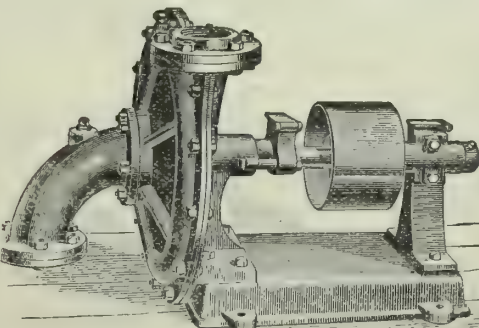
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AGRICULTURAL NOTES.

CALIFORNIA.

Butte.

Oroville Mercury: D. K. Perkins showed the *Mercury* some splendid samples of olive oil produced by J. G. Curtis at his olive farm above Pentz, that was intended for exhibition at the citrus fair. It would be difficult to find clearer and better oil than this produced at an elevation of 1250 feet.

Contra Costa.

Gazette: W. Z. Stone, of Danville, has 400 almond trees, four years old, from which he gathered this season 4548 pounds of almonds. The crop brought him \$503.02, the price he received for the crop being 11½ cents per pound.

Fresno.

Merced Star: A Fresno farmer of long experience says that one acre of alfalfa in good heavy land will feed ten sheep, and that on 20 acres 200 lambs can be raised every year. If sold at the proper time, they will sell for \$4 per head, at which figure the demand is practically unlimited.

The *Madera Mercury* relates Mr. W. J. Deater's experience with figs: He was interested in a peach and pear orchard of 30 acres this year. Among the trees were nearly a hundred fig. They were heavily loaded with fruit, but Mr. Deater hadn't much faith in figs, and did not "waste time" with them. He put up a few boxes for his own use, packed half a dozen boxes for friends in Iowa and Illinois, and by accident rather than design packed a couple dozen boxes more than he knew what to do with. Therefore, when he shipped the figs to his Illinois friends, he sent all the surplus along, with instructions to sell them and thereby recoup for expense of shipment. The draft was the return. He realized ten cents a pound net on the surplus figs. Now he laments his determination to not "waste time" on figs.

Expositor: There is now in and around Fresno a regularly organized gang of turkey and chicken thieves. While these fellows seem to give preference to fat or lean fowls, they are not averse to taking anything which is in sight. Within the past three months Dr. Eshelman has lost 60 fine turkey gobblers by thieves. Since most of his turkeys are gone, the thieves have now commenced on his chickens. The thieves, whoever they are, have a very peculiar and successful device for catching chickens and turkeys, especially when they roost very high. They carry long poles with a noose attached to the end of each, and they can lasso a gobbler and bring him down from the tallest tree in the valley. Several unsuccessful efforts have been made to capture these thieves, while turkeys and chickens are missed almost every night in some adjoining neighborhood.

Glenn.

Willows Journal: It is said that the damage sustained by John Boggs, on account of the recent high water, will aggregate \$30,000. He lost nearly all of his chickens, the chicken ranch being a total wreck, about 200 fine bucks, several hundred fine hogs and quite a number of cattle.

Humboldt.

Humboldt Advocate: Foster Evans proposes to test the adaptability of climate and soil of the Blue Lake valley to the production of superior apples, pears, prunes, peaches, quinces and cherries. He has just received from Biggs, Butte county, a consignment of young fruit trees embracing the above-mentioned varieties and sufficient for a two-acre orchard.

Kern.

Miller & Lux, says the *San Benito Advance*, have at this time, on their great ranch in Kern county, 28,000 sheep, 35,000 cattle, 6000 hogs, 12,000 tons of alfalfa-hay, 28,000 sacks of barley, 12,000 sacks of wheat, 5000 sacks of oats; also 3000 acres of Egyptian corn, which will produce yearly 6000 tons of cereal food.

Kern County Echo: It is estimated that there will be shipped from the packing house in Rosedale this year, including those of smaller growers who do not patronize the packing house, \$7000 worth of raisins. This does not include the larger vineyardists who pack their own raisins. This is the crop of the second year, as very few vineyards have reached their third year. It is also estimated that next year's crop will be double that of this. The orchards will be a large factor in next year's valuation.

Los Angeles.

Orange growers are getting \$3.25 per box, delivered at the depot at Los Angeles, which is a very good figure.

Crown Vista: An exchange says that a mixture of copperas and glue is probably one of the very best that can be used for keeping rabbits from gnawing at trees. Apply in good season.

Inspector W. H. Payne, who has recently completed an inspection of the nursery stock in Monrovia, reports that there are nearly one and a quarter million young citrus trees, enough to plant out 12,000 acres.

Express: At the meeting of the Board of Supervisors yesterday, Deputy Clerk Kutz was directed to destroy the 272 coyote scalps received during the quarter ending December 31st last, and the same were duly consigned to the flames in the furnaces of the courthouse engine-room.

Covina Argus: The orange crop of Covina this year will amount to a good many thousand dollars. The upper San Gabriel valley, as a whole, will sell enough oranges to make a dozen men rich this season. The groves are all young, but the trees are all well loaded with the fine

quality of fruit which will bring the best prices going.

A large party went to Elysian Park Thursday to hunt some lions that had been reported prowling about there. After a hunt of several hours, and finding no lions, nor trace of them, the party separated. Notwithstanding the ill-success of the hunters, Mr. McCrea says that the lions and coyotes are so numerous and destructive about there that four months ago he lost 100 pigs and as many turkeys and hens. He and his neighbors have recently captured four coyotes and five wildcats.

Merced.

The *Merced Express* says that ten carloads of settlers from Nebraska are coming to locate on Miller & Lux's colony land at the West Side.

The mystery surrounding the killing of Lafayette Steele at his ranch, while plowing, Tuesday afternoon of last week, has probably been cleared up. At the inquest, Fred Reynolds, a neighboring farmer, testified that at about the time of the killing he had fired at a hawk in a tree, distant over half a mile, with a Winchester rifle, and had missed the mark. The bullet in Steele's heart and the one used in the rifle correspond in every particular. The killing being the result of an accident, no arrests will probably be made.

Monterey.

Pajaronian: The beans in the prize jar at Blackburn & Co.'s were counted on New Year's day, and were found to contain 11,571½. Most of the guesses were over the mark. The first prize, \$50, was awarded to Louis Waters, who guessed within a half-bean, the second prize, \$25, went to Mrs. Frank Mauk, of Pajaro, the third, \$15, to Miss Jennie Linscott, and the fourth, \$10, to D. Maheu.

Watsonville Pajaronian: The beet trains on the narrow gauge are doing their best this week to reduce the crop at the Moro Cojo ranch, and with fair weather it is expected that two weeks more will be sufficient to finish the job. The yield of beets is far ahead of the expectations of Mr. Gaffey. All of the fields in that section, except a part of the Martin ranch and the Moro Cojo, have been harvested.

Orange.

Santa Ana Blade: S. J. Murdock of Westminster shipped 50,000 cabbage plants to El Monte to-day. Mr. Murdock is largely engaged in raising cabbages and supplying the market with cabbage plants.

Santa Ana Blade: In a talk with one of the principal fruit and grain dealers of Santa Ana, a *Blade* reporter was informed that the Santa Ana valley is now being overrun with grain, fruit and vegetable buyers. At present there seems to be a demand for every product of the valley, and that, too, at good prices. This is the first time in the history of the valley that cabbages have been shipped from here in December.

Anaheim Journal: Theo. Staley of Placentia brought to this office a load of good things, which is an example of what can be done in this glorious climate. Among the collection are raspberries and strawberries in bloom, green ones and the ripe, luscious fruit ready for the table. The collection of flowers consisted of the following varieties: Hibiscus, anemone japonica, blue dawn flower, chrysanthemum, violets, calla, pansy, geranium, rose, verbena, phlox, lognat, nasturtium, ageratum, canna and the coral bell; to complete the display, a huge watermelon and some ripe tomatoes. All the above were picked December 31st out of doors.

Anaheim Gazette: Wm. Schumacher, who probably kills more game for the market than any one hunter in this section, tells us that birds are unusually scarce down at the Bolsas this season, owing principally to the barbarity of the night hunters, who shoot into the roosts, killing a few birds, wounding many more and frightening the others away. Last year the birds were plentiful, and one day Schumacher killed 19 ducks with both barrels. The next day he brought down 33 at two shots, and the following day he broke the record, killing 47 with both barrels, a total of 99 birds with six shots, all of them on the wing.

Sacramento.

The *Sacramento Record-Union* says: "Engineer Brown of Indiana reported to the Road Congress that the 40,000 miles of roads in the Hoosier State can be put in good condition for \$800 a mile. Yet in Indiana the ground freezes, snow falls, there are frequent rains and much clayey soil. What, then, ought good roads to cost us in California where the climatic conditions all favor cheapness."

San Bernardino.

Capt. J. S. Garcia of Ontario reports sales of five acres of prunes at \$2000.

Mr. N. Colborn of Pomona sold his apricot crop from 300 trees for \$800, or a little over \$270 per acre.

Edward Dunham of La Canada reports selling his ten-acre prune crop on the trees at \$50 per ton, or \$2000 for the lot.

The *Enterprise* gives the rainfall at Riverside during the late storm at .98 inches, making a total of nearly two inches for the season.

E. B. Collingridge of Compton reports that from three and one-half acres of apples his sales for the past three years have amounted to \$5400.

The great crop of almonds on 325 acres of trees of Hatch & Rock this year produced about 66 tons of fruit, which will bring the company over \$10,000.

Ontario Record: A Rincon farmer owns a 20-acre ranch, two acres of which are planted to trees and 18 to alfalfa. From the 18 acres of alfalfa he has fed 20 head of cattle and horses

and cut and sold, during the last 11 months, 200 tons of hay at \$12 per ton. He still has a large rick of hay of this season's cutting yet unsold, and has another crop which he will harvest within 30 days.

N. B. Smith of Ventura reports that the returns from the sale of his crop of English walnuts, gathered from seven acres, 12 years old, brought \$1300.

The Chino sugar factory announces an increase in the price of beets the coming season. Three thousand acres have already been contracted for planting.

Orange Belt: M. B. Fasset of Ontario reports the sales from three acres of apricots at \$1100. The price sold for was 25 per cent less than his neighbor received, he having contracted his early in the season.

Redlands Facts: The Bear Valley Irrigation Company has purchased of the Russ Lumber Company 750,000 feet of redwood and Oregon pine for use in the construction of a flume in the Santa Ana canyon in prosecuting their immense water developments.

San Diego.

The weather on the Colorado Desert is remarkable. Spring has already begun. The coldest weather was Christmas week, when the thermometer went down to 28 degrees. Since Christmas day the coldest morning has been 50 degrees. Planting is to be vigorously pushed and a large acreage will be put into oranges this year.

San Luis Obispo.

Tribune: Mr. Winchester is putting 1000 acres into grain on the Godfrey ranch. The land is in one compact body, and it is no exaggeration to add that for the purpose of raising cereals and all deciduous fruits no finer land lies out of doors.

Shasta.

The *Anderson News* says there have been shipped East from that place since July 1st, 1892, 288,000 pounds of green fruit, which netted \$16,000, besides 240,000 pounds of dried fruit, which netted \$24,000. Bearing trees have averaged \$300 per acre in fruit to the owners. At the present time, in the immediate vicinity of Anderson there are 3000 acres planted to trees, and this season there will be about 700 acres planted. Good land favorable for cultivation is worth from \$20 to \$100 per acre.

Siskiyou.

Journal: Jesse D. Carr has purchased 1200 tons of hay from the Edson Bros. at Gazelle, paying \$6 per ton. It is to be used in feeding beef cattle driven from his ranches in Modoc county and southern Oregon.

Sonoma.

Santa Rosa Republican: The Bennett valley farmers are taking a step in the right direction. They are taking up an enterprise that can be made very profitable by them—the establishment and operation of a creamery, in which a considerable number of people will be interested.

Sebastopol Times: Some time ago Burroughs & Sons secured a pumpkin weighing 130 lbs. and forthwith announced that every purchaser of one dollar's worth of goods would be entitled to guess how many seeds the pumpkin contained. Last Monday the pumpkin was opened and found to contain 651 seeds.

Stanislaus.

The farmers of Stanislaus county are doing their utmost to put in a large acreage of wheat. The early seeding on summer-fallow is promising.

Modesto Herald: Henry Hughson is sowing to wheat 3360 acres of summer-fallowed land, employing 80 mules, 10 plowmen and a cook. As Mr. Hughson let his land "rest" last year, he should have an immense crop this year.

Newman Banner: The Wilmans Bros., of Woodside stock farm, have bought from Timothy Paige the property known as the Orestimba Colony, comprising nearly 1400 acres, adjoining the Woodside stock farm. The terms of the sale are private, but, we learn, aggregate over \$100,000.

Sutter.

Charles Mense, who came up from the scene of the Rideout break, says that when walking up the levee he ran across five buck deer that had become exhausted by swimming, and were lying on the levee. Two of them raised and struck at him with their feet as he passed. The others laid still and he passed close enough to put his hands on them.

Tulare.

Henry Hunsaker has already sown 2400 acres to grain and is running seven teams. He will continue seeding till the first of February.

The Visalia creamery closed doors Thursday, owing to a lack of patronage. This institution was established at a cost of \$5000, and now it is closed.

Visalia Times: D. K. Zumwalt has bought the necessary machinery and in a short time will have a cheese factory in operation on his place between Visalia and Tulare, on the motor road.

Hanford Journal: Charles Dewey, who is farming a tract of 1200 acres just north of the Grant, has been in Hanford several days. He has 400 acres seeded to wheat and has two 8-horse plow teams running.

Visalia Delta: Thomas Jacob, the Kaweah fruitgrower, who has purchased the old gas-tank and wooden reservoir from the electric light company, is busily engaged in getting them out. The wooden reservoir, which is 12 feet deep and will contain 78,000 gallons of water, will be taken to his lemon ranch in Yokohl valley, and will be used for storing water for irrigation.

Visalia Times: This is the busy plowing season in Tulare county, and hundreds of laborers are at work getting the ground ready for seeding, which continues in this county until March. The oldest farmers say that grain planted early enough to get the heavy rains of the winter, does far better than that planted later.

Hanford Journal: N. W. Motheral, horticultural inspector for this district, thinks that all Osage orange trees in this county should be destroyed, as they are great breeders of disease. He brought to Hanford a branch off of an Osage orange tree growing on James Manasse's farm near Armona. The twig was literally alive with scale, ranging in size from those which could hardly be seen with the naked eye to those that were nearly as large as an ordinary shoe button. Of the smaller scale some were of a light color and some were dark, while the full-grown scale were nearly black.

Visalia Times: As an instance of what thorough cultivation will do for lands in this valley that are comparatively dry, the attention of the *Times* has been called to results obtained in the orchard of Captain Arthur Hutchinson at Lindsay. His orchard land, which has been plowed several times but not irrigated this season, is thoroughly moist now, no dry soil being found at a depth of several feet, while in the grain field, which has received the same quantity of rain, the earth is damp to a depth of 10 or 12 inches only. Cultivation counts, and it should be generally resorted to by our farmers, no matter what kind of a crop they intend to raise.

Tulare Register: The following figures regarding the Alexander orchard, just east of town, are obtained from original sources and can be relied upon. There are 170 acres in the place, but of this 60 acres are in alfalfa, used chiefly for pasturage, about three acres in yards and building spots, and 107 are in orchard and vineyard. Of this, again, only 21 acres are in bearing, 4½ acres being in prunes and 16½ in peaches and nectarines. The remaining acreage is all too young to bear, but is coming along splendidly and will soon rival the older portion in productiveness. Now for the 21 acres; the 4½ acres of prunes sold for \$2261.52, and the 16½ acres of peaches and nectarines yielded \$3582.96, making a gross return for the 21 acres of \$5844.48, or almost \$280 per acre. The expense attendant upon marketing this product cannot be segregated from the expense of taking care of the whole place, and a good deal had to be expended this year for cars, tracks, dry-houses, trays and other things needful to get ready for the fruit business, but it has been a profitable season and the proprietor, Mr. J. M. Alexander, of Oakland, is more than ever pleased with his Tulare interests.

Ventura.

Ventura Free Press: One of the necessities of this county is a fruit cannery, and the company which first enters the field will meet with gratifying success. The gentleman who recently came here to look about with that object in view did not investigate the subject very thoroughly, or else was called away before his mission was fully carried out. A cooperative company would be a good move, it would seem.

NEVADA.

Gibraltar, the famous Nevada trotting stallion, which in 1879 held the world's record, died at Sweeney's ranch, near Carson, Nev., after having been fed some frost-bitten alfalfa. Many of this famous horse's progeny have held high places in the records made on this coast.

The soil all over the mountains is saturated with water, but it is not frozen. There is just enough snow on the ground to keep out the frost. Unless the snow melts, gives the ground a chance to freeze and a fresh installment of snow comes, there will be an early spring. Snow will not lie on unfrozen ground later than March or April.

Reno Journal: Ben Curler relates that while out on his recent deer-hunting trip he witnessed the manner in which coyotes catch a rabbit. He was sitting on a pile of rocks overlooking a little valley, possibly a mile across, stalking a drove of deer which was expected to issue through a narrow ravine near by, when his attention was attracted to two little objects which dashed over the brow of a hill and into the valley nearly a mile away. Looking through his field glass he descried them to be coyotes in full chase of a jackrabbit. The rabbit was about 50 yards in the lead and was covering the earth as only a jackrabbit can—excepting a coyote. By and by one of the coyotes laid down. The other followed the fleeing hare, and in the course of time succeeded in turning him back on his course toward the one lying down. When the rabbit came near, this one raised up and took up the chase while the other laid down. The unfortunate rabbit was again successfully turned back, and the first coyote again gave chase. The third time worked the charm, and bunny, conscious only of the foe pursuing, passed so near his crouching antagonist that he was seized.

OREGON.

A big hunt for points was enjoyed by Nimrods of southern Oregon the other day. It resulted in a total of 15,080 points, the count being so close that the hunt was declared a tie. The game killed included four deer, one coyote, hundreds of rabbits, scores of quail and innumerable jaybirds and woodpeckers.

WASHINGTON.

A Spokane dispatch says: The Great Northern passenger train which arrived from the East to-day ran into a large herd of antelope near Blackfoot, Mont. The herd numbered more than 100, of which seven were killed. The engine was disabled by the collision, and another engine had to be obtained before the train could proceed.

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Seeds, Plants, Etc., Continued on Pages 38 and 39.

Ethnology of the Eskimos.

A clear and pleasant account of the Eskimos appears in recent numbers of *Das Ausland*, from the pen of Fridhuf Nansen, the celebrated explorer of Greenland.

From their close similarity wherever found, and from the slight differences in their dialects, he believes them to have developed from some small and homogeneous stem in comparatively recent times and to have spread along the coasts of the icy sea. He expresses some doubt as to whether they occupied the southern extremity of Greenland when it was first discovered by the Northmen. The point from which they spread he believes to have been somewhere on the shores of Behring Sea or Behring Straits. In this he differs from Dr. Rink, who places their earliest assignable abode in the interior of Alaska, and still further from Mr. Murdoch, who, with greater probability, would locate it about Hudson Bay.

Nansen's description of the appearance, habits, and arts of the East Coast Eskimos is both amusing and instructive. He found them, in spite of many nasty habits, attractive in character and of good mental ability—all the better, the less they had been subjected to the influence of European instruction and religion. One of their curious superstitions is that they will not touch their hair, in the care of which they take great pride, with any object made of iron, not even to trim it. This recalls similar objections to that metal in the rites of ancient Rome and Egypt. Physically he describes them as a well-made race, quite of the average European height, the young women sometimes good-looking. The general tone of this article is highly favorable to the stock.—Science.

The Language of the World.

Some interesting statistics have been compiled by a Frenchman respecting the different languages spoken in various parts of the world. He states that the language in which Shakespeare and Milton wrote was then that of less than six millions of human beings. French was the mother tongue of at least thirty million people at a time when English was spoken by less than sixteen million, and fifty millions of French-speaking people were living when the revolution broke out in 1789. Between 40 and 50 years ago the English language equaled the German in the number of those who spoke it, and now the latter is left far behind.

German is now spoken by 10,000,000 persons in the Austro-Hungarian Empire, by 46,000,000 in the German Empire, by 40,000,000 in Belgium, and by about 2,000,000 in Switzerland. German is also spoken by about 2,000,000 persons in the United States and Canada, giving a total of about 60,000,000 who use the German language. French is spoken by the 38,000,000 inhabitants of France, by 2,500,000 people in Belgium, by 200,000 in Alsace-Lorraine, by 600,000 in Switzerland, by 1,500,000 in the United States and Canada, by 600,000 in Hayti, and by 1,500,000 in Algiers, India, the West Indies and Africa, in all about 45,000,000. English is spoken by 37,000,000 persons in the British Isles, by probably 57,000,000 of the 60,000,000 inhabitants of the United States, by 4,000,000 persons in Canada, by 3,000,000 in Australia, by 3,700,000 West Indians, and by 1,000,000 in India and other British colonies, bringing the total of the English-speaking race to over 100,000,000.

BOXWOOD.—Boxwood, imported into England from Turkey and Asia Minor, and used by engravers and for the manufacture of rules, mathematical instruments, shuttles, etc., has risen in price so rapidly, owing to the exhaustion of the eastern forests, that dealers are searching in every direction for a substitute. For engravers' use no substitute has as yet been found, but for the manufacture of shuttles, which consumes vast quantities of timber in the weaving districts of England, American dogwood and persimmon are beginning to find considerable favor, and the trade in these woods, if fostered, bids fair to assume considerable proportions. The American consul at Manchester, Mr. Grinnell, writes as follows concerning it: "The best wood from the United States to supersede boxwood is dogwood (cornel), as it is more commonly called here), which, owing to its relatively moderate price (\$18 to \$20 per ton), may, it is thought, if more carefully selected, ultimately replace the more expensive boxwood for the purpose in question. The pieces should not be less than five or six inches in diameter, in length as long as convenient, say 12 feet, to be cut here into 13 or 14-inch lengths for working up. Of course, the wood should not be

split, and the greater the diameter the better, if the heart is sound and it is free from other fault. It is again urged upon the shipper, as vital to the interests of himself and the trade, to reject all pieces doubtful or bad."

Horticulture at Chicago.

The display of all plant and vegetable life and products at the Columbian Exposition is sure to be typical of the highest attainments in gardening, and all who go, or desire to go, must feel the coming year a special interest in that "Art which doth mend Nature." We are led to consider this from a view of advance pages of Vaughan's Gardening Illustrated for 1893. This beautiful annual aims to fully cover all gardening affairs; a mirror of American Horticulture to date. It is published by J. C. Vaughan, Chicago and New York. A superb floral cover, with a glimpse of the World's Fair buildings, gives us a hint of the magnificent displays to be expected there. Adjoining Fair grounds this firm has arranged to grow many new and rare plants in order to show them in best possible condition in the Horticulture Building. This Chicago establishment is from four to five days nearer all Pacific coast points than any similar firm, and our readers who send for this magnificent book for 1893 will find it worthy of the great Columbian year.

A New Bit.

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IRWIN C. STUMP, President.

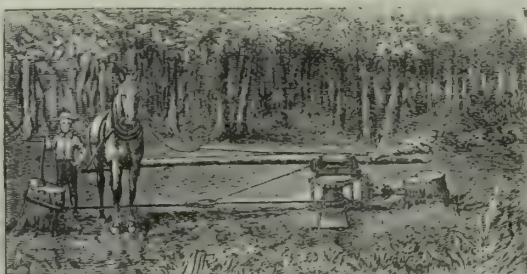
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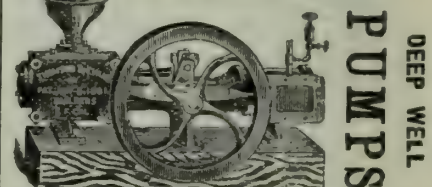
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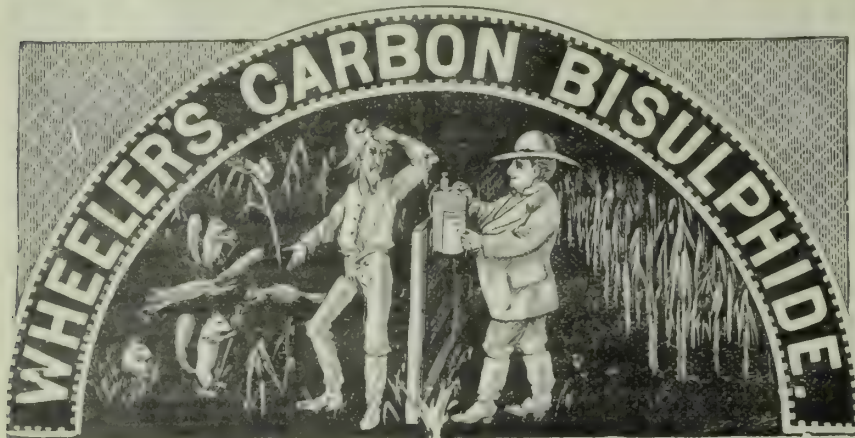
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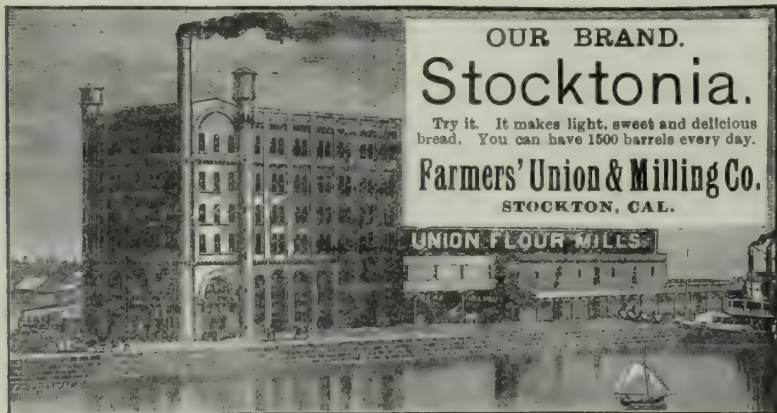
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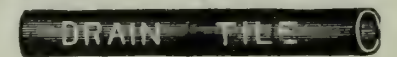
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S. H. MARKET REPORT

Market Review.

SAN FRANCISCO, Jan. 11, 1893.

Features in the local markets during the week just closed have been the firmness of potatoes, poultry, game, and salted and smoked meats, all of which have experienced general advances of prices, and all of which are surrounded by much the same conditions of light receipts and excellent demand. In other commodities and staples about the same state prevailed as during the previous week. Oranges and other fruits move off very slowly. The grain market shows no substantial change. Dried fruits are at a standstill. Vegetables are generally the same. Eggs, butter and cheese rule weaker, with no modification of quotations.

The Advance in Pork.

The leading feature of the provision market is the unvarying upward tendency of pork, and the general expectation that prices will rule still higher. Local quotations have for eastern meats shown an advance of one-half cent per day for the past four days, while the California product shares in the general upward feeling, though offerings of the home article are very light. Speaking of the feverish condition of the market, Arthur Whitney, of the firm of C. E. Whitney & Co., says:

"From November 1st to January 1st, ordinarily the two heaviest packing months of the year, and the time at which a large part of the season's stock is laid away by the heavy packers, the receipts at the main packing centers were 40 per cent short in numbers and 25 per cent below the average per capita in weight. This makes a total shortage in pounds of 55 per cent. The demand for cured meats and lard is very heavy, and is but poorly met even at the rapidly advancing prices, while no stocks are being put away, as is usual at this time of the year, for summer use. The stocks of pork products, as far as known, in the world's market are the lowest for ten years past and 50 per cent below the average for the same time. The supposition during the early part of the packing season was that as prices for live hogs were advanced, the supply would increase, but such has not been the case, for though prices have been steadily advancing for the past three months, and are now 6 1/2 per cent higher than at this time last year, the supply has not increased at all. It is now evident that the shortage is genuine, and that prices will continue advancing until they become so high as to cut down the consumption to an equality with the supply. This idea has been gradually developing, and has at last become the controlling one with all the heavy dealers, to such an extent that prices are advancing, not, as heretofore, one, but ten points at a time, with no prospect of easing off. Green hams are selling in Chicago at 11 1/2¢ per lb., which would, with curing, freight, shrinkage and smoking, make a laid-down cost, in carload lots, of 17¢, as against 11¢ a year ago. Prices of side meats and lard show a similar increase over the figures ruling in January, 1892. While the present prices seem excessively high, they are so only by comparison with those ruling for the past few years, which have been excessively low."

It is of course very hard to say when the climax of high prices will be reached, but there are the soundest of reasons to expect that the end is not yet by any means in sight, and that an active season in pork products is ahead.

The Grain Market.

There has been during the week an advance in wheat quotations, home and abroad, though yesterday and to-day there was a slight reaction. No developments in the general situation are to be noted. A salient feature of the local market is disclosed by our tonnage tables, showing the very large number of idle vessels in port. Five only have so far cleared during January. The amount of tonnage on the engaged list yesterday was 32,900 tons, as against 94,200 tons on the same date a year ago. The disengaged tonnage here, and at adjacent points, was 125,500 tons, against only 35,300 tons a year ago. The engaged tonnage yesterday was a little more than one-third, and the disengaged was over three times as much as in 1892. Millers have large stocks of flour on hand, which they say they are not anxious to sell at ruling prices. They are not using a great amount of wheat.

One thing of some encouragement is to be noted. The visible wheat supply is not increasing materially. The items of increase from week to week, on the contrary, have been growing less. The reported increase over last week is 494,000 bushels, whereas the increase of last week over the previous week was 1,460,000 bushels. The amount of wheat and flour on passage to the United Kingdom is 44,000 quarters less than a week since, and a decrease of 75,000 quarters is reported on the continent. Flour, however, has increased heavily in the United Kingdom, being 63,000 barrels more than one week since.

Barley has developed a stronger tendency in the local markets, and quotations have experienced a small advance. Feed receipts are small. There is no export of brewing, and local requirements are light.

The inquiry for oats of good grade is strong.

Poultry.

A material advance in all kinds of poultry has taken place, under light receipts. The market is very stiff. The entire range of quotations has been advanced. Two carloads of poultry are due this week. One has already been wholly sold, and it is not likely that a drop in quotations will be a consequence of their arrival.

Game.

Under small supplies, game is in great demand, and prices rule much higher. Hunters complain of scarcity of game. Mallards sold as high last week as \$7 and \$7.50 per dozen, though quotations have since dropped.

Fruits.

Oranges are in poor demand, largely owing to cold weather, and receipts are large. Prices are lower. Mandarins are in small supply, which ought to help the native fruit a little. Lemons hold fairly well. Apples come in freely, though the quality is generally inferior. Choice are scarce and sell well. Camarinos & Co. received a small consignment of grapes this week from Santa Cruz,

which sold first at \$1 per box, but dropped to 65 cents.

Dried fruits show no special change, though the tone of the market is better and firmer. Dealers say they do not expect any developments till February. The better tone is particularly noticeable in raisins.

Vegetables.

There is a decided stiffness in potatoes. Choice lots sell readily above quotations. Sweetens even share the general firmness. New vegetables show no change. Receipts are small.

Bayo and red beans are up, and firm. They have been the subject of speculation on 'Change during the week, owing largely to reduction in rates of overland shipments.

There is no change in onions. The market is firm at quotations.

Dairy Produce.

The cold weather has a tendency to hold up fresh butter, but otherwise the market is soft. Cheese is plentiful and weak, though a choice article brings good prices.

Stocks of eastern eggs are light, making a better demand for the domestic product.

Miscellaneous.

Almonds are in light receipts and quotations are higher. Chestnuts are lower.

There is nothing to report in wool and hops.

The live-stock market shows a healthy tone. Hogs are firm. Mutton is strong, with small supplies of choice. Beef is in fair demand.

Produce Receipts.

Receipts of produce from all sources at this port for 7 days ending January 11, 1893, were as follows:

Flour, qr. sks.	48,284	Wool, bbls.	60
Wheat, cts.	409,771	Hay, ton	2,307
Barley, "	7,383	Straw, "	158
Rye, "	896	Wine, gals	296,360
Oats, "	7,361	Brandy, "	55,350
Corn, "	2,344	Raisins, bxs	7,545
Butter, "	431	Honey, cs	—
Cheese, cts.	633	Peanuts, sks	—
do bxs.	—	Walnuts, "	—
Eggs, doz.	45,281	Almonds, "	—
Beans, sks.	22,579	Mustard, "	—
Potatoes, sks.	27,796	Flax, "	624
Onions, "	2,944	Popcorn, "	—
Brans, sks.	9,713	Broom corn, bbls.	—
Buckwheat, "	—	Leather, rolls.	588
Middlings, "	2,588	Tallow, cts.	81
Chicoory, bbls.	—	Hides	2,290
Hops, bbls.	70	Pelts.	661

Local Tonnage Statistics.

The following is a summary of the engaged and disengaged tonnage here and on the way to this and neighboring ports yesterday morning:

FREE AND CHARTERED.

Chartered for grain	1893.	1892.
Miscellaneous charters	32,886	77,678
Disengaged	12,535	18,145
	126,554	72,796

Totals.....170,975 168,619

At neighboring ports—
Total tons for 1893.....23,466
Total tons for 1892.....45,694

TONNAGE ON THE WAY.

	1893.	1892.
To San Francisco	266,576	239,237
To San Pedro	9,400	4,981
To San Diego	11,573	16,938

Totals.....287,549 261,076

The disengaged list consists of 66 vessels. The list of vessels in port chartered for grain numbers 18, of which 14 are British, 1 is Swedish, 1 is Italian and 2 are German.

The vessels chartered to load wheat have a total carrying capacity of about 62,600 tons. At this time last year the tonnage under engagement for grain loading amounted to 77,678 tons, with a carrying capacity of about 124,300.

Potatoes and Onions.

The receipts of potatoes and onions at this port in 1892 were as follows:

Potatoes—	December.	Year
California, sks.	117,459	1,101,126
Oregon, etc.	28,495	167,127

Totals.....145,954 1,268,253

Onions—

California, sks.	11,816	158,552
Oregon, etc.	130	17,766

Totals.....11,946 176,318

Butter and Cheese.

The receipts of butter and cheese at this port in 1892 were as follows:

Sources—	Butter.	Cheese.
California, lbs.	13,054,300	4,964,900
Eastern	1,200,700	2,297,100
Oregon	422,300	135,900

Totals.....14,677,300 7,497,900

1891.....12,881,950 6,637,600

Increase.....1,795,350 860,300

Eggs.

The receipts of eggs at this port in 1892 were as follows:

Sources—	Dozen.
California	1,856,558
Eastern	3,444,490
Oregon	7,560

Total.....5,308,998

1891.....5,070,668

Increase.....238,240

Tonnage Summary.

The arrivals and departures at and from San Francisco of sail and steam tonnage combined during the past month compare as follows with 1891:

December.	No.	Tons.	No.	Tons.
1892.....	81	107,413	87	110,569
1891.....	82	114,137	117	134,020

Decrease.....1 6,724 30 23,451

The total amount of deep-water tonnage, sail and steam combined, inward and outward, during the month of December was as follows:

	No.	Tons.
Inward.....	81	107,413
Outward.....	87	110,569

Totals.....168 217,982

Classified as follows:

Sail.....	112	129,273
Steam.....	56	88,709

Totals.....168 217,982

The total movement in December, arrivals and departures, included 107 American vessels (or number of trips made), representing an aggregate of 114,703 tons of tonnage.

Wheat and Flour Exports Combined.

The following is a recapitulation of the Wheat and Flour shipments from this port during the year 1892. Flour being reduced to Wheat cents:

	Cents.	Value.
Wheat.....	9,762,816	\$14,254,905
Flour.....	3,435,801	4,680,704

Totals.....13,198,617 \$18,935,609

1891.....20,643,896 33,105,541

1890.....16,585,977 22,114,382

1889.....15,507,925 21,395,783

1888.....14,287,401 20,788,084

The total amount of Wheat and Flour exported in 1892 was equivalent to 655,430 short tons, as against 1,032,194 in 1891, or a comparative decrease of 376,764 tons.

Grain Futures.

Liverpool.

The following are the closing prices paid for wheat options per cwt. for the past week:

	Jan.	Feb.	Mar.	April.	May.	June.
Thursday.....	5s10 1/2d	5s10 1/2d	6s00 d	6s01 1/2d	6s02 d	6s2 1/2d
Friday.....	5s9 1/2d	5s10 1/2d	6s00 d	6s01 1/2d	6s02 d	6s2 1/2d
Saturday.....	5s11 1/2d	5s11 1/2d	6s00 d	6s01 1/2d	6s02 d	6s2 1/2d
Sunday.....	5s9 1/2d	5s11 1/2d	6s00 d	6s01 1/2d	6s02 d	6s2 1/2d
Monday.....	5s9 1/2d	5s11 1/2d	6s00 d	6s01 1/2d	6s02 d	6s2 1/2d
Tuesday.....	5s9 1/2d	5s11 1/2d	6s00 d	6s01 1/2d	6s02 d	6s2 1/2d

The following are the prices for California cargoes for off coast, nearly due and prompt shipments for the past week:

	O. O.	P. S.	N. D.	Market for P. S.
Thursday.....	31s3d	32s3d	31s3d	—
Friday.....	31s3d	32s3d	31s3d	—
Saturday.....	31s3d	32s3d	31s3d	—
Sunday.....	31s3d	32s3d	31s3d	—
Monday.....	31s3d	32s3d	31s3d	—
Tuesday.....	31s3d	32s3d	31s3d	—

Quiet but steady

Slow

To-day's cablegram is as follows:

LIVERPOOL, Jan. 11.—Wheat—More disposition to buy. California spot lots, 3s 3d; off coast, 3s 6d; just shipped, 3s 1d; nearby due 3s 6d; cargo, 3s 6d; quiet; on passage, red firmly held and white very dull; Mark Lane wheat, firmly held; weather in England, has thawed but again freezing.

Eastern Markets.

The following shows the closing prices per bushel of wheat for the past week at

New York.

Day.	Jan.	March.	May.	July.
Thursday.....	78	80 1/2	82 1/2	83 1/2
Friday.....	78 1/2	80 1/2	82 1/2	83 1/2
Saturday.....	78	80 1/2	82 1/2	83 1/2
Sunday.....	78 1/2	80 1/2	82 1/2	83 1/2
Monday.....	77 1/2	80 1/2	82 1/2	83 1/2
Tuesday.....	78 1/2	80 1/2	82 1/2	83 1/2

The following is to-day's telegram—per bushel:

NEW YORK, Jan. 11.—Wheat, 80 1/2¢ for March, 83 1/2¢ for May and 85 1/2¢ for June.

Chicago.

Day.	Jan.	May.	July.
Thursday.....	74 1/2	78 1/2	79 1/2
Friday.....	74 1/2	78 1/2	79 1/2
Saturday.....	74 1/2	78 1/2	79 1/2
Sunday.....	74 1/2	78 1/2	79 1/2
Monday.....	74 1/2	78 1/2	79 1/2
Tuesday.....	74 1/2	78 1/2	79 1/2

The following is to-day's telegram—per bushel:

CHICAGO, Jan. 11.—Wheat, 80 1/2¢ for May.

San Francisco.

WHEAT.

	Jan.	May.
Thursday, highest.....	\$1 35	\$1 34
lowest.....	\$1 32 1/2	\$1 33
Friday, highest.....	\$1 28 1/2	\$1 33 1/2
lowest.....	\$1 27 1/2	\$1 33 1/2
Saturday, highest.....	—	\$1 33 1/2
lowest.....	—	\$1 33 1/2
Sunday, highest.....	—	\$1 33 1/2
lowest.....	—	\$1 33 1/2
Monday, highest.....	—	\$1 33 1/2
lowest.....	—	\$1 33 1/2
Tuesday, highest.....	—	\$1 33 1/2
lowest.....	—	\$1 33 1/2

*Sample market—choice milling.

The following are to-day's recorded sales on Call:

Wheat—Morning—Informal—May, 100 tons, \$1.33 1/2; 400, \$1.35 1/2; 400, \$1.34 1/2 cts. Regular Session: May, 800 tons, \$1.34 1/2; 600, \$1.34 1/2; 100, \$1.34 1/2 cts. Afternoon Session: May, 300 tons, \$1.34 1/2; 500, \$1.35 1/2; 200, \$1.34 1/2 cts.

BARLEY.

	Jan.	May.
Thursday, highest.....	\$97 1/2	84 1/2
lowest.....	90	84 1/2
Friday, highest.....	97 1/2	84 1/2
lowest.....	90	84 1/2
Saturday, highest.....	—	84 1/2
lowest.....	—	84 1/2
Monday, highest.....	—	84 1/2
lowest.....	—	84 1/2
Tuesday, highest.....	—	84 1/2
lowest.....	—	84 1/2

*Sample market—choice brewing.

The following are to-day's recorded sales on Call:

Barley—Regular Session: May, 100 tons, 85¢; 500, 85¢ cts. Afternoon Session: May, 200 tons, 8 1/2¢; 100, 85¢ cts. per cwt.

Markets by Telegraph.

British Grain Trade.

LONDON, Jan. 9.—The Mark Lane Express says English wheat has risen 5d in London and is in several of the country markets. Stocks have been reduced by 115,000 quarters, and a continuance of the demand would greatly help trade out of the depressed stagnation that has prevailed. The decrease in shipments from America and an increase in the continental demand for Indian wheat have helped the market since New Year's day. The chief feature of stocks is the enormous increase in the supply of foreign flour. In January, 1892, the stock of such flour was 595,000 quarters; it is now 1,530,000 quarters.

The Wool Trade.

NEW YORK, Jan. 6.—In its annual review of the wool trade of the United States the Boston Commercial Bulletin says: The number of the sheep in the country increased from 43,430,000 to 44,938,000. The United States clip increased from 307,401,077 pounds to 338,018,505 pounds. The stock of domestic wool on hand December 31st in Boston increased from 28,705,339 pounds to 30,650,500 pounds. The stock of foreign wool in Boston increased from 1,609,300 pounds to 1,441,000 pounds. The sales for the year in Boston increased 32,292,141 pounds over those of 1891. Boston increased her sales by 6,000,000 pounds from the entire increase of the domestic clip. The total stock in the country is but 68,354,000 pounds of domestic and 13,388,875 pounds of foreign against 18,991,400 pounds of domestic and 21,154,865 pounds foreign on December 31, 1891. The consumption of all grades of wool by American mills shows an increase of 59,000,000 pounds over 1891.

Visible Supply of Grain.

NEW YORK, Jan. 9.—The visible grain supply is as follows: Wheat, 81,788,000 bushels, an increase of 434,000; corn, 11,240,000 bushels, an increase of 414,000; oats, 6,111,000 bushels, a decrease of 239,000; rye, 1,113,000 bushels, a decrease of 77,000; barley, 2,157,000 bushels, a decrease of 46,000.

California Products at Chicago.

CHICAGO, Jan. 10.—California Green Fruits—There is but a very light trade: Pears—Winter Nells, \$3 box, \$3; Easter Beurre, \$2.50; Glout Moreau, \$3.24; Japanese Persimmons, trays, 14@18 lbs, 75¢@81¢; California Oranges, Seedlings, \$3 box, \$2.2

Poison Oak.

ARROYO GRANDE, Jan. 9, 1893.
Dewey Publishing Co., San Francisco—GENTS:
I notice in your issue of 7th inst. an article on Poison Oak, by F. H. Billings of Claremont, Los Angeles Co. The Newsom's Arroyo Grande Warm Springs, situate two miles east of the town of Arroyo Grande, San Luis Obispo Co., is a sure cure for Poison Oak in all stages of the poisoning.

A SUBSCRIBER.

Are You Going East?

Take the Santa Fe route. You will find it to your interest to call on or address the undersigned before purchasing tickets. No other line crossing the continent offers you a trip combining equal comfort and pleasure. The only line running Pullman palace and tourist sleeping cars through to Chicago on the same train every day without change. Personally conducted excursions through to Boston leave every Tuesday. W. A. BISSELL, 650 Market street, Chronicle Building, San Francisco.

IMPORTANT TO FARMERS.

We have a large sum of money to loan at a low rate of interest on mortgage on ranches. Write to us for full particulars. Buy, sell and exchange lands and improved farms. Holcom & Howe, Rooms 6 & 7, Sixth floor Mills building, San Francisco.

\$500,000

To loan in any amount at the very lowest market rate of interest on approved security in Farming Lands
A. SCHULLER, Room 8, 420 California Street, San Francisco.

POLITICS or farming have no place in a lumber journal, but now that the election is over we are free to say that the worst scheme ever proposed for the farmer was Wanamaker's free delivery for them. In the name of the late lamented Bill Nye what on earth has the farmer got to live for if he can't go to town after his mail, or what excuse has he for getting away from home if his mail is brought to his door. He can't have his tires set nor his horses shod every day or two.—West Coast Lumberman.

Fruit Tracts
FOR SALE.

Near Saratoga.....Santa Clara County.
THE BEST AND CHEAPEST FRUIT LAND IN THE STATE.

40 Acres—a splendid place.....\$75.00 per acre
40 Acres—15 acres in prunes.....85.00 "
120 Acres—one half cleared, all good soil.....30.00 "
20 Acres—all in fruit, mostly prunes, 15 acres full bearing.....225.00 "
15 Acres—Good house and barn, 10 acres full bearing trees; price.....\$5,000.00
Apply at once.

JOHN F. BYXBEE,
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> BIG BUYERS <

Can save big Money by ordering from a CASH HOUSE and paying "spot cash" for everything. Take what you want. Cartage free. Must Reduce Stock.

High grade Table Peaches, 1500 dozen; closing quickly at.....\$1.75
Finest Sugar Corn, guaranteed, 2000 dozen.....\$1.25, \$1.35, 1.50
Eastern String Beans, just arrived by rail, will go at.....1.00
Pie Apple, put up in California, full syrup, \$1.75; Eastern outputs.....\$1.75, 2.25
Pie Blackberries, 1 gallon tin, \$4.00, \$4.25; Plums, Grapes, Apples, Peaches, all very cheap.
Jams, in 1 pound glass jars, fine Eastern pack, \$2.00; Jellies, nice variety.....1.85
Brown Sugar (until advanced), in 100 lb. sacks, \$3.75, Gold, C. \$4, Ex. C. \$4.25, White, \$4.50, 5.00
Syrup, choice family grade, bbls., 31 gals., 17c; 5 gal. kegs, \$1.40; 1 gal. cans.....35
Oysters, we have only the leading packs; standard is \$1.00, or 25 (new).....2.00
Clams, we offer fine Eastern is at \$1.25, or 25 at \$1.75. They will please
Sardines, finest brands of imported, overstock, by sea, say.....\$1.35, \$1.40, \$1.50, 1.60

There is nothing in general use for housekeeping, or family keeping, or storekeeping that we cannot furnish you and save you a nice profit to begin the new year. Try it. Send for our general list, free, or add 10 cents for postage on a 72-page book of useful information.

Smith's CASH Store,

414-416-418 Front Street, San Francisco, Cal.

RED SEAL GRANULATED 98% LYE

HAS NO EQUAL

FOR DESTROYING SCALE BUGS AND OTHER INSECT PESTS ON TREES AND PLANTS.

FOR TREE WASH!

—USE—

One pound to 5 gallons of water.

Thousands of Orchardists testify to its value, using it in preference to all other preparations. Where Red Seal is applied it kills the insects and at the same time forms a coating through which others cannot penetrate, while it is

PERFECTLY HARMLESS TO THE TREES.

Put up in SIFTING-TOP CANS so that any quantity may be used and the balance preserved uninjured.

M. LOVELL,

116 California St., San Francisco



P.C. TOMSON & CO. PHILADELPHIA

SOLD BY—

ALL GROCERS.

FOR HOUSEHOLD PURPOSES

The Red Seal Lye is indispensable.

USED AS DIRECTED it will take the place, and at 75% less cost, of all other alkaline preparations, soaps, etc., now on the market. ONE CAN will make 10 to 12 lbs. of Hard Soap, or 200 lbs. of Soft Soap.

It cleans floors, kills roaches and bugs of all kinds, cleans milk vessels, tin or wood; keeps farming implements bright and free from rust; is a perfect disinfectant; softens water, washes dishes and clothes; and can be put to a thousand uses in place of soap or other preparations.

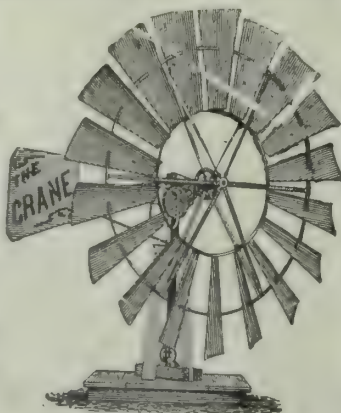
P. C. TOMSON & CO.,

Manufacturers....Philadelphia, Pa.

WHEN IN WANT OF A MILL
BUY THE BEST!

It Will Cost You No More Than Other Makes.

"The Crane"



Was Awarded the Premium at State Fair Sacramento, OVER ALL OTHERS.
WE MAKE THEM BOTH PAINTED AND GALVANIZED.

8 and 12-FOOT DIAMETER.

Please note that an 8-foot mill has 64 feet more wind surface than an 8-foot m
EVERY MILL GUARANTEED. We will replace all parts broken by storms that do not wreck buildings.

Any Mill that does not work satisfactory may be returned to us and we will pay the freight both ways.

THE CRANE COMPANY,

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RIO BONITO NURSERIES,

BIGGS, BUTTE CO., CAL.

A COMPLETE ASSORTMENT OF
NURSERY STOCK,

FRUIT TREES, NUT TREES, TABLE, RAISIN and WINE GRAPES.

Apples, Bartlett Pears, French Prunes, Olives.

JUNE BUDS

ALMONDS, PEACHES,
APRICOTS, PLUMS,
NECTARINES, PRUNES,

FIGS: The TRUE COMMERCIAL, WHITE ADRIATIC, AND OTHER SORTS.

KAGHAZI,

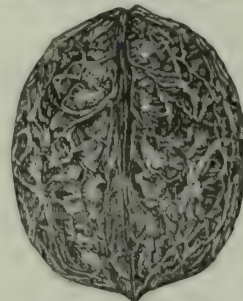
PERSIAN Soft Shell WALNUT.

THE HARDEST.

THE MOST PROLIFIC.

THE STRONGEST
GROWER

THE FINEST
FLAVORED.



CORRESPONDENCE SOLICITED.

PRICE LIST ON APPLICATION.

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—ALL KINDS OF—

FARM AND GARDEN SEEDS,
ALFALFA,

Red and White Clover. Alsike Clover, Eparcet or Sainfoin Clover,

Timothy and Orchard Grass, Assorted Rye Grass, Red Top Grass, Kentucky Blue Grass, Mesquite Grass,

ASSORTED MILLET SEED,

Onion Sets and Top Onions, Mangle and Sugar Beets and Carrots for Cattle Feed. Also, All kinds of

FRUIT AND ORNAMENTAL, AND CALIFORNIA FOREST TREE SEEDS.

ALL OF THE BEST QUALITY!

Write for Prices

Palm and Citrus Nursery

AT MONTECITO.

OLIVES, LEMONS, ORANGES

And all Citrus Trees in variety.

And especially PALMS and TROPICAL FRUIT AND ORNAMENTAL TREES, best adapted to California and its subtropical sections.

A large stock of CHERIMOYA (Custard Apple) and ALIQUATOR PEARS

The JAVA PLUM (Eugenia Jambolana), a handsome fruit-bearing tree from Java, mailed free for 50c.

Address:

KINTON STEVENS,

Santa Barbara.....California.

FRANK KUNZ,

PROPRIETOR OF THE UNION NURSERY.

2129 Tenth St., Sacramento,

HAS FOR SALE A FINE LOT OF OLIVES,

Grown in the open ground, namely: MANZANILLO or Queen's Olive, NEVADILLO BLANCO, PICHOLINE, Etc.

JUNE BUDS.

Leading varieties of PRUNES, PEACHES and ALMONDS. Clean and healthy stock. For particulars address
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SEND FOR CIRCULAR.

E. P. HEALD, President.

C. S. HALEY, Secretary.

DIVIDEND NOTICE

GERMAN SAVINGS AND LOAN SOCIETY CAL. Horna Street. For the half year ending Dec. 31, 1892, a dividend has been declared at the rate of five and one-tenth (51-10 per cent per annum on Term Deposits, and four and one-quarter (4 1-4 per cent per annum on Ordinary Deposits, payable on and after Tuesday, Jan. 3, 1893.

GEO. TOURNY, Secretary

.....VERY FINE.....

Vitus Californica Seedlings,

Two years old.

THE ONLY VINES PHYLLOXERA PROOF
Ten Dollars per Thousand.

C. MOTTIER, Box 8, Middletown,
Lake County, California.

Seeds, Plants, Etc.

D. W. LEWIS,
Kings River
NURSERY.PEACHES,
ROYAL APRICOTS
ORIENTAL PLUMS,
GRAPE VINES.

General Nursery Stock.

ORANGE AND LEMON TREES.

Some choice Orange and Lemon land planted and
cared for, at cedrock prices.

Address:

D. W. LEWIS,
SANGER.....CALIFORNIA.

SANTA ROSA NURSERIES.

R. W. BELL.

Santa Rosa, - - Cal.

AN IMMENSE STOCK OF

BARTLETT'S & FRENCH PRUNES

ON PEACH, VERY CHEAP

Freight paid on 500 or over of above surplus stock.

A fine lot of PRUNES on Myroblan and

Almond.

Muir Orange (ling and other PEACHES,

ALMONDS, APPLES, ETC.

All first class and raised without irrigation.

New price list free on application. Correspondence

solicited.

OROVILLE NURSERIES,

W. W. WILL, Proprietor.

OROVILLE, - - BUTTE CO., CAL.

Trees at Wholesale and Retail.

I have to offer the coming planting season

the following stock:

PEACHES, BARTLETT PEARS, ALMONDS,

FRENCH AND OTHER PRUNES,

APRICOTS, ORANGES, LEMONS, OLIVES,

SHADE & ORNAMENTAL TREES, Etc.

My trees are warranted Free from Insect Pests of any

kind, and are raised on well-drained foothill soil by

myself. Correspondence solicited.

PACIFIC NURSERIES,

ESTABLISHED 1860.

A Large and Extra Choice Stock of

Fruit, Shade and Evergreen Trees

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— ALSO —

The Largest and Best Stock of Camellias,

Azaleas and Rhododendrons, consist-

ing of the Best European Sorts.

Nurseries at Millbrae, Greenhouses and Office and

Salesyard at Baker and Lombard Sts., San Francisco.

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F. LUDEMANN, Pacific Nursery,

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Send for Price List.

OAK LAWN
NURSERY.

FIRST-CLASS FRUIT TREES.

Growers and Dealers in

GENERAL NURSERY STOCK.

NO INSECT PESTS OR IRRIGATION.

Please Send for Catalogue.

HULBERT BROS., Proprietors,

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—

Oak Mound Nurseries.

SURPLUS STOCK

APPLE SEEDLINGS, Home Grown,

BARTLETT PEARS, WINTER APPLES

At Prices which Defy Competition.

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ROBT P. EACHUS, Lakeport, Lake Co., Cal.



HEADQUARTERS

For Rare new Tropical fruit

and ornamental plants and

trees. Palms, Ferns, Orange

Trees, Pineapples, Bamboos,

Aquatics, Etc.

Plants safely shipped every-

where. Send stamp for new

and full catalogue which tells

all about this subject.

REASONER BROS

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Seeds,
COX'S SEED CATALOGUE MAILED FREE.It contains description and price of Grass, Clover and Field SEEDS, Australian Tree and Shrub
SEEDS, Native California Tree, Shrub and Flower SEEDS (the largest assortment of Vegetable and
Flower SEEDS, offered in the United States), new varieties of Forage Plants, Grasses and Clovers
especially recommended for the Pacific Coast. Holland, Japan and California Bulbs. Large assortment
of Palm SEEDS, new and rare Plants, new Fruit. Our stock of Fruit Trees consists of the best varieties
of Prune, Plum, Apricot, Apple, Peach, Cherry, Olive, Fig and Nut Trees, Grape Vines and Small Fruits.

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COX SEED AND PLANT CO.,
Successors to THOMAS A. COX & CO.,
SEEDSMEN,
411, 413 & 415 Sansome Street, - San Francisco, Cal.

FOR SEASON OF 1893.

BUDDED ORANGE AND LEMON TREES of all Varieties.....One and Two-Year Buds

SEEDLING ORANGE TREES, Sweet Stock.....One to Four Years Old

MISSION AND PICHOLINE OLIVES.

Also a large variety of FIGS, CHESTNUTS, SHADE AND ORNAMENTAL TREES

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All Clean, Healthy and Home-grown Stock. No Pests or Scale of any kind.

Orchard and Nursery at.....THERMALITO, BUTTE COUNTY, CAL.

For Prices and Terms, address

OROVILLE CITRUS ASSOCIATION,

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NURSERY STOCK.
A Very Fine GENERAL NURSERY STOCK.

SPECIALTIES:

SEEDLESS SULTANA and other rooted vines.

ALMONDS, June Buds of the leading varieties.

WHITE ADRIATIO FIG TREES at very low figures.

A VERY LARGE STOCK OF FIRST-CLASS SEEDLESS SULTANA CUTTINGS.

Correspondence solicited. Send for Catalogue.

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NORTHERN GROWN SEEDS FREE FOR TRIAL

To introduce our NORTHERN GROWN VEGETABLE SEEDS we have decided to give away 25,000 packages of seed, as we believe this the best way to advertise our superior stocks. To every reader of this paper sending us 10c. (silver or postal note) actual cost of postage and packing, we will send postpaid the wonderful CREAM COLLECTION OF VEGETABLE SEEDS, precisely the same as we have always sold for 40c. The collection consists of the following four rare novelties: QUEEN OF THE MARKET RADISH, an extra early scarlet variety, EARLY RUBY TOMATO, absolutely the earliest in cultivation, NEW OREAM LETTUCE, very fine flavor and exceedingly handsome; EVERGREEN CUCUMBER, new and desirable, either for cucumbers or pickling purposes.

In addition to this we will mail free our catalogue of new and choice Seeds, Plants, Bulbs, and Small Fruits for 1893, which contains thousands of illustrations, colored plates, pictures of Horticultural and Agricultural Hall at the Worlds Fair, and a 25c. certificate.

Don't Fail to Take Advantage of This Offer. ADDRESS.

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1893.



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OLIVE TREES FOR SALE.

Eleven years experience has taught me how to PROPERLY root the Olive. No artificial heat used.

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100,000 EXTRA FINE
BARTLETT PEAR TREES.

Apple, Pear, Plum, Cherry, Peach, Apricot, Nectarine, Quince, Grape Vines and Small Fruits.

500,000 FRUIT TREES!

Orange, Lemon, Lime, Olive, Japan Persimmon, and all kinds of Nut-Bearing Trees Shade and Ornamental Trees, Shrubs, Etc.

IMPORTED FRUIT TREE SEEDLINGS

Ask for Prices.

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Importers and Growers.

A FULL LINE OF

Standard Fruits, Shade Trees, Shrubs and Ornamentals.

ALMONDS,
CHERRIES,
PRUNES,APRICOTS,
PEARS,
PEACHES,

No Irrigation.

Free from Pests.

Write for prices and catalogue to

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Has no second chance. The first supplies his needs - if he takes the wise precaution of planting.

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Ferry's Seed Annual, for 1893, contains all the latest and best information about Gardens and Gardening. It is a recognized authority. Every planter should have it. Sent free on request. D. M. FERRY & CO., Detroit, Mich.

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Prices and a Pamphlet on Olive Culture in California Mailed Free.

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No Trees of 1st quality can ever be sent by mail. Mayhap you know it. By freight, prepaid if preferred, we ship safely 4, 5, or 6-ft. trees, 2-yr. Roses of rare excellence—everything! You actually pay less than for the puny stuff. 1000 acres Nurseries. 20,000 acres Orchards. Exact information about trees and fruits. Stark Bros., Louisiana, Mo.

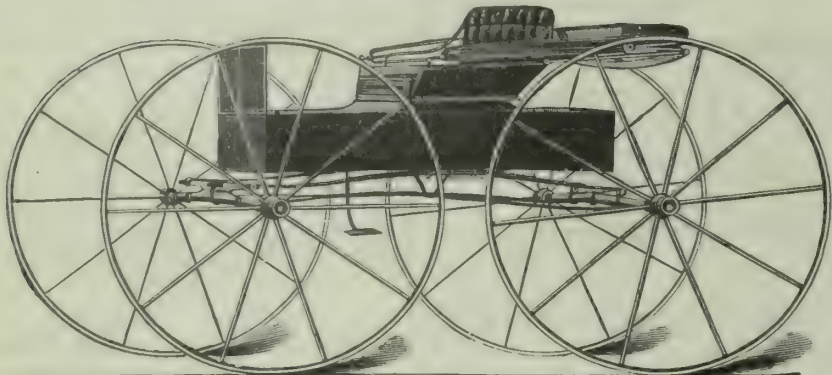
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BUGGIES, all sizes, - \$75 to \$150,
 PHÆTONS, - - - - \$95 to \$150,
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All Our Vehicles are Warranted.

CARTS OF ALL KINDS, \$15 to \$20.
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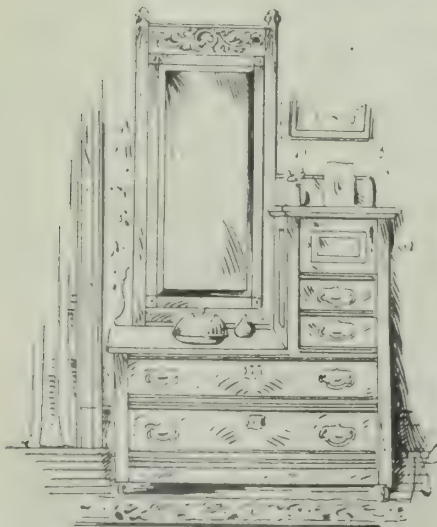
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—FROM—
"HINTS ON HOME FURNISHING"

64 PAGES, PROFUSELY ILLUSTRATED.



It will give you many suggestions for
making your home more beautiful, more
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MAILED FREE ON APPLICATION.

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BEING A DRAFT FROM

PALO ALTO STOCK FARM.

COMPRISING MARES BY

Electioneer, Gen. Benton, Piedmont, Eros, Fallis,
 Hambletonian 725, Kentucky Prince, Messenger,
 Duroc, Sultan, Arthurton, Del Sur, Mohawk Chief,
 Norway, Mambrino 1789, etc., etc.

IN FOAL TO THE STALLIONS

Nephew; Azmoor, 2:20½; Electricity, 2:17¼;
 Whips, 2:27½; Piedmont; Alban, 2:24;
 Langton, 2:26½; Good Gift; Lottery;
 Hugo, 2:27¼; Sport, 2:22¼.

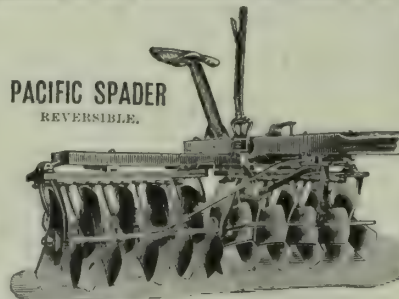
The sale will take place at 11 A. M., FRIDAY, JANUARY 27, at our
 SALEYARD, corner VAN NESS AVENUE AND MARKET STREET.

Catalogues are being prepared and will be forwarded upon application to the
 undersigned.

KILLIP & CO., - - - Live Stock Auctioneers.
 22 MONTGOMERY ST., SAN FRANCISCO.

THE LATEST STYLE PULVERIZER! THE PACIFIC SPADER!

Operated by one small boy. No Man required.



PACIFIC SPADER
REVERSIBLE.

Spader throwing soil from the center.

The Pacific Spader and Vineyard Cultivator
 does more work in one stroke than a Disc Harrow in ten.
 Sizes, 5½ to 12 feet.

TRUMAN, HOOKER & CO.,
 San Francisco and Fresno.

SIZES:—

No. 5D—	5½-foot Spader	16-inch Blades
No. 6D—	7 " "	16 " "
No. 10D—	5½ " "	20 " "
No. 14D—	7 " "	20 " "
No. 16D—	8 " "	20 " "
No. 20D—	10 " "	20 " "
No. 24D—	12 " "	20 " "



AN OLD STYLE PULVERIZER.

Especially adapted to pulverizing "bottoms"—one
 man and a small boy can operate it.

Linden, Cal., Nov. 26, 1892.

Messrs. Truman, Hooker & Co.,

San Francisco, Cal.

Gentlemen:—I was induced by your agent, Mr. I.
 O. Fowler, to purchase one of your PACIFIC SPADERS,
 which I have tested on some very hard land and must
 say it does its work to perfection. I will say to
 all who contemplate purchasing a Cultivator to take
 the Pacific Spader every time. I remain

Yours very truly,

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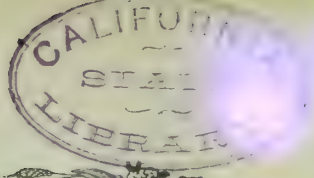
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Vol. XLV. No. 3.

SAN FRANCISCO SATURDAY, JANUARY 21, 1893.

THE DEWEY PUBLISHING CO.
Office, 220 Market St.

City Milk.

Discussion of the occurrence and dangerous character of milk from tuberculous cows is now more active than ever. In all cities where there is public milk inspection the opinion is growing stronger that much of the human phthisis comes from the use of such milk, containing the bacillus tuberculosis. One authority even claims that all human consumption comes from bovine consumption, and that in countries where the cow is not patronized for milk, consumption among the people is not known. This is a stronger statement than we ever saw before on this subject. We give it as we find it.

But even if one should hesitate to charge the cow with sole agency in the dissemination of this dread disease, there can be no question that milk from diseased cows is a leading source of human ill. We have often alluded to this fact before when urging that a city situated like San Francisco should have in abundance the purest milk. It is a shame that a city should receive food from the filthy corrals and sheds in which herds of cows are kept within the city limits, when we are so near to abundant pastures where conditions favor health and vigor in the milking animal instead of imbecility and disease. This line of argument has also been taken up from time to time by the city dailies, and facts fit to make a city writhe in nausea have been set forth. Still, the city authorities take no adequate measures to remedy the evil, and the milkmen soon wipe their eyes and draw other water to debase their milk. Meanwhile, the corrals and sheds lapse into their former filth and neglect.

The *Call* has just raised the shout anew upon bad milk. It has had analyses and examinations made of six samples of city milk taken at random. Several were found to be adulterated in some way or other, and two of the six contained the germs of consumption, the tubercular bacilli. Following from this examination, it appears that the patrons of the common milk joints of the city are almost sure to get something either poor or bad, and one out of every three of the people is drinking consumption germs. It is enough to make a city resident squirm, and yet the supervisors do not make adequate provision for such milk inspection, as nearly all the large cities of the country have found imperative.

The California Fruit Union.

As we go to press, the stockholders of the California Fruit Union are holding their annual meeting, of which we shall give fuller information in later issues. The report of the secretary shows that the Union has had a fairly successful year. The total carloads of green deciduous fruit shipped East during the season of 1892 were over 1800, as contrasted to 1387 carloads in 1891, 1373 in 1890,

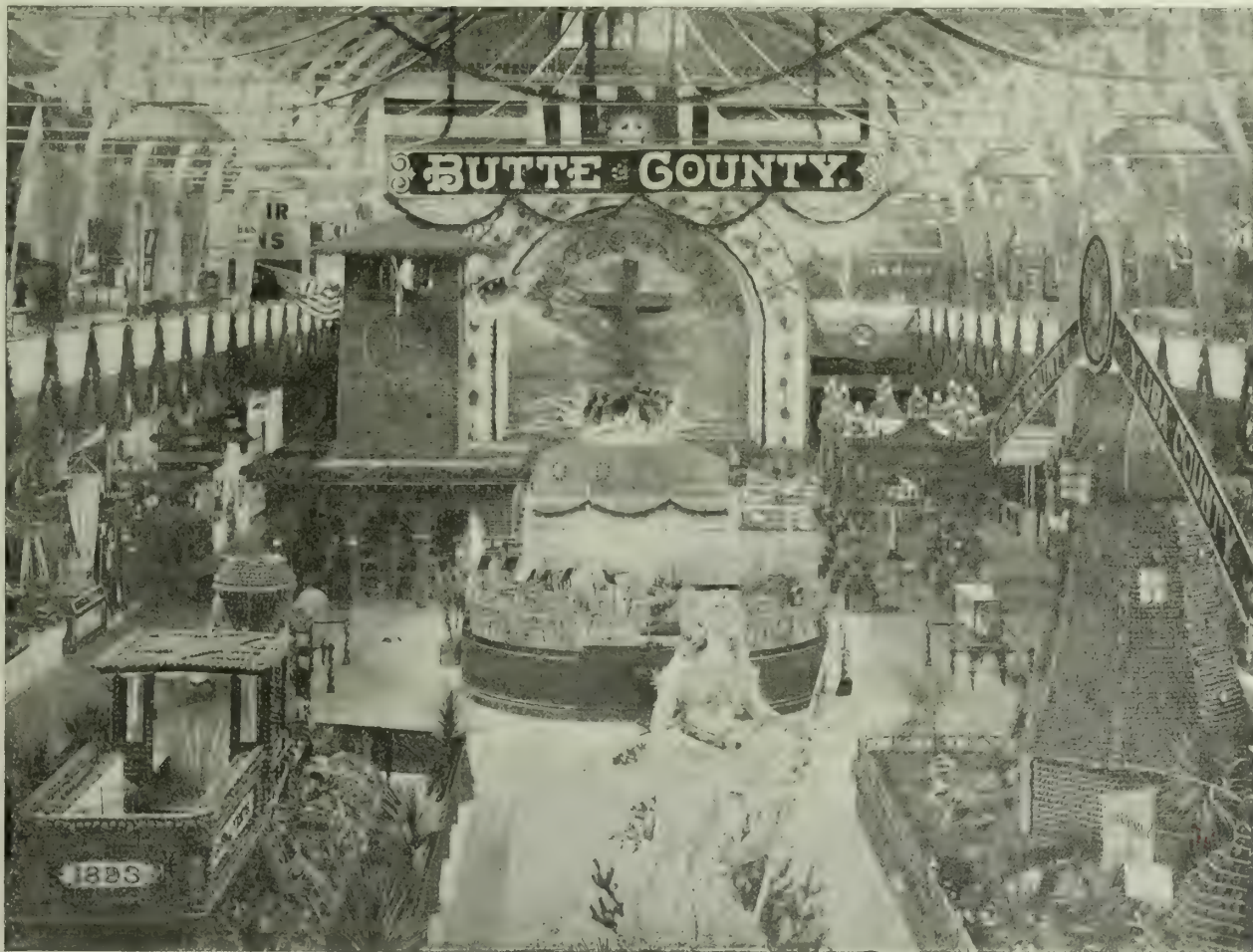
A Splendid Citrus Display.

An adequate idea of the arrangement and character of citrus-fruit exhibits at the present fair in this city is contained in engravings which appear on the first and third pages of this issue of the *RURAL PRESS*. The accompanying general view was taken from the top of the Placer county triumphal arch, and discloses all the principal orange creations, except the arch, which is presented in another illustration.

The designation and title of the various exhibits may be so clearly obtained from the illustrations that further description seems almost superfluous. On the right appears Yuba county, represented by a windmill and a World's Fair building, the summit of which only is shown. At the rear is Butte county, with its Rock of Ages and sea of oranges, market arcade (with clock), and pavilion, which appears in the farther right-hand corner. The fruit and grain palace is obscured by the windmill. On the left is the Sacramento county locomotive.

The figure in the center is "California," with shield and flag in her left hand and olive-branch in her right. In the center appears the musicians' stand.

Under the gallery and to the right are the agricultural and general exhibits of



CITRUS DISPLAY AT THE MECHANICS' INSTITUTE FAIR.

991 in 1889 and 851 in 1888. Taking all fruit packages together and striking a general average, it is found the average price received per package during the past season was \$1.54, an advance of 27 cents over the average price received last year. A similar averaging with freight bills shows a slight increase in freight paid per package. The expedited fruit-train service from Sacramento eastward did not work well, and the railroad people will be asked to better the service during the coming season.

THE Pomological Society of Southern California has issued an address to the people and press of the State, asking cooperation in an effort to secure equalization of orchard-tax assessments and exemption of fruit trees from taxation permanently, or for a term of years prior to full bearing. The *RURAL PRESS* will publish the address next week. The legislature has already begun consideration of the measure. The Assembly Committee on Constitutional Amendments has decided to report favorably on Alvord's bill exempting nonbearing fruit trees and vines from taxation.

Placer, Sacramento, Sonoma and Humboldt counties. To the left and in the forward corner are Alameda and San Luis Obispo counties. These are of necessity not shown in the illustration.

On our third page (page number 43) appear the Placer county arch and the Tulare county exhibit, the latter in the lower right-hand corner. A corner of the Yuba county World's Fair miniature projects into the view from the left. Several minor displays are also shown.

The *RURAL PRESS* contains this week a complete description of the citrus display at the fair, beginning on page 52. A thorough article on the northern citrus belt is also to be found on pages 43 and 44.

The photographs from which these illustrations were made are by Knight, of San Francisco.

It appears that there never was serious foundation for the proposal to place the citrus exhibits of northern and southern California in contest at the present fair in this city. The scheme ought never to have been mentioned.

PACIFIC RURAL PRESS.

By THE DEWEY PUBLISHING CO.

Office, 220 Market St.; Elevator, 12 Front St., San Francisco, Cal.

ANNUAL SUBSCRIPTION RATE THREE DOLLARS a year. While this notice appears, all subscribers paying \$3 in advance will receive 15 months (one year and 13 weeks) credit. For \$2 in advance, 10 months. For \$1 in advance, five months. Trial subscriptions for three months, paid in advance, each 60 cents.

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Any subscriber sending an inquiry on any subject to the RURAL PRESS, with a postage stamp, will receive a reply, either through the columns of the paper or by personal letter. The answer will be given as promptly as practicable.

ALFRED HOLMAN.....General Manager

San Francisco, January 21, 1893.

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(NEW THIS ISSUE.)

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 Agricultural Implements—Allison, Neff & Co.
 Agricultural Implements—D. M. Osborne & Co.
 Agricultural Implements, etc.—Truman, Hooker & Co.
 Buggies—Columbus Buggy Co.
 Dividend Notice—Grangers' Bank of California.
 Eggs—Frank A. Brush, Santa Rosa.
 Fertilizers—H. M. Newhall & Co.
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 Hogs and Poultry—Thos. Waite, Perkins, Cal.
 Irrigating Machinery—Pelton Water Wheel Co.
 Iron Pipe—W. W. Montague & Co.
 Ladder—John F. Logue, Sacramento, Cal.
 Nursery Stock—The Dingee, Conard Co., West Grove, Pa.
 Nursery Stock—Hatch & Reek.
 Nursery Stock—Lock Box 994, Winters, Cal.
 Nursery Stock—G. W. Hincley, Winters, Cal.
 Nursery Stock—F. Barteldes & Co., Lawrence, Kansas.
 Nursery Stock—Alneer Bros, Rockford, Ill.
 Plows—Oliver Plow Co.
 Pumping Machinery—Perkins, Brandt & Co.
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 Pacific Coast Home Supply Association.
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 Semiannual Statement—Grangers' Bank of California.
 Spraying Machinery—R. A. Chapman.
 Sheep Dip—Catton, Bell & Co.
 Wagons, Etc.—Studebaker Bros.
 Windmills and Pumps—F. W. Krogh & Co.

See Advertising Columns.

The Week.

The rains of last Sunday were quite acceptable so far as their area extended. The run of rather cold, dry weather had repressed growth, and something warm and moist has given the grass and grain a new start. The weight of precipitation fell upon the upper end of the State, with light rains in the central regions which did not long interfere with fieldwork. So far the season has progressed favorably. The absence of killing frosts, except on lower areas, and the abundance of moisture for present needs, gives general confidence in the seasons. With fair treatment from the clouds during the balance of the winter, a very productive year is assured.

The longer days are very acceptable to all outdoor workers at least. The early worker does not run as much risk of snipping off a finger with his pruning shears. But the days which are long even to weariness will come soon enough. But a few weeks remain in which to lay in the summer's supply of sleep. Make good use of them.

THE State Floral Society last Friday elected the following officers for the ensuing year: E. J. Wickson, president; Mrs. Hodgkins, vice-president; O. S. Aiken, secretary; Miss C. D. Rixford, accountant; John Henderson, treasurer; Captain Kellner and Mrs. Harris, directors; J. F. Sims, Mrs. J. F. Sims, Mr. and Mrs. Maybeck, G. M. Stratton and G. G. Park were initiated as members of the society. The secretary's report showed the membership to be 185, all in good standing, and the accountant's report showed a deficit of \$114.19, the year's receipts being \$824.19. The deficit was the result of the heavy expense entailed during the flower shows of the past year. In an address, the president congratulated the members on the excellent work accomplished during the past year.

The Citrus Fair.

The citrus fair of the northern district of California is now in progress in the Mechanics' Pavilion, the largest place of assembly in San Francisco. Our reports upon other pages give a good idea of the variety of the products displayed, and the acceptable style on which they are set forth for public contemplation. The affair is the greatest of current agricultural events and naturally commands much of our space this week.

One who has seen all the citrus fairs of California gives the present one preeminence in several popular features. It is greatest in its spectacular characters, largest in the dimensions of its architecti-horticultural creations, most ornate in their embellishment, and most costly in appliances for scenic effect. It adds the tableau, the interior use of electric lights, the movement of operative parts of exhibits to what have been the exhibitors elements in earlier shows. These novelties add of course largely to the taking qualities of the fair, and as the idea of the citrus fair is quite as much to attract the attention of those who are not horticultural experts as to gratify those who pursue scientific fruit points, the new features which we note are legitimate and appropriate. To the calculating mind the question suggests itself, to what end will the architectural, spectacular and dramatic elements in these shows proceed. How much longer will it be possible to devise and provide new and greater things in these lines? But these are questions which the exhibitors must be puzzled about; the public will continue to patronize and praise until the development of the citrus fair reaches its highest estate and the public will give the first sign that retrogressive steps are discernible. Then probably the citrus fair will have accomplished its ends as a popular advertising medium for making known climatic charms, soil richness and commercial opportunities, and thereafter horticulture will resume the leading place which has been temporarily denied it, and we shall have citrus fairs in which size and beauty shall be of the fruit not of the structure which it decorates; in which quality shall be of the fruit contents not of the candle power of the incandescent light which illumines it; in which tributes shall be to the skill of the producer of the fruit not to the ingenuity of the artisan who makes decoy rocks out of canvas, or bogus steel bars with scantling covered with silverine. Unquestionably the fairs of the future will embody more of the natural and in their imitative features will present truer art as well as higher horticulture.

But we do not mean to complain. If the public likes oranges better in sham structures than in natural masses, in select groupings or in commercial packages, certainly the public should have them in those forms. If there is anything hollow about the popular whim, it will collapse in due time. Certainly the citrus fairs have done a powerful and valuable work in making better known the fruit resources of California. They have revealed to old Californians things they never dreamed of, and they have impressed upon the tourist and winter guest our opportunities for investment and industry. Unquestionably our progress in all fruit lines would have been much slower without them.

Citrus fairs began in southern California more than a decade ago, and have each year shown advancement and progress. At first the mass of the fruit was from seedling trees, and in many cases inferior. In later fairs, when the budded varieties began to bear freely, the fruit was vastly improved, until at present the finest varieties are often employed in decorative as well as in cultural displays. In the northern citrus fairs, the mass of oranges used for decoration is inferior; the choice fruit appears only in small quantities. This will be changed soon, as it has been at the south. The influence of the annual fairs in raising the quality of the fruit by teaching all growers what are marks of excellence, will be its most lasting benefit.

A VERY satisfactory result of the late poultry show at Petaluma is the organization of a state association, in which there is a large representation of prominent breeders, and which gives promise of being a strong and permanent institution. A State show is to be held next year, probably in this city, where there is opportunity to secure that most important of all features at an exhibition—large attendance.

SONOMA COUNTY is taking active steps toward joining the northern citrus belt. A Citrus Fair Association has been formed at Cloverdale. There are enough oranges, lemons and olives in that vicinity to secure satisfactory representation at the present citrus fair in this city. No good reason exists why Sonoma should not be known as one of the chief citrus counties in northern California.

THE Fresno County Farmers' Institute will hold its quarterly meeting on Saturday, January 28, at Malaga. Many subjects of wide, practical importance are announced.

From an Independent Standpoint.

The particular circumstance which gave strength to the Democratic party in the late campaign in this State was its position on the railroad question. The plank in the Fresno platform demanding the abolition of the Railroad Commission gained many a vote for the Democratic nominees; and but for this plank and for the favor which it gained, the party would not now be in a position of authority at Sacramento. The declaration of the Fresno convention was no accident; it was the outcome of a full discussion, in which both the principle and policy of the thing were approved by overwhelming numbers of the delegation. The Democratic party was put fairly and squarely in a position of antagonism to the Southern Pacific policy; and the form which this antagonism took was a positive demand for abolition of the Railroad Commission. The only notable objector to this demand was Hon. Stephen M. White of Los Angeles. In the convention Mr. White opposed the proposition, but it was carried over his protest and became the winning card in the campaign. Mr. White supported his party ticket during the campaign, but said nothing about the railroad plank of the platform, and within the past month he has publicly reiterated the views expressed in the Fresno convention. He stands in direct and outspoken opposition to the formal declaration of his party on the most important of all questions in California. And yet this same Stephen M. White is the unanimous choice of the Democratic legislative caucus for the United States senatorship. All the facts of the case taken together curiously illustrate the insincerity of politics. When parties have so little regard for their own declarations of principle, is it surprising that the public is losing its old respect for parties and that thousands of voters are throwing partisanship to the winds and are coming to view public affairs from the standpoint of political independence?

LATER—Since the above was written, Mr. White has been elected. The first ballot (on Tuesday) gave him 60 out of 120 votes, one less than a majority. On the second ballot (Wednesday) he got 61 votes out of 129 present and voting. McGowan, a Republican of San Francisco, was absent (no doubt by intent to insure White's election) and Kerns, one of the Populist members, cast his vote for White.

The California Railroad Commission is a body of most extraordinary powers. By the State Constitution, it is given authority to establish maximum rates of freights and fares; to impose upon railroad companies a book-keeping system of its own devisement; to examine the books of any railroad company at any time; to hear and determine complaints and to adjust the same like a court of law; to enforce its own decrees; and to enforce penalties for contempt or disobedience. Its powers in brief are an association of legislative, judicial and executive functions such as no other State constitution gives to any commission. It was vainly urged against this plan, when the Constitution was under discussion, that it involved a dangerous concentration of authority; and it now appears to be the judgment of the State that events have justified the wisdom of this objection. There seems to be substantial agreement that the Railroad Commission is a failure; that it is dominated by the very interest which it was designed to control; and that it would now be better to transfer its powers direct to the State legislature. With this last proposition the RURAL finds itself in hearty accord—not more from the circumstances of the particular case than from an objection on principle to government by commission. Government, whether related to railroads or to broader interests, is in our judgment never so safe as when it is retained in the hands of immediate agents of the people. A commission with the varied authority of the Railroad Commission exercises, or may exercise, within its scope the powers of sovereignty; and it is therefore an anomaly in our republican system. We hold that there should not exist for any purpose, however limited, a power in the State superior to the legislature, to the courts and to the executive department. Legislatures may—as the advocates of the commission plan urge—find it difficult to deal intelligently with a subject so complicated as that of transportation; but, on the whole, we believe that their judgments will be more wise and satisfactory than the dicta of a commission.

It is the expressed desire of many Republican politicians that the Democratic party, which will soon assume the responsibilities of government, should within the shortest possible time repeal the tariff laws, and substitute a strictly revenue system. In the article from which we quoted last week Senator Dolph, of Oregon urges this course upon the incoming administration; and it was probably in echo of his suggestion that the Oregon legislature, on last Wednesday, seriously discussed a resolution introduced by a Republican and supported by Republicans, praying Mr.

Cleveland to call an extra session and petitioning the Democratic Congress to repeal the McKinley law. Now the motive of Senator Dolph and of those who stand with him is not a right one; for they hold that the very thing they warmly recommend would plunge the country into distress. They seek to force the Cleveland administration into extreme courses of anti-tariff legislation, not for the good of the country, but to its harm, in order that their party may profit from public dissatisfaction, brought about by public calamity. They are willing and even anxious, in brief, that the country should suffer, to the end that their political party may be restored to power. Of the morality of this proposition it is difficult to speak calmly—to us it appears akin in its moral aspects to the scheme suggested by an unscrupulous physician during the civil war, to infect the Northern states with cholera. Protectionists who support this proposition are persons in whom all sense of duty to country and to the public welfare is lost in a blind and stupid devotion to party.

Furthermore the assumption that Democratic pledges call for immediate enforcement of a free-trade policy and the effort based upon this assumption to force radical tariff courses upon the incoming administration are grossly dishonest. In no sense is the Democratic party pledged, as partisan agitators would have the country believe, to an immediate or even an ultimately complete overthrow of the tariff. The plank in the Chicago platform which declares the tariff doctrine of the party expressly says:

But in making a reduction of taxes it is not proposed to injure any domestic industries but rather to promote their healthy growth. From the foundation of the Government the taxes collected at the custom-house have been the chief source of Federal revenue. Such they must continue to be. Moreover, many industries have come to rely upon legislation for their successful continuance, so that any change in the law must be at every step regardless of the labor and capital thus involved. The process of reform must be subject in its execution to this plain dictate of justice.

In this, surely, there is no pledge of a sweeping change—of such a change as Mr. Dolph insists it to be the duty of the Democrats to make; on the contrary, there is a distinct and specific pledge that no such change will be made.

We have referred to this subject the second time within a few weeks because it seems to us important that the real facts of the tariff situation should be kept in the public mind as a means of counteracting the efforts of alarmists. In our judgment nothing could be more harmful to the country at this time than a complete and radical sweep of the protective tariff. It would cripple if not utterly destroy the prosperity of California; and none know it better than those who declare that they would like to have it brought about as a means of illustrating the difference between Republican and Democratic policy. We profess ourselves totally unable to comprehend the species of mind capable of consenting that the country should suffer distress because it might be the means of promoting a particular party interest. We have faith that those willing to purchase partisan success at this price are very few, and that the bulk of both Republicans and Democrats stand with the RURAL PRESS for a tariff policy in the interest of material welfare rather than in the interest of politics.

Rutherford Birchard Hayes, nineteenth President of the United States, died at his home at Fremont, Ohio, on Tuesday, 17th inst., aged 70 years—Edward Murphy, Tammany Hall candidate for Senator from New York, against whose nomination Mr. Cleveland made an earnest protest a few days back, was elected by the full Democratic vote on Tuesday. This result, it is thought, will mark the beginning of war between Cleveland and the Tammany wing of his party—Henry Cabot Lodge, the author of the Force Bill, was elected U. S. Senator by the Republicans of Massachusetts on Tuesday—Creed Haymond died in this city on the 13th inst.

The Northern Citrus Belt.

The term "Northern Citrus Belt" probably does not convey a definite idea to all who see or hear it, and especially for distant readers we attempt definition.

The word "belt" was borrowed from the old phrase "thermal belt" which may be said to mean a zone in which there is comparative freedom from killing frosts. As this zone usually has a restricted width, and, following certain elevations, surrounds and encloses large central areas where different conditions prevail, the term "belt" is well chosen. The word "citrus" refers of course to the citrus fruits—the fruit of the citrus family of plants. These fruits, by reason of their temperature requirements, have always had some standing as exponents of climatic salubrity. In the recent progress of California they have been given special significance in this regard and have served both as a sign of comfort and as a basis of industrial value.

The last word of the three, or rather the first as the phrase runs, is most difficult of definition. All space terms must necessarily be relative. The "northern" citrus belt is therefore on the polar side, or in a higher latitude, or, if you like, farther from the equator than the "southern." Owing to the peculiar topography and environment of the State of California, the singular condition exists which enables one to go southward a thousand miles without getting warmer, or northward a similar dis-

north. Then came the newer race of southern Californians, the colonists, the men who planted vines and fruit trees, and churches and schoolhouses, banks and palatial mansions, all at the same moment upon the cactus covered soil of the interior of Southern California. Hence arose the newer life of the South. Its compass held due south of Tehachapi. These mountains and their extensions to the coast served as a barrier which many of the new comers thought, shielded them from the terrors of the Arctic regions, and they naturally looked upon the mountains as the northern limit of all that was tolerable to a man or to an orange.

It came to be held then that all country north of the Tehachapi was northern California, and in a sense all oranges grown northward of that limit are products of the northern citrus belt. But more recently the law has stepped in, and the legislators with their genius for geographical equalizing have given a legal definition to the terms "northern" and "southern" by making all southern which pertains to the Sixth Congressional district, and this makes Fresno County the northern limit of the southern citrus belt, and makes the upper San Joaquin, with its promising citrus regions, a part of the division which enjoys State money at the March shows in the extreme south.

Such then, in some of their characteristics and some of their history, are the citrus belts. In its own course of advancement the northern citrus belt has had times of

arrested development. Periodically, during the first three decades of its history it had times of awakening. Usually, these were the work of southern California nurserymen who had nurseries overstocked with corky, overgrown trees on lemon root and full to their tips with irrigation water. These trees were shipped north by the carload and were peddled out and many of them, largely on the advice of the sellers, were planted where a cabbage would winter-kill or a tarweed die of thirst. It is not wonderful then that orange and lemon trees died in the northern citrus belt. Such trees as they were, planted in places selected for them, had to die.

But after a few such missionary enterprises

on the part of southern California treegrowers, the people north of the Tehachapi began to learn something. They found that in certain places, even the poorest orange trees lived and bore well and had done so for years. They found that the seedlings grown from the fruit they purchased for their table soon made large trees and were very productive, providing the elevation, the soil, the water and other natural conditions were favorable. It soon became noised abroad that there were fine large orange and lemon trees here and there which had found the local climates congenial both for growth and fruit-bearing. These trees were not confined to any locality; they were growing all the way from Kern county on the south to Shasta on the north. In many instances they have proved of inestimable value in pointing out citrus adaptations and possibilities which are now being fully utilized. The history of one famous tree will illustrate. It is as follows:

At Bidwell's Bar on the Feather river, about 40 miles above Marysville and 9 from Oroville, is a superb specimen of the orange family; its great size and symmetry, and the luxuriance of its foliage, commanding the admiration of all beholders. This tree is 36 years old. It was grown from a seed taken from Acapulco fruit, and was transplanted from Sacramento to its present situation in 1859. It has been in bearing 25 years or more, and its average annual product is about 2000 oranges. It is about 30 feet in height, and its branches have a spread of 24 feet. The trunk is about 18 inches in diameter, with a circumference of 54 inches. The tree has always been vigorous, and free from disease as well as insect pests. It is locally famous as the parent of thousands of other seedlings in the Feather river region. Its fruit is spherical, of medium size, highly colored and of delicious quality; pulp very juicy and sweet. Its seedling progeny manifest the same vigor and productiveness that characterize the parent stock. In a single year 20 of these seedlings have produced 44,000 oranges, an average of 2200 to the tree.

This is perhaps the oldest in northern or central Califor-



PLACER COUNTY'S TRIUMPHAL ARCH.

tance without getting colder—providing due regard be had for elevation and local topography. When the term "northern citrus belt" is used it does not mean necessarily that the orange endures a thousand mile shift toward the north pole without being killed, but rather that the orange finds essentially the same weather conditions in the two widely distant points. There is in fact so far as climatic conditions go, a California citrus belt or a series of belts which is practically of uniform character irrespective of geographical situation. Meteorologically, then, we may speak of the northern or southern, eastern or western extensions of the citrus fruit belts of California.

But though there is no north, south, east or west in California climate, because one can select belts of practically uniform climatic conditions in all of them, the term north and south do have a very interesting historical and geographical importance, which renders them useful and convenient. The southern citrus belt is the historic citrus fruit ground of California. In this part of the State a century or more ago the padres planted oranges, lemons, dates, figs and olives. They also brought some of these fruits northward, even to the central latitude of the State; but as the coast region of the south is warmer than the coast region of the north, and as the padres never went far from the coast in locating their establishments, it was natural that they should find their semitropical fruits more satisfactory as they approached the southern limits of the State. They never departed from the coast far enough to dream that such a thing as a northern citrus belt existed. Following the padres, and profiting by their experience, came the pioneers of the southern counties, and their citrus fruit plantations thrived wonderfully, the vegetable gold of the south rivaling in profit the mineral gold of the

nia, but there are others here and there all the way from Shasta southward to Kern, which have done similar service in declaring local possibilities, which have been recently largely acted upon. The greatest results in extent of planting and in production have been attained in the vicinity of Oroville, but southward along the foothills in all counties good beginnings are shown. Knights Ferry and the Porterville region are two localities which have been prominent for a number of years.

Unquestionably climatic conditions are of prime importance in determining the fitness of a region for citrus fruits, and in this respect the term "northern" is unfortunate, as has been often pointed out. A northern belt for a fruit which has the fabled glories of the southland strikes the world as a thing incredible. The world is, however, finding out that those points at the north where the well-informed advise investment in citrus fruits really have the climate which those regions possess in which the orange has succeeded from the earliest times. Sergeant Barwick, in a recent article, shows that the Marysville region, for example, has a higher mean average temperature for the winter than Naples, Mentone, San Remo, Rome, Pisa, Genoa, Nice and Florence, Italy, and Toulon, Marseilles and Cannes, France.

The number of clear days throughout the great Sacramento valley far exceeds that of Italy. The Sacramento valley averages a little over 235 clear days, as against 196 in Italy and 124 in Jacksonville, Florida.

In mean temperatures the average for each season, and also for the year, shows that Marysville has a warmer winter temperature than any point in the Riviera of Italy. The average precipitation is between 17 and 20 inches for Yuba and Sutter counties, as against 20 to 23 inches in the Riviera of Italy.

The northerly winds of Italy have a more deleterious effect than those of our own valley. In Italy they are cold and cutting winds, which are much dreaded, while the northerly winds of the Sacramento valley are healthful and not dreaded by any one.

The table spoken of above is as follows, and shows the average temperature by seasons, and for the year also:

TABLE OF TEMPERATURE.

LOCALITIES.	Mean winter temp.	Mean spring temp.	Mean summer temp.	Mean autumn temp.	Mean yearly temp.
Marysville.....	50.1	62.7	78.3	65.6	64.2
Rome.....	48.9	57.6	72.2	64.0	60.7
Naples.....	48.5	58.5	74.2	64.0	61.3
Florence.....	44.3	56.0	74.0	60.7	58.8
Pisa.....	46.4	57.2	75.2	62.8	60.4
Genoa.....	44.9	58.6	75.0	63.0	60.4
San Remo.....	48.9	57.3	72.4	61.9	61.1
Mentone.....	49.0	58.3	73.9	62.5	60.9
Nice.....	47.8	56.2	72.3	61.6	59.5
Cannes.....	49.6	57.4	73.0	61.0	60.2
Jacksonville, Fla.	56.8	69.1	81.4	69.9	69.5

The average winter temperature at Marysville is 50.1, which is ahead of any portion of the great Riviera of Italy.

Next to the claims of climate come those of soils pre-eminently suited to the growth of fruits. Prof. Hilgard, our leading expert on soils, at one time applied these words to the soils which are most sought by fruit-planters. At first it was thought that the fruit grown in the valley would necessarily be of lower quality than that of the mountains, because such is the general reputation of valley fruit. But while the great valley of California is, in the geological sense, a true valley, its soils are by no means all, or even predominantly, what may properly be called valley or alluvial soils. Particularly on the east side there is a very considerable slope, of true upland, from the base of the hills toward the drainage or river troughs, and broad undulations, or low ridges, of reddish loam of great depth run far out into the valley from the foothills of the Sierra. Better soils for fruit culture it would be hard to find; and if they ever have furnished fruit of inferior grade, it was due to unsuitable varieties or improper culture, and particularly to overirrigation or rather the use of water at improper times.

Both citrus and olive culture have passed beyond the experimental stage in north central California. It is certain that in any locality having suitable soil, and an exposure that is not particularly liable to injury from frost, the orange will run not nearly as much risk as it does in Florida, which is yet vaunted as the home of the orange. As to quality, the fact that until 1891 few except seedling trees had come into bearing in central California, renders a strict comparison with the fruit of the more southern regions difficult. But chemical investigation of fruit at the first northern citrus fair proved that, so far as it can be shown in that way, the fruit was similar to, and in no way behind that of the "South." A somewhat earlier maturity, also, will serve to secure an open market for the northern-grown fruit before the bulk of the southern crop goes out. The large amount of capital that has already been invested in this industry shows that men of large means, both those who live on the spot, and others long acquainted with citrus culture elsewhere, are willing to risk their dollars on its success.

Assuredly, the variety of cultures of which the choice is offered the home-seeker in this region is such as is not easily found outside of California.

NOTABLE HORSE SALE.—The sale of horses shipped to New York by William Corbitt of San Mateo was notable. Forty-two head brought \$61,845, an average of \$1472. Some considerable figures were reached: Regal Wilkes (2:11 $\frac{3}{4}$) brought \$13,000 and Lillian Wilkes (2:17 $\frac{3}{4}$) brought \$6000. One rich New York man invested more than one-half of the total receipts of the sales.

ANOTHER death has resulted from glanders of a citizen of Los Angeles. This makes the third that has occurred recently. Better precautions should be taken to prevent the spread of the disease.

The Petaluma Poultry Show.

The annual exhibition of the Sonoma county Poultry and Pet Stock Association was held at Petaluma last week, beginning Tuesday, January 10, and ending Saturday, January 14. It was a complete success as regards variety and quality of exhibits, though from a financial standpoint it was perhaps not quite so satisfactory. It is freely stated that no such congregation of fowls was ever before seen on the Pacific coast, and the facts seem to bear out the assertion. There were about 1500 fowls on exhibition, the number at last year's Petaluma show being about 1000. Chickens, turkeys, ducks, geese, pea fowls, guinea hens and pigeons, and a number of varieties of pet stock—prairie dogs, rabbits, coons, squirrels and so forth—were among the things shown. It is a matter of regret that bad weather defeated one of the interesting projects of the show—a race between pigeons. And, by the way, to the same cause is largely due the somewhat meager attendance. To this cause also may be added the fact that the citrus and mechanics fair at San Francisco, opening at the same time, had the effect of diverting attention and interest.

The arrangements for the exhibition, which was held in the pavilion, at agricultural park, were made judiciously, so that each group of fowls could be displayed to the best advantage. The prominent features of the exhibition were made suitably conspicuous, so that the visitor, by ordinary diligence, stood in no danger of missing anything. To the industry and capacity of Messrs L. C. Byce and A. Armstrong, more than to any others, is due the success of the event. It is creditable to the enterprise of the people of Petaluma that they supported the managers of the show by their interest and attendance.

One of the direct and one of the most important results of the gathering of poultrymen at Petaluma is the organization of the California State Poultry Association, which took place Wednesday, January 11. Between thirty and forty of the principal breeders of the State met at the American hotel and elected C. R. Harker, of San Jose, editor of the *Fanciers Monthly*, as temporary chairman and A. Armstrong, secretary.

The object of the meeting was discussed at length, and the friendly parley resulted in the organization of the California State Poultry Association.

Permanent officers were elected as follows: President, C. R. Harker, of San Jose; vice-president, L. C. Byce, of Petaluma; secretary, A. Armstrong, of Petaluma; treasurer, G. T. Marsh, of San Francisco.

A board of directors was elected, consisting of the following well-known poultrymen: Messrs. Tyler of Pasadena, Thurber of Alhambra, Albee of Lawrence, Whitman of Fruitvale, Noyes of West Butte; Blom of St. Helena, Moore of Merced, French of Stockton, Quick of Patterson, and Croley of San Francisco.

The chair appointed a committee on constitution and by-laws, consisting of Messrs. Bailey, Croley and Byce.

It was decided, by unanimous vote, to hold the first annual meeting of the association in San Francisco, about 12 months hence.

A guarantee fund, to provide for financial contingency in connection with the first exhibition, was proposed and subscriptions were promptly volunteered as follows: G. B. Bailey, \$125; L. C. Byce, \$125; O. J. Albee, \$125; C. R. Harker, \$125; B. N. Tracy, \$50; C. Blom, \$25; E. H. Freeman, \$36; N. Tyler, \$25; E. C. Noyes, \$25; Jas. Quick, \$25; G. H. Croley, \$25; French Bros., \$25; S. L. Roberts, \$25; Woodhull Bros., \$25; J. A. Scholfield, \$22; Mrs. S. J. McFarling, \$25; A. E. Power, \$25; Ed. Ellis, \$25; H. C. Gray, \$25; E. C. Thurber, \$25; G. E. Phelps, \$25.

A unanimous vote of thanks was tendered to Messrs. Byce and Armstrong for their arduous labors during the past year in behalf of the grandly successful poultry show now being held in Petaluma.

Another association of Leghorn breeders was also organized, naming their association the California Leghorn Club, and electing the following officers: President, E. H. Freeman of Santa Clara; Vice-President, Mrs. McFarling of Napa; Secretary, C. Blom of St. Helena; Treasurer, C. Nisson of Petaluma.

Committees were appointed to perfect arrangements for the offering of special prizes at the meeting in conjunction with the next exhibition of the California State Poultry Association, and to secure an amendment of the existing standard to meet the requirements of the breeders of Leghorns on the Pacific coast.

The following gentlemen were judges at the show, in the classifications assigned to them: S. L. Roberts of San Diego, Mediterraneans; N. Tyler of Pasadena, Americans; G. B. Nugent of San Jose, Asiatics and miscellaneous—including turkeys, geese, ducks, pet stock and sundry other exhibits; C. R. Harker of San Jose, Buff Leghorns, etc.

The awards were as follows:

Brown Leghorns—Rose Combed.—Best cockerel, Mrs. McFarling of Napa, 1st and 2d; cock, Mrs. McFarling, 1st and 2d; hen, Mrs. McFarling, 1st and 2d; pullet, Mrs. McFarling, 1st and 2d.

White Leghorns—Rose Combed.—Pen, Mrs. McFarling, 1st and 2d. **Buff Leghorns**—Cockerel, W. O. Moore of Merced, 1st; S. B. Wright of Lakeport, 2d. Hen, A. Armstrong, Petaluma, 1st and 2d; pullet, A. Armstrong, 1st and 2d; pen, A. Armstrong, 1st and 2d.

Buff Cochins—Cockerel, James Quick, Patterson, 1st; H. F. Whitman, Fruitvale, 2d; cock, James Quick, 1st; hen, James Quick, 1st; pullet, H. F. Whitman, 1st and 2d; pen, H. F. Whitman, 1st and 2d.

White Leghorns—Cockerel, O. J. Albee, Lawrence, 1st; J. A. Scholfield, Hollister, 2d. Cock, O. J. Albee, 1st. Hen, O. J. Albee, 1st. J. A. Scholfield, 2d; pullet, O. J. Albee, 1st and 2d; pen, O. J. Albee, 1st and 2d.

Silver Wyandottes—Cockerel, C. H. Freeman, Santa Clara, 1st; Wm. A. Tracy, 2d. Hen, O. J. Albee, 1st; C. H. Freeman, 2d. Pullet, O. J. Albee, 1st; C. H. Freeman, 2d. Pen, O. H. Albee, 1st; C. H. Freeman, 2d.

Golden Wyandottes—Cock, Scholfield, 2d. First undecided. Hen, Scholfield, 1st; Freeman, 2d. Pullet, Scholfield, 1st; Freeman, 2d. Pen, Freeman, 1st.

White Wyandottes—Cockerel, Freeman, 1st. Hen, Freeman, 1st. Pullet, Freeman, 1st. Pen, Freeman, 1st and 2d.

White Plymouth Rocks—Cockerel, Mrs. McFarling, 1st; C. Sewell, Ventura, 2d. Pullet, Mrs. Purdy, 1st.

Barred Plymouth Rocks—Cockerel, O. J. Albee, 1st and 2d. Cock,

Albee, 1st and 2d; Hen, Albee, 1st; Freeman, 2d. Pullet, Mrs. McFarling, 1st; Albee, 2d. Pen, Albee, 1st; Mrs. McFarling, 2d.

Indian Games—Cockerel, E. C. Thurber, Alhambra, 1st; W. Richardson, Napa, 2d. Cock, E. C. Thurber, 1st; W. Richardson, 2d. Hen, E. C. Thurber, 1st; W. Richardson, 2d. Pullet, W. Richardson, 1st; E. C. Thurber, 2d. Pen, E. C. Thurber, 1st; W. Richardson, 2d.

Red Games—Cockerel, Woodhull Bros., Stockton, 1st. Hen, Woodhull Bros., 1st and 2d.

Houdans—Cockerel, J. B. Olcese, Merced, 1st; A. Armstrong, 2d. Hen, Mrs. Purdy, 1st; J. B. Olcese, 2d. Pullet, J. B. Olcese, 1st; A. Armstrong, 2d. Pen, J. B. Olcese, 1st.

White-Faced Spanish—Cockerel, Robt. Rowan, Pasadena, 1st and 2d. Cock, Rowan, 1st; John Noonan, San Francisco, 2d. Hen, Rowan, 1st and 2d. Pullet, Rowan, 1st; Noonan, 2d. Pen, Rowan, 1st; Noonan, 2d.

Black Minorcas—Cockerel, French Bros., 1st and 2d. Cock, French Bros., 1st. Hen, French Bros., 1st. Pullet, French Bros., 1st and 2d. Pen, French Bros., 1st and 2d.

Ducks—Pekin duck, W. A. Platt, 1st. Pekin drake, W. A. Platt, 1st. Rouen duck, Mrs. McFarling, 1st. Rouen drake, Mrs. McFarling, 1st; Pair Cayuga ducks, Deer Mount Poultry Yards, 1st.

Geese—Toulouse geese, Deer Mount Poultry Yards, 1st; Mrs. McFarling, 2d. Toulouse gander, S. J. McFarling, 1st; Deer Mount Yards, 2d.

Turkeys—Narragansett cock, French Bros., 1st. Hen, French Bros., 1st. White pair, Deer Mount Poultry Yards, 1st. Bronze cock, French Bros., 1st and 2d. Hen, French Bros., 1st and 2d.

Pet Stock—French Bros., 1st; Deer Mount Poultry Yards, 2d.

Ornamental Peacocks, etc.—French Bros., 1st.

Pigeons—Black Pouters, G. T. Marsh, San Francisco, 1st; A. N. Bailey, Oakland, 2d. Blue, G. T. Marsh, 1st and 2d. Red, Marsh, 1st; Bailey, 2d. Silver, Marsh, 1st and 2d.

Jacobins, Black, Marsh, 1st; Bailey, 2d. Splashed, Marsh, 1st; Bailey, 2d. Yellow, Marsh, 1st; Bailey, 2d. Blue, Marsh, 1st; Bailey, 2d. Strawberry, Marsh, 1st. White, Marsh, 1st and 2d.

Fantails, Blue, Marsh, 1st. Black, Marsh, 1st. Red, Marsh, 1st. Blue-crested, Marsh, 1st. Blue-checked, Marsh, 1st. Yellow, Bailey, 1st. White Silkies, Marsh, 1st. Plain white, Marsh, 1st; Bailey, 2d. White-crested, Marsh, 1st; Bailey, 2d.

Mottled Trumpeters, Bailey, 1st.

Owl Pigeons, Blue English, H. H. Carlton, Alameda, 1st and 2d. Same exhibitor also awarded first premium for blue-checked, Blue Chinese and Silver Owl pigeons, Chinese varieties, 1st and 2d, and 1st for Black English.

Blue Wing Turbans, G. Bittleston, Alameda, 1st. Black Magpie, Bailey, 1st. Blue Tumblers, Carleton, 1st. Black and Blue Saddled, G. Bittleston, 1st and 2d. Black Short-faced, Bailey, 1st. Short-faced Carrier, Bittleston, 1st. Black Rollers, Bittleston, 1st. Black High-Fliers, Bittleston, 1st. Parlor Tumblers, red, Carleton, 1st and 2d. Black, Carleton, 1st; Bailey, 2d. Barbs, white, E. J. Hinz, San Francisco, 1st. Black, Hinz, 1st. Red, Hinz, 1st. Dun, Hinz, 1st. Black Homer, Bailey, 1st and 2d. Yellow, Bittleston, 1st. Priests, Hinz, 1st.

Black Langshans—Pen, O. J. Albee, 1st; Mrs. J. McFarling, 2d. Cockerel, Albee, 1st. Pullet, Albee, 1st. Hen, Albee, 1st.

Partridge Cochins—Pen, E. H. Freeman, 1st. Cock, E. H. Freeman, 1st; O. J. Albee, 2d. Pullet, Freeman, 1st; Albee, 2d.

Dominiques—Cockerel, Deer Mount Poultry Yards, 1st. Pullet and hen, Deer Mount Poultry Yards, 1st.

White Minorcas—Pen, French Bros., 1st and 2d. Cock, cockerel, pullet and hen, French Bros., 1st.

Black Leghorns—Pen, W. O. Moore, 1st; Ed. Ellis, 2d. Cock, W. O. Moore, 1st. Pullet, Ed. Ellis, 1st; S. B. Wright, 2d.

Andalusians—Pen, French Bros., 1st. Cockerel, pullet and hen, French Bros., 1st.

Light Brahmas—Cockerel, James Quick, 1st and 2d. Cock, James Quick, 1st and 2d. Hen, James Quick, 1st and 2d. Pen, James Quick, 1st and 2d.

Silk Brahmas—Mrs. Purdy, 1st and 2d.

Dark Brahmas—Cockerel, O. J. Albee, 1st; Miss Florence Forbes, 2d. Hen, O. J. Albee, 1st; E. H. Freeman, 2d. Pullet, O. J. Albee, 1st; Miss Florence Forbes, 2d. Pen, O. J. Albee, 1st and 2d.

White Leghorns—Cockerel, O. J. Albee, 1st; Scholfield, 2d. Cock, Albee, 1st. Hen, Albee, 1st; Scholfield, 2d. Pullet, Albee, 1st and 2d. Pen, Albee, 1st and 2d.

Sweepstakes—O. J. Albee, grand prize, for best exhibit as a whole, \$100; James Quick, 2d, \$50; Ed. Ellis, 3d, \$25.

American Class—O. J. Albee, 1st, \$15; E. H. Freeman, 2d, \$10.

Asiatics—James Quick, 1st, \$15; O. J. Albee, 2d, \$10.

Mediterraneans—Ed. Ellis, 1st, \$25; French Bros., 2d, \$15.

Special Premium—Taxidermy Club, \$25.

General—Mrs. Purdy, \$7; Ellis, \$19; Olcese, \$5; Moore, \$7; Petaluma Incubator Co., \$8; Miss Forbes, \$5; S. J. McFarland, \$24; Rowan, \$10; Laura Walls, \$2; Sewell, \$1.50; Platt, \$7; Mrs. Bell, \$1; Scholfield, \$2.50.

Gleanings.

It is stated that 10,000 orange trees will be planted in Fresno county this year. They are beginning to find that they can raise oranges in Fresno county.

The horticultural commission of San Bernardino county has filed its report, showing a total of 41,674 acres planted to orchards in the county. This is an increase of over 100 per cent in four years.

The editor of the San Jose *Mercury* says that Santa Clara will this year have a fruit output of the value of \$15,000,000, against \$10,000,000 for last year. Pretty stiff figures, but a San Jose editor was never known to underestimate.

BAKERSFIELD celebrated recently the completion of the East Side irrigation canal and the San Miguel and Bakersfield Railroad as far as the asphaltum beds. The town and county expect great results from the consummation of this enterprise.

FOGGY weather in the Sacramento valley has not been productive of physical comfort, but it has conducted to tranquility of mind among hopgrowers. It was precisely what they wanted. There has been little or no frost with the fog, and many of the principal growers have begun plowing.

FOUR carloads of scale-infected Florida orange trees have arrived at Sacramento and have been investigated by State Inspector Alexander Crow. Secretary Lelong claims that the majority of the citrus trees received from Florida are infested with either the purple or Glover scale, and advises that extraordinary precautions be taken in the inspection of such trees.

THERE is a good deal of complaint in Butte county because the local supervisors have done away with local fruit tree inspectors. The grounds were economy, and the utter uselessness of such officers. As a matter of fact, there is no use for such inspectors where all imported and other fruit trees are sound and healthy. If Butte county has nothing to fear from the pests, it is much more fortunate than other places.

THE executive committee of the State Raisin Growers' Association recently met at Fresno, and drafted a bill that will be presented in the Legislature, and will, if made a law, regulate the meshes for grading raisins and provide for a uniform grade throughout the State. The committee has also called a meeting of the association to take place at Fresno on February 1st, next, to take action relating to the maintenance of the raisin combine next season.

The road supervisors of Nevada county complain that the twenty cents per mile allowed them by law as compensation, which in one year shall not exceed \$300, to act as road commissioners is not sufficient, no per diem being added; and the supervisor must travel 3,000 miles in order to raise his \$300. They will ask the legislature to correct this feature of the law. A good road supervisor deserves fair pay. Unfortunately poor ones have to be paid also.

HORTICULTURE.

The Almond.

DAVISVILLE, CAL.

California cannot be excelled for raising almonds; and for quick returns and a crop easily, quickly and inexpensively grown, the almond is the one above all others. It is the most easily cared for of any kind of nut or fruit-bearing tree. It is extremely hardy and the tree needs little or no pruning. The crop may be gathered leisurely. There need be no hurry to gather it within a certain time, like there is for fruit. It requires no experience or practice to harvest the crop, for there is no science needed such as there is in handling fruit. We can get our almonds into the eastern markets so much earlier than the importers that we have the great advantage over them of being able to supply the demand first, and consequently get better prices. This is one advantage over imported almonds which California hardly needs, for the new varieties of almonds now grown are so much larger and more beautifully shaped than the old varieties that our better-looking nuts sell for higher prices right alongside of the foreign article. The Ne Plus Ultra, California Paper-Shell, I. X. L. and the Nonpareil are the names of the better varieties. They commence bearing in three and four years. There is little or no labor attached to the harvesting of a crop of almonds; and not only that: You can almost choose your own time about harvesting—any time after the nuts are ripe; yet it is safer to gather them before any heavy rains come. It is liable to blacken them and make it difficult to get them white again.

WHEN AND HOW TO GATHER.

The nuts are ready to gather when the hulls open, disclosing the almond, usually about the middle of September or the first of October. At this time grain-harvesting is over, and there are usually many men to hire out to whom you do not have to pay fancy prices. You could not get your labor as cheap if your crop ripened in the summer. In gathering, a large canvas sheet is spread under the tree, and the limbs are struck sharp blows with poles until all the nuts are shaken off. These poles are of the straightest-grained Oregon pine, about 15 feet long and 1½ inches square, with the edges rounded off a little. This striking of the limbs with poles does not injure the tree at all, and besides, it hulls a portion of the nuts.

HOW TO PREPARE THE CROP FOR MARKET.

After gathering, the almonds are put through the hulling machine. The almond-huller of the present day is a rather incomplete affair. It consists simply of an iron or wooden draper run by steam or horsepower, carrying and rubbing the unhulled nuts against a stationary top-piece, which fits down just close enough to the draper to allow of the nuts passing through without breaking them. This rubbing and chafing takes the hull off, and then the nuts are separated from the hulls by the hand. When the necessity comes for an almond-hulling and separating machine, there will no doubt be invented a machine that will hull and separate the almonds from the mass of hulls, which will greatly cheapen the preparing of the crop for market. This necessity will soon arrive, for California can grow almonds to greater profit than anything else.

After the almonds are separated from the hulls, the nuts are bleached by sulphur fumes. The bleaching-house of Webster Treat is about 25 feet by 8 feet, and 4000 pounds are generally put in at one time and exposed to the fumes of sulphur from four to ten hours, though the longer the nuts are bleached the whiter they become. Usually, in bleaching soft-shells a little water is sprinkled over them before being put in the sulphur-house, for the purpose of making them bleach whiter. Care should be taken not to put more sulphur in one pan of coals than will completely burn; for if too much sulphur is put in at one time there will not be a complete combustion, and the soft-shells on being taken out will smell of the sulphur and the paper-shell kernels will taste of it. Mr. Webster Treat's bleaching-house is boarded with tongue and groove inside and out, and roofed with well-laid shingles. A flue about two feet high is on the apex to help draft the sulphur fumes up and out. The floor is of 1x3 set up edgewise, three-eighths of an inch apart, or just wide enough to admit the sulphur fumes and yet near enough to prevent the nuts falling through. The floor is about two and a half feet above the ground, the lower space boarded up with tongue and groove and fitted with small doors every five feet to admit of placing the pans of burning sulphur underneath the floor.

After being bleached, the almonds are put into burlap sacks, which can be bought for about seven cents and hold about 55 pounds of almonds. It costs about 2½ cents a pound to gather, hull, bleach, sack and haul a couple of miles and load on the cars. This is allowing a very liberal estimate of the cost, for a gentleman offered to gather, hull and bleach almonds for 1½ cents per pound and put them in sacks (I to furnish the sacks). A carload of almonds, as given by the Southern Pacific Company in 1891, is 15,000 pounds at \$225 per carload and 1½ cents for overweight; this is the rate to Chicago. To New York the rate is about \$260 per carload, with 1½ cents for overweight. With a good machine to do the hulling and separating, the cost would be reduced to three-fourths of a cent per pound, which is a very liberal estimate.

The reason that almonds have not been grown successfully heretofore in California is because that old, old variety, the Languedoc, has been the only one planted; and it is a terribly poor bearer, giving a good crop about once in four years. But now the new varieties which have been propagated here bear heavily and regularly and ripen early, the advantages of which I have already pointed out. The almond tree will commence bearing in about three or four years, and will continue to bear in fast-increasing ratio as it grows older and larger. I do not know how long an

almond tree will continue to live and bear, but its lifetime is three or four times longer than that of the peach tree.

PRUNING.

The almond tree requires very little pruning. When the tree is first set out—say it is an average sized tree three feet high—cut off about eight inches of the top; that is all the cutting to do to it unless you find along in summer that the branches are making a long straight shoot of more than three feet; if so, then pinch off the ends of the shoots. Let it grow without further pruning till next season. If the following winter you find the branches so thick as to seriously crowd one another, cut out such ones as in your judgment you think best. In cutting out branches that crowd, it is best to be on the safe side and not cut out too many, for all the wood you cut off after the second and third year, you must remember, is wood that will soon bear. The more you cut a tree, the more it will grow to wood. The less you cut the more limbs you have on the tree to bear. However, no set rules can be given that may be followed every time. Your own judgment must be used to some extent.

Of course it is understood that the way of pruning here given will not give the tree a nice, pretty shape, such as you have seen pictures of, probably in Downing's "How to Grow Fruits." But an elegant shape is not what is wanted. What we want is a big tree as soon as possible, with plenty of limbs on it to bear. We are supposed to be growing almond trees for profit, not for their beauty. The Anderson Bros. here at Davisville have an almond orchard of 55 acres and last year the trees, three and four years old, netted them nearly \$5000. This year the trees are much larger and they estimate between \$10,000 and \$12,000 worth of almonds. PERCY TREAT.

California Products in Boston.

Mr. C. F. Wyer, a fruitgrower of the Winters region, was in Boston at Christmas-time and writes of his observations to the Winters Express, as follows:

I was surprised to find our California black fig has not reached this market, while our earliest pears have not been sufficiently introduced to create any demand, or gain popularity. The quotations given you are wholesale figures to the trade. Unpeeled peaches do not, as yet, meet with favor in this market, the consumer preferring the peeled peach. The unpeeled sell for 14 cents a pound, while the peeled range from 20 to 25 cents a pound. French prunes are selling from 10 to 12½ cents a pound, 10 cents being the price for the four sizes, viz.: 60s, 70s, 80s, and 90s, while the latter price is for 40s and 50s. Apricots are commanding from 13½ to 15 cents a pound in sacks, and in some instances, where the goods are choice, bring as high as 17 to 18 cents in boxes. Turkey supplies the demand for figs. The ruling prices at present range from five to seven cents a pound in sacks and from 9 to 13 cents a pound in boxes, according to quality.

We have room for considerable improvement in the handling, packing, etc., of the fig. As for raisins, the markets seems to be very much depressed, and a wide range in prices for London layers prevails. They are selling from \$1.25 to \$2.55 per box; three-crown loose Muscatels bring from four to five cents in sacks; two-crown loose Muscatels from 3¾ to 4½ cents, seedless from 3½ to 5½ cents—3¾ cents, of course, being for inferior stock. There is no demand in this market for dried grapes—the call for them coming from the western States.

Our almonds are very popular and sell for from 14 to 17 cents a pound, and the paper shells retail as high as 28 cents a pound. The kernel is full and contains from 40 to 60 per cent more weight than almonds from other parts. Walnuts are selling for about 9¼ cents a pound.

The question of overproduction in our California products seems to be an absurdity if they are properly distributed. Since leaving California I have not seen 1000 fruit-trees, and if they were in our orchards, owing to their sickly appearance they would soon be either dug up or grafted to some variety that would prove more profitable.

THE FIELD.

Agricultural Statistics.

NAPA, CAL., Jan. 9, 1893.

TO THE EDITOR:—In your issue of Jan. 7th you call attention to the great want of reliable statistics from this State, and justly so, as no one knows better than myself. The Department of Agriculture, in whose service I have worked for some years now, does all it can to keep the farmers and fruitgrowers posted in that respect; but what can we do if the farmers themselves do not help us and the State reports are so unreliable as not to mention even, in many counties, some of the leading products? You have explained so well why we cannot expect them to be correct that it is needless for me to reiterate. I take this occasion to thank the many industrious correspondents I have in some counties for their kind efforts to help us, and also the press of the State, your valuable paper especially, for the information I have been able to glean, and from which I am compelled to make my reports. But I am still without direct correspondents from 24 counties, as follows: Alpine, Amador, Del Norte, El Dorado, Glenn, Inyo, Kern, Lassen, Marin, Mariposa, Modoc, Mono, Nevada, Plumas, Sacramento, San Benito, San Mateo, Siskiyou, Sonoma, Tehama, Trinity, Tulare, Tuolumne, Yolo. Will not some one in each of these counties send me his address, so that I can send him the monthly circulars to fill out? If he is an enterprising farmer or fruitgrower, he is surely posted on the condition and price of crops and stock, and it will take him but a few minutes to fill out the circular and mail it. We can offer no further compensation than the monthly reports of the Department, which are sent

direct to all correspondents, and such seeds as are sent out annually for trial. But these reports themselves will certainly be a full equivalent for the labor required, with the consciousness that it is by its help we are enabled to make them as near correct as possible.

Let me suggest to all my correspondents that they specially notice, under the head of remarks, any climatic or other conditions, such as drouth, wet, floods, hail, etc., which have had an influence on the abundance or scarcity of crops; also any new industries which may have developed. Our State has so many resources which are developing gradually, and which will have the tendency to make it what it ought to be, the greatest and richest State in the Union, that I have made it a point, in my special report to the Department, to notice any new branches of industry, together with the older ones, which promise well and which California alone, perhaps, has the climatic conditions to develop. Will not our many intelligent farmers and fruitgrowers help me in this, which is certainly for the benefit of all, and will have the tendency to bring such immigration as we need—men with willing hands and brain, who can see that they can make a good investment when they bring these together with what capital they may have to a State which will yield them fair returns, and where they can live in comfort, secure from blizzards, cyclones and extremities of heat and cold.

I am glad to see that the press of the State acknowledges and appreciates the efforts made by the Department to extend our markets and benefit the farmers. It is our representative and we should do all in our power to increase its usefulness and strengthen its hands by using our influence in Congress and out of it to make it more and more what it should be by liberal appropriations and active help.

GEORGE HUSMANN,

S. S. Agent, Dept. of Agriculture.

THE STOCK YARD.

Market Wanted for All-Purpose Horses.

The all-purpose horse of California has the greatest trouble finding a profitable market. The California "horse counties" are overstocked with them and ranchers and horsemen find them a positive burden. The suggestion of Mr. A. F. Jewett, in a letter to the Hanford Sentinel, a part of which is appended, are timely; but to these should be added that, before shipment East, more definite information as to the condition of the market there be secured, and specific arrangements for the consignment and handling of the horses should be made. Mr. Jewett says:

Another problem now confronts the producers of the Lucerne country, which is, "How shall we dispose of our surplus stock of horses at living prices." Not those growing up, but those now ready but vainly seeking a market. There are now in western Tulare alone not less than 1000 horses ready to put on sale could a buyer be found; of this number more than half are excellent animals, sound, young and well-bred. The markets of this State are practically blocked, except for animals of heavy draft, which are somewhat scarce, and every year adds a large number to the surplus. After a horse has been matured, each year lessens his value, besides the cost of keeping him—which is \$15 to \$18 yearly.

Many persons breed the mares which they cannot sell, hoping to make them pay expenses by so doing. But this only makes matters worse, if no market can be found, particularly if the animals are small or of poor stock. When horses capable of service are killed outright, and their carcasses fed to swine, because there is no sale for them or use they can be put to to earn their keeping; and others sold under the auctioneer's hammer at \$2.50 per head—many really good ones of fair size, young, gentle and broke to harness, going for less than a two years' pasture bill—it is time that our horsemen awaken to the situation and do something to relieve the country of its surplus stock permanently.

These are the conditions. What is the remedy? Here it is: Ship all good horses of four years old and over, for which a market cannot be found at home, East, and in the future, breed less horses and then only the best, and each kind adapted to some particular use. Don't mix them up. The old-time theory of breeding an all-purpose horse is a fallacy. That kind of an animal is not wanted in any market of the world now, and never was, only people did not know it, because when horses were scarce, any kind capable of service would sell. The draft, the trotting-bred and the thoroughbred are the kinds wanted. If you want an all-purpose animal get a mule. "Jack of all trades, but master of none" applies to the horse as well as to man.

The well-known fact that our railroad companies have always charged for transportation, and do now, more than the traffic will bear, and by so doing, kept this country a cattle range for years after it should have been settled up, does not prove that our surplus stock of salable horses cannot be shipped east of the Rocky mountains and disposed of at a profit to the raiser.

Persons who are in a position to know say, without the slightest hesitation, that the experiment, if it may be so called, is a safe one.

Live Stock Notes.

It is not desirable to have the ewes that are to lamb in the winter or spring very fat, but they should have plenty of good firm flesh and muscle. Oats or barley, either with fine dry or early-cut straw, will make this and at the same time promote the milk flow, while corn, cornmeal, oilcake and clover-hay, make too much fat. Not all of the ewes that are too fat have bad luck themselves or with their lambs. If with his feed there is the additional fault of little exercise, there is very sure to be weak lambs, and ewes that are liable to fever after the lambing, that is very

much like the milk fever in cows, though marked by different symptoms. Even the exertion of getting food from whole roots is better than no exercise at all.

One reason why unthreshed oats, or oats and peas, make good sheep feed, is that they are not as heating as the more carbonaceous food, like clover and cornmeal. The use of too much heating food may cause a shedding of the wool, which means not only a loss of wool, but a reduced strength and vitality of the animal.

Chicago market reports say that the farmers and ranchmen are culling their herds very closely, and selling their animals in poor condition for what they bring as "canners," thinking that it does not pay to put out good feed on them in the winter, preferring to use it for stock that will give better returns for their feed.

There are not many of what are called the nutritive elements in pure salt, but as a stimulant to digestion it is valuable. Cattle drink more, eat more, digest it better, and grow faster or produce more when they have just salt enough. This is applicable to certain foods that have a value beyond that found by the chemist.—Am. Cultivator.

SWINE YARD.

Improved Method of Slaughtering Hogs.

There is no necessity to have a crowd of men about, to kill and dress a few hogs. There is no reason why a farmer with his dozen pigs may not make use of some of the simple mechanical appliances that are used by the great slaughterers. Of course it is not suggested that he should have any costly apparatus, but there are some readily-made devices by which one man may do as much as three or four, and, with one helper, the dozen pigs may be made into finished pork between breakfast and dinner, and without any excitement or worry or hard work.

It is supposed that the pigs are in a pen or pens, where they may be easily roped by a noose around one hind leg. This being done the animal is led to the door and guided into a box, having a slide door to shut it in. The bottom of the box is a hinged lid. As soon as the pig is safely in the box and shut in by sliding down the back door, and fastening it by a hook, the box is turned over, bringing the pig on his back. The bottom of the box is opened immediately, and one seizes a hind foot, to hold the animal, while the other sticks the pig in the usual manner. The box is turned and lifted off from the pig, which, still held by the rope, is guided to the dressing bench. All this is done while the previous pig is being scalded and dressed, or at such a part of the work that as soon as one pig is hung and cleaned, the next one is ready for the scalding.

The scalding-vat is a wooden box with a sheet-iron bottom, so that a small fire may be kept under it to maintain the proper heat of the water. This is 180° Fahr. or 82° C.; or the vat may be replenished with hot water from an adjacent boiler. This vat is placed close against the dressing-table, so that the carcass may be rolled on to a barred table that is immersed in the hot water the full depth. This barred table may be made in various ways. It may consist of slats, fastened at each end, and the middle to chains, by strong staples, so that it is pliable, and the hog may be embraced by it and easily turned out of the water by two short rope-handles, or one attached to a pulley-block on a bar over it.

As the carcass is dressed it is lifted by a hook at the end of a swivel-lever mounted on a post and swung around to the hanging bar, placed conveniently. This bar has sliding hooks made to receive the gambrel sticks which have a hook permanently attached to each so that the carcass is quickly removed from the swivel-lever to the slide hook on the bar. The upper edge of the bar is rounded and smoothed and greased to help the hooks to slide on it. This serves to hang all the pigs on the bar until they are cooled. If four persons are employed, this work may go on very quickly, as they may divide the work between them, and one pig be scalding and cleaning while another is being dressed. The entrails should be dropped into a wheelbarrow, as they are taken from the animal.

When 10 or 12 pigs are dressed every year it will pay to have a suitable building arranged for it. An excellent place may be made in the driveway between a double corner, or in a wagonshed or an annex to the barn where the feeding pen is placed. The building should have a stationary boiler in it, and such apparatus as has been suggested, and a windlass used to do the lifting.—American Agriculturist.

EXPERIMENT STATIONS.

Root Knots on Fruit Trees and Vines.

University Experiment Station Bulletin No. 99.

INTRODUCTORY NOTE.—The subject upon which Prof. Woodworth makes the following interesting statement has perplexed California fruitgrowers for many years. Almost everything imaginable has been cited as a probable cause; conditions of drouth or of excessive moisture were among the earliest causes assigned, and some prejudice against nursery stock grown by irrigation was created. An investigation by a committee of the State Horticultural Society about 1880 showed that the knotted roots were found quite as abundant in unirrigated land as in irrigated, and otherwise the inquiry yielded no definite results. For some time many nurserymen followed the practice of removing the knots from the trees as dug from the row, but this was abandoned when it was found that the knot commonly reappeared after planting in the orchard. At present no reputable nurseryman sells such trees; they are burned at the nursery.

In my personal examination of knots, which has continued for 15 years, I have but on one occasion found a nematode gall and that was upon the root of an English walnut sent from Los Angeles county. Nearly all the others were of the character described by Prof. Woodworth as "crown galls," although they are found in many cases farther down on the roots. Some orchardists have been at great expense in laying bare the roots and smoothly paring the roots and applying various substances to the roots. In most cases the knots have reappeared subsequently. Others have laid bare the knotted root crown to the sun and the knots have flaked off, but others have been found afterward lower down on the roots.

It must be acknowledged that the cause of the evil and its cure are still unknown, and it is to be hoped that Prof. Woodworth's study of the subject, which is still in progress, may reach definite conclusions. His advice not to plant a diseased root should be zealously adhered to by all planters. Probably during the last 20 years, hundreds of thousands of such trees have spindled and died in the best soil and with the best treatment. If the disease has stunted the growth of a young tree, pluck it out and plant a new one. If knots are found on larger trees, which are making satisfactory growth in spite of them, remedial measures should be tried. The final result seems to depend upon whether the natural or the diseased growth secures the ascendancy early in the life of the tree, for apricot trees have been taken up after 30 years of satisfactory growth and bearing, and found to have roots badly infested with the knots.

E. J. WICKSON,
Acting Director.

There is no one thing about which so many inquiries have been received as a peculiar form of root-knot or gall on a number of plants, but chiefly grape and apricot. These knots are of irregular shape, fleshy and mostly situated at or about the crown of the roots.

On different plants they present a somewhat different appearance, but they are so near alike in structure as to prove that they must all be due to practically the same causes.

This form of gall has received a number of local names, the most widely used of which is that of "black knot," particularly for the form that occurs on the grape. This is an objectionable name, as it has long been used in the eastern States for a very different kind of gall that occurs on the stems of cherries and related plants. On account of its presence at the crown of the root, almost invariably, it may be called the crown gall or knot, so as to distinguish it from other forms of root galls, of which there are quite a number of kinds, sometimes with much the same general appearance as the crown gall, but which show a decided preference for the other parts of the roots.

The crown galls arise generally from one side of the crown as a simple swelling of fleshy substance of about the consistency of a potato or perhaps somewhat harder. They soon become irregularly granular over the surface and dark-brown in color, the outer parts of the granulations into which the surface is divided being the darkest. When cut or broken open they are almost white at first, but very soon become reddish-brown on exposure to the air. Under the microscope, they may be seen to be composed of large, thin-walled cells, with now and then the distorted and scattered elements of the fibro-vascular bundles.

A young gall of this kind contains very much water, and on drying, becomes sponge-like in appearance, and is very light and quite hard. Older knots are similar, but harder, and dry into harder and firmer masses, which do not shrink or become sponge-like. In size the crown gall varies greatly, being often as large as one's fist and sometimes much larger, especially in the apricot.

Of other root galls, we may distinguish five different kinds:

1st. Mechanical galls, which are slight swellings, sometimes produced at points where the roots meet obstructions, and are quite common on the roots of some plants in a stony soil. They may be told at once from a crown gall by their comparatively smooth surface, and by the fact that they only accompany an abrupt bend of the root. They are only slight swellings and flattenings of the root, and are seldom found anywhere near the crown. Indeed, they are the form of root gall least likely to be mistaken for the crown gall.

2d. Louse galls due to the attacks of plant lice. Those caused by the phylloxera and woolly aphis are well-known examples. They are almost always of small size, occurring on both large and small roots, and as often at the crown as elsewhere. The presence of the lice is generally sufficient as a distinguishing character, though their small size may render them hard to be seen.

3d. Tubercle galls found only on the roots of plants of the pea family. Only the smaller roots are affected. The gall is about an eighth of an inch or less in diameter, the whole inside of which is swarming with minute moving particles which appear to be bacteria. They play an important role in the acquisition by the plant of nitrogen from the air. The small size of these galls and their presence only on the small roots will distinguish them from the crown galls.

4th. Club-foot galls produced by a slime-mold (*Plasmodium brassicae*), on the roots of cabbages and such plants. These galls are somewhat yellowish when broken open, which color is due to the presence of the slime-mold in great abundance in the diseased tissues of the gall. They may be distinguished from the crown galls by not being so knotted, but being much more closely attached to the plant.

5th. Nematode galls which are due to minute worms resembling very much the so-called vinegar eels. They are found on the roots of a great number of plants. The worms are so small that ordinarily they will not be seen without examining sections under the microscope. The small size of the gall, and its presence chiefly on the smaller roots, will distinguish it from the crown gall.

There are several theories as to the cause of the crown gall, but none of them are without very serious objections. One idea is that these galls are the result of wounds made in cultivation, and I think it has been proven that at least in a few cases the galls have followed such wounds. In attempting to heal a wound, as is well known, the plant will often produce at that point a slight swelling, and it is argued that at the crown the conditions are such that a large swelling will result. There are, however, a number of fatal objections to this hypothesis. Neither is the crown gall the uniform result of a wound, nor is a wound, at least one made by human agency, necessary to produce a gall, though it would be bold to assert that there had never been a wound of any kind at the point where the gall is produced. The most fatal objection to this hypothesis is the fact that the appearance, the manner of growth and all the phenomena connected with the crown gall are so different from those of a healing wound that there seems scarcely any reason to connect the two.

Another theory is that they are due to peculiar conditions of the weather, such as frosts, excessive rains and such things at a critical time in the spring, causing an abnormal stagnation or an excessive flow of sap, and the gall is the result. These suppositions are scarcely reconcilable with the facts of plant physiology, and it has never been observed that these galls are produced in particular abundance immediately following any peculiar spring condition. Indeed, the idea seems to arise from the general tendency to ascribe every abnormal condition of a plant to the weather.

A third theory is that they are due to some of the fungi related perhaps to that which produces the true black knot. The only objection to this theory is that no such fungus has ever been observed about the knots, at least not in the living knots, and it may be that a more careful study than has yet been made will show that such fungus does occur.

Finally, as has become quite the fashion of late years, the bacteria have been charged with the injury. I myself have succeeded in getting pure cultures of a micrococcus from the inside of some of the knots, after taking all the usual precautions to prevent accidental contamination. I do not succeed, however, with all knots of this kind, and not having further evidence, such as, for instance, the communication of the disease to healthy plants, we are not in a position to say that we have found the cause.

The presence of a gall at the crown of a plant seems to effect an obstruction to the flow of the sap, and in this way a tree or vine becomes weakened and finally dies. The gall generally attacks small plants, but not always, and it often takes a number of years before the plant is killed.

Whatever the cause, many fruitgrowers in California have had reason to know the seriousness of the injury produced, so the following words in regard to remedies and prevention will not be out of place. Not knowing the cause, they can be but suggestions, but it is believed that the treatment laid down is the safest procedure.

First, in the orchard the knots should be carefully removed and burned as soon as found, and an antiseptic application made to the tree where the knot has been removed. We would recommend Bordeaux mixture for this purpose. Trees so treated should be examined from time to time for at least a year, and should the knot reappear, it would be best to remove and destroy the whole tree. When a tree is removed, it would be well to delay resetting for a year or two, or to reset with a tree of an unsusceptible kind.

Second, when setting an orchard, reject all stock affected by the knot. I would prefer to have stock from a nursery known to be entirely free from it.

Third, in the nursery the greatest care should be taken to destroy by burning everything showing any evidence of the disease. Fields in which these galls have appeared should be devoted to some other crop for a number of years.

C. W. WOODWORTH,
December 1, 1892. Berkeley, Cal.

A New Nozzle Tester.

The latest acquisition in the line of apparatus for experimentation is a new nozzle-tester that has just been constructed at the University of California. There are many kinds of spray nozzles on the market, and excellent ones, too, but they are of widely different types and so are not equally suitable for the same use. There has not been as yet any attempt to determine carefully and accurately their relative merits. This the University Experiment Station now proposes to do.

The most conspicuous part of the new nozzle-tester is a large tank intended to maintain a constant pressure. From the lower part of this tank a large pipe leads to the apparatus, to which the nozzle is attached. The large diameter of this pipe makes the friction of the water flowing through it practically nothing. Just before the point where the nozzle is attached there is a steam gauge to register the pressure and a mercury manometer for determining more accurately the lower pressures. It is hardly worth while at present to attempt to describe the various contrivances for the accurate measurement of the action of the nozzle and of the spray, as they will all be fully described and illustrated in a later bulletin, where also the results of actual tests of the more common nozzles in the market will be given.

The data that will be determined for each nozzle under different pressures is as follows:

1. Volume of discharge per second.
2. Velocity of steam just in front of the nozzle.
3. Distance the spray is thrown.
4. Angle of dispersion.
5. Average fineness of spray.
6. Distribution of spray.
7. Uniformity in fineness.

It is believed that by such a study of new nozzles the following questions may be settled:

1. The best types of nozzles for particular purposes.
2. The conditions under which each nozzle gives its best results.
3. The changes in the construction of any nozzle which will make it more available for any particular purpose.

We also intend to study old nozzles, comparing them with new ones of the same kind to determine:

1. The cause and amount of deterioration.
2. Changes in construction which might overcome these defects.

We would like to receive from manufacturers and dealers in spraying apparatus specimens of their nozzles for experiment. For the study of old nozzles we would likewise request fruitgrowers and others to forward to us their old nozzles together with a statement as to the extent and kind of washes that have been used in them. The data in regard to all nozzles tested will be published in full with illustrations in the bulletins and reports of the Experiment Station, and the nozzles will be preserved and exhibited in the museum of the department.

C. W. WOODWORTH,
Berkeley, Dec. 16, 1892.

AGRICULTURAL NOTES.

CALIFORNIA.

Butte.

Chico Enterprise: Senator Stanford has completed negotiations for the purchase of the Butler ranch, near Tehama, being a part of what was formerly known as the Toomes grant. The present purchase consists of about 3000 acres, most of which is first-class farming land. The price paid was \$100,000. These were Mr. Butler's figures, but a less sum was offered and refused.

Chico Enterprise: Mr. V. David, who has become quite enthusiastic over sugar beet culture in this section, and who has spent his time and money in urging the farmers to cultivate beets by supplying them with seed, has been experimenting in a small way with some beets grown in this vicinity. He sliced up 15 pounds of beet and, in a common pan on the top of an office stove, cooked that amount for the saccharine matter that was in it, and has as a product 1 1/2 pounds of thick syrup.

Oroville Register: The profits, as shown by Mrs. E. Robinson, F. Closs, J. O. Loomis and others of Placer county, show that the olive in Butte county will pay better than any other tree. Dr. Clark, of Auburn, realized \$200 an acre from six-year-old trees. Many in Butte are planting extensively, among whom are Judge Gray, at Wyndotte, who has 10,000 trees; Hearst & Taylor, of Palermo, 9000 trees; Dr. W. E. Mack and Mrs. Jenkins, of Paradise, 5000 trees, while there are many others in all parts of the county.

Colusa.

Crops.—Colusa Sun: We have not started in on the crop season in first-class shape. The very hard rain coming on the summer-fallow before the grain was up has made a crust on all the lands in which clay predominates, and this includes some of our best wheat lands. The consequence will be a bad stand on such lands, and a bad stand allows the sun and wind of the whole season to parch the crust thus formed so as to pinch the plant. We have suggested to several farmers the feasibility of harrowing the ground and putting on a little more seed before the plant gets too large, and the idea has been indorsed. It is very often the case that it will do good to cultivate wheat with a heavy harrow. No plant, from a wheatstock up to a pear tree, will do so well with the land pinched and baked around it as it will with the soil cultivated. We are satisfied that half the wheat area of the county would be benefited by cultivation in this way, whether more seed should be put in or not.

Contra Costa.

The Concord Sun reports that 3000 almond trees have been planted in the J. W. Channel orchard, in Mt. Diablo valley; also that three date trees about five feet high are flourishing finely in the same orchard.

Humboldt.

Times: The squash which has been on exhibition in the window of McNamara & Silverwood's store was opened and the seeds counted. There were 268 seeds in it, and the first prize of \$20 was won by Charles Potter, who guessed the exact number.

At the Humboldt creamery, near Ferndale, from March 14, 1892, to December 30, 1892, they purchased 2,166,816 pounds of milk, and made 91,272 pounds of butter, the value of which was \$22,945. The above figures do not include skimmed milk.

Times: The farmers and dairymen in the vicinity of Hydesville held a meeting in that town last Wednesday, at which steps were taken to organize a creamery company and build and operate a creamery. It was decided to organize an association having a paid-up capital stock of 100 shares at \$50 a share. Nearly two-thirds of the stock has already been subscribed.

Kern.

The Standard says: When the 78 irrigation canal is completed, it will cover 200,000 acres of fine land lying east and south of Sumner.

Lake.

Lakeport Democrat: A. H. Poe killed one of the largest wildcats we have ever seen, last Tuesday morning. He caught him in a steel trap, and it was a monster. He measured two feet and nine inches from tip to tip. Mr. Poe has captured two coyotes lately, besides quite a number of other small varmints.

Lassen.

Mail: One of our reporters visited the Watson ranch yesterday, where he was invited to witness a hog-killing contest. Thirty-two hogs were slaughtered and hung up between the hours of 10 A. M. and 6 P. M. The two heaviest porkers weighed 520 and 540 pounds respectively.

Los Angeles.

The orange shipment from Downey commenced last week with one carload for San Francisco, one for Ogden and one for Butte, Mont.

Los Angeles Express: A new society has been organized in Antelope valley, styled the Rabbit Rustlers. If the society rustles as hard as the rabbits do in that locality, it will become a formidable organization.

The walnut growers of Ranchito and Los Nietos will have at the World's Fair a tower 24 feet high, constructed of plate glass and filled with walnuts. The tower will also be surmounted by an immense wooden walnut.

Pomona Progress: A leading merchant in Pomona informs us to-day that he knows our

townsman James Becket has recently been offered \$3500 for the crop of Navel oranges on his six acres of trees on the Holt avenue, and that the offer was declined with the expectation of getting more money later in the season, when the Florida oranges are out of the market.

Last year Mrs. Strong of Whittier raised 2,000,000 plumes, the crop during the present season being 1,750,000. Of these, 100,000 were sold in this country for use during the campaign, and 650,000 were disposed of in Europe. The remaining 1,000,000 are reserved for use at the World's fair, 10,000 being needed for the interior decoration of the California building alone.

Pomona Times: Mr. C. L. Loud of Loud & Gerling has made a careful estimate of the orange crop in and about this city. He places the amount at 210 carloads. He estimates the value of the fruit on the trees at \$2 per box for Navels, \$1 for Seedlings and \$1.50 for other varieties, making from \$90,000 to \$100,000 for the crop on the trees. Those who pick and deliver at packing-houses will of course get higher prices.

Pomona Progress: Hiram Kinney has a four-acre walnut orchard, 12 years old, on his farm near Downey that has annually borne a crop worth not less than \$950 for five years. Mr. Kinney told us the other day that the price paid for the nuts varied each year from 6 to 9 1/2 cents. He never had the least bit of trouble in finding a market for the crop. Mr. K. reckons that his last English walnut crop paid him an average of \$5.25 a tree; and as he has 80 trees to the acre, the gross receipts from an acre of nuts are \$420. In 1889 the crop from the 320 trees sold for exactly \$1164. In 1890 the crop brought \$1125. There is no work about an English walnut orchard compared with a prune, orange or lemon orchard, and the net profits therefore run high.

Mariposa.

The Board of Supervisors of Mariposa county by a majority vote refuse to issue the \$75,000 road bonds formerly voted by the Mariposa county people for new road-making purposes.

Modoc.

Potter Four Corners: Skating on the sloughs is pronounced excellent by those who have tried it, and yet the sun shines warm and spring-like and the frogs keep up their singing as though winter never existed.

Monterey.

Over 200 head of cattle are being fattened at the Moro Cojo ranch for Monterey butchers. There is a great abundance of feed for them in the beet-fields, as the beets are cut quite deep, and a large supply of mammoth beets have to be left over.

Watsonville Pajaronian: Over 4000 acres of land have been contracted for beets for this year, and a large acreage has been engaged and the contracts will be signed in due time. This estimate is exclusive of the Moro Cojo ranch and a large part of the Cooper ranch.

Placer.

Newcastle News: The Auburn papers state that the carload of oranges recently sent from this place was the first full carload of oranges ever shipped from here. Such is not a fact, says the Newcastle News. The Cooperative Fruit Company shipped a full carload of the yellow fruit several years ago. There has been a steady growth in volume of the crop, however, as our fruit is early and is shipped in less than carload lots.

Sacramento.

According to the records, 176 coyotes were killed in Sacramento county during the last year.

San Benito.

Advocate: Coyote scalps to the number of 154 were filed with the county clerk for the quarter ending January 31, 1892.

San Bernardino.

It is estimated that Riverside will this year pay out \$180,000 for labor to pick and pack its oranges.

Orange Belt: Sylvester Sawdey brought in samples of his last season's raisin crop that were very fine in flavor and of delicate texture of skin and pulp. They were grown on vines one year old from the cutting and are a good illustration of the productiveness of Rialto soil.

Redlands Citograph: R. J. Waters' young Navel orchard, on Center street, breaks the record for bearing. The orchard contains 4 1/2 acres and the trees were planted in March, 1889. The estimated crop this year is 300 boxes. Oranges are now selling for \$3.50 per box, f. o. b., which gives \$1050 as the proceeds of the 4 1/2 acres.

The price of beets at the Chino ranch for the coming season will be \$3.50 per ton for 12-per-cent beets, and 40 cents per ton for each per cent above 12, instead of 25 cents, as paid heretofore. The Champion figures that this will bring an increase of \$35,000 on the season's crop.

San Diego.

The Perris and Bear Valley irrigation district, at their recent meeting, sold \$14,500 worth of bonds at 90 cents, \$6000 being taken by the Aetna Iron Works of Bridgeport, Conn., and \$8500 by the Bear Valley Company. Bids for laying laterals will be opened soon, and the entire district of 13,444 acres will be irrigable. The district collector has received \$22,000 in assessments.

San Joaquin.

A Dexter Prince filly, the property of Dan McCarty, broke her neck one day last week in Lodi while in training. The animal reared and fell, sustaining the injuries as stated. She was valued at \$2000.

San Luis Obispo.

Arroyo Grande Herald: On Monday afternoon last C. L. Bandy, a gentleman 64 years of age, was gored by an infuriated cow near his residence in the eastern end of town and seriously and dangerously injured.

Tribune: The Godfrey ranch is undergoing a metamorphosis. Before the year is out old settlers, to whom the ranch has been familiar from childhood, will lose themselves while crossing it. A thousand acres in one body is leased to Mr. Winchester, who will put it all into grain. Yesterday 500 acres more were leased to another successful farmer, with the privilege to purchase. Several sales are on the tapis, and will be consummated as soon as the surveyors complete their work. All through the Las Tablas there is a quickening of the vital pulses of the community. Every intelligent man, woman and child realizes that a great change is at hand. The old order will make way for the new. The picturesque vacquero will have to seek other pastures, and the sturdy granger will be given a chance.

Santa Clara.

Gilroy Advocate: The directors of the Farmers' Cooperative Union have declared a dividend of \$4 a share. The prosperity of the business during the past nine months, the time of the union's existence, warrants the payment of this dividend, which is equivalent to 10 1/2 per cent for the year. The dividend is payable on demand of the shareholders.

Gilroy Advocate: Mr. Britton is planting 1100 prune trees this week on the Farman place recently bought by him on the Carnadero. He is planting one-year-old trees which have been raised without irrigation at San Jose.

Solano.

Dixon Tribune: John Deatherage brought to our office on Thursday a sample box of large and luscious strawberries. He has been picking berries from his vines continuously since the first day of April, and they are now covered not only with ripe fruit, but blossoms which will develop into fruit later on.

Sonoma.

Covina Argus: If some unforeseen calamity does not befall the orange crop of Covina, it will be a very heavy one considering the age of the trees. The four or five year old orchards are very heavily loaded, in fact the trees have too many oranges on them, and the branches have to be propped up to keep the fruit from doing the tree damage.

Stanislaus.

Tulare Times: A gray wolf was recently killed near La Grange. These animals are seldom seen in that valley.

It is said that the Tulare irrigation tax this season amounted to \$60,000. This heavy drain on the pockets of the taxpayers made money scarce about Christmas-time.

Tulare.

Hanford Journal: R. Starkweather, manager of the Grangers' Bank business here, reports a

large quantity of seed wheat going out—much larger than at this time last year, the prospects being most favorable for a good wheat season. He has 5000 acres himself seeded in the vicinity of Dinuba and Summit lake.

Hanford Journal: Sam Bee, the butcher, is in the pork-packing business now, and is manufacturing about 500 hogs into hams, bacon, salt pork, etc. He puts up a large amount of this product every year, and has no trouble disposing of it at good figures. He says, and we believe he is right in the proposition, that a joint stock company, formed of hog-growers and others, could, with a capable man to do the packing, manufacture the hogs raised in this county into a good quality of ham, bacon, etc., and make a good profit out of it. The money paid for freight and to outside packers could thus be kept at home and be a benefit to the entire county. He shows his belief in the success of the enterprise by offering to take stock in such a company.

Tuolumne.

Independent: Deer are often seen in the hills near Sonora. A herd of eight was seen in one place a mile east of town, and a big buck jumped a ranch fence on seeing an envious-looking man with a gun. The gun and man followed for some time, but the game bucked out of sight.

Ventura.

B. F. Maddox has sold his seven-acre orange grove in the Ojai to W. P. Stevenson for \$5000.

Yolo.

Independent: This being the season of the year when tree-planting is most general, we have been able to ascertain pretty accurately the number of trees that will be set out about Guinda this spring. If our list does not contain the name and amount of any person intending to set out trees hereabouts, if the information is furnished us, we will cheerfully print the same. Our list is: E. J. Campbell, 400 fruit trees; C. E. Hustler, 1350 almond and prune; T. Steele, 400 trees; W. T. Barnes and J. C. Frank, 2600; R. Chinn, 50 trees; W. B. Stitt, 1300; Hugh Chinn, 850 almond trees. In Simpsonville, R. S. Benham has let a contract for clearing 40 acres, and will plant 1000 fruit trees this season; C. H. Simpson will also plant 1000.

OREGON.

Salem Statesman: The Friends Quaker Colony Co. of Salem will in a few days be incorporated by Dr. H. J. Minthorn, Dr. S. Cook and a number of Friends and capitalists from Lincoln, Neb., and Indianapolis. They have secured a three months' option on 2200 acres of land, a large flouring-mill, 60 barrels daily capacity, operated by waterpower; a sawmill operated also by waterpower; a steam sawmill; a cheese factory, a fruit-drier; a store building; a blacksmith shop; ten dwelling-houses; a large warehouse; several barns; a good limestone quarry; a coal mine; abundance of waterpower (in all from 200 to 300 horsepower) easily available, and plenty of good timber. The land is good fruit and grain or grass lands; the location is healthy and sightly. The water supply is abundant and pure and the drainage perfect.

PROMPT, GOOD WORK.

RHEUMATISM.

Mr. Willet F. Cook, Canajoharie, N. Y., writes: "Awoke one morning with excruciating pains in my shoulder. Tried various remedies for sudden pains without effect; went to my office; the pain became insufferable; went home at 11 o'clock and used ST. JACOBS OIL; effect magical, pain ceased, and at 1 o'clock went to work; cure permanent."

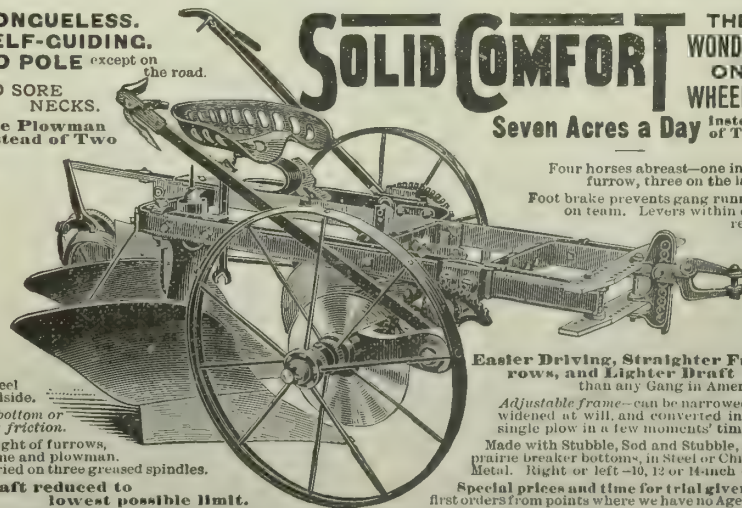
NEURALGIA.

LITTLE RAPIDS, WIS.

My wife suffered with such intense neuralgic pains in the face, she thought she would die. She bathed her face and head with ST. JACOBS OIL, and it cured her in four hours.

CARL SCHEIBE.

TONQUELESS.
SELF-GUIDING.
NO POLE except on the road.
NO SORE NECKS.
One Plowman instead of Two



Wheel landside.
No bottom or side friction.
Weight of furrows, frame and plowman, carried on three greased spindles.
Draft reduced to lowest possible limit.

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The Columbia Steel Mill.

IS SUBSTANTIAL.

The frame of the wheel is constructed of drawn steel rods, the spokes bracing in both directions from the rim which is directly over the center of the hub, giving great strength and rendering it impossible for the wheel to collapse in any direction. The main shaft is of first quality steel shafting and to it is attached the internal gear pinion, which in turn drives the internal gear wheel.

IS POWERFUL.

The fans form a true spiral, presenting an angle of 45 degrees to the wind, at the inner end of fan; gradually increasing the angle to 80 degrees at the rim of the wheel, and present the best possible angle to the wind at every part of the fan when the wheel is in motion; and also PROVIDE FOR THE BEST POSSIBLE CLEARANCE OF THE WIND IN PASSING THROUGH THE WHEEL, ENTIRELY AVOIDING THE BACK SUCTION AND LOSS OF POWER SO NOTICEABLE IN OTHER MAKES. The internal gear used only on our mill reduces the speed of the wheel to the normal rate at which it is practical to operate a pump in a well of any depth, and overcome the back lash on dead center (which is the objection to outside or spur gears) and more than doubles the power of the wheel when compared with any direct-gear mill. The gearing is entirely protected from exposure to the weather. The eight-foot Columbia Mill has 4, 5 and 7-inch strokes; the ten-foot has 5 and 8-inch strokes, and is adapted to a larger range of utility than ever before attempted.

IS CHEAP.

8 Foot.....\$45.00 10 Foot.....\$55.00

BUCKEYE PUMPS

Are known everywhere and will work anywhere. They are strong, well made and in their working parts possess advantages over all other pumps.

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THE GOLDEN GATE GAS ENGINE

ENTIRELY AUTOMATIC! POSITIVELY SAFE!

ESPECIALLY
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FOR
OPERATING

IRRIGATION
PUMPS

AND

COMBINED
HARVESTERS.

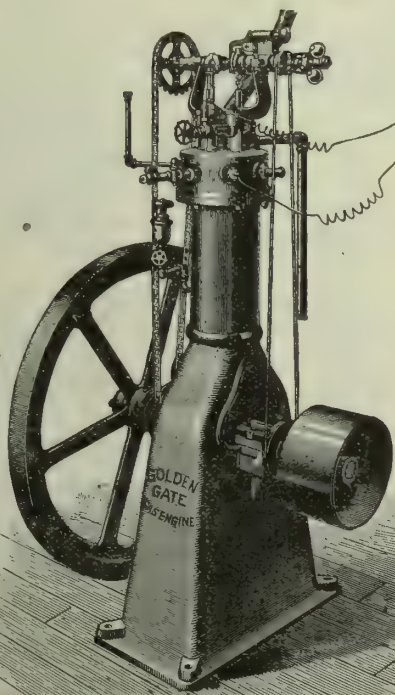
HAS NO EQUAL

AS A

Cheap and Convenient
Motive Power

FOR

ALL PURPOSES.



NO WASTE

OF

Gas or Gasoline.

WILL NOT GET OUT
OF ORDER

AND

Will Actually
Develop

ALL THE POWER
CLAIMED FOR IT.

THIS IS

GUARANTEED!

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SEND FOR INTERESTING AND INSTRUCTIVE CIRCULAR.

ADAM SCHILLING & SONS,

211 AND 213 MAIN STREET, SAN FRANCISCO, CAL.

Send for Price Lists
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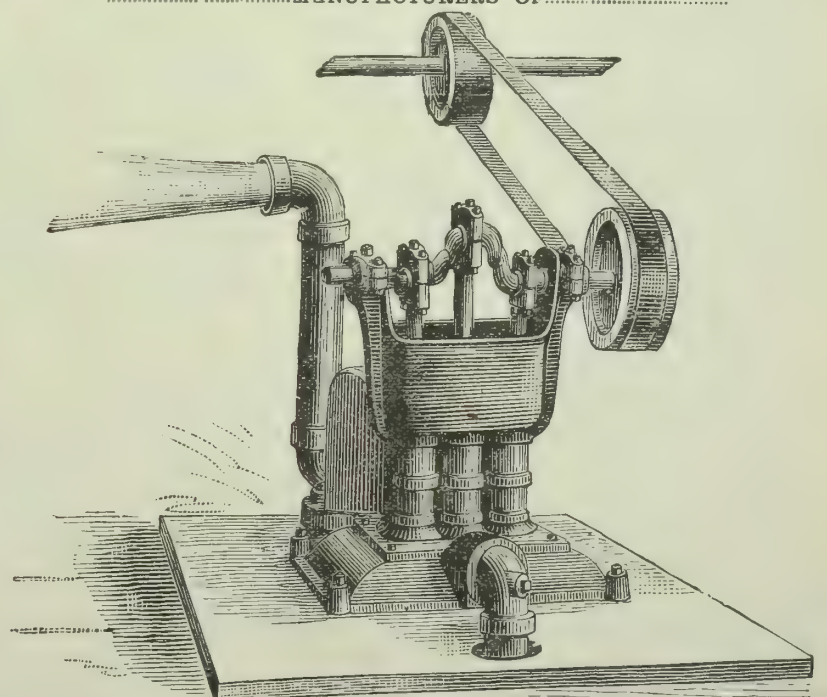
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The Triple Acting Power Force Pump

ESPECIALLY ADAPTED FOR IRRIGATION PURPOSES, FACTORIES, BREWERIES, WATERWORKS, RAILROADS, AND WHERE A LARGE QUANTITY OF WATER IS REQUIRED.

SEND FOR ILLUSTRATED CATALOGUE.

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Head AND Hand Work

The wise farmer uses his head as well as his hands. He is constantly looking for better ways and means. He lets science do the work that labor used to do. The result is apparent in the condition of his farm, in the value of his crops—in his face. The first step in the right direction is an acquaintance with the "Planet Jr." labor-saving tools. They are a revelation; an education; a triumph of head work. The "Planet Jr." book for 1893 tells the whole story in pictures and words. It's an invaluable book to the farmer. We send it free.

S. L. ALLEN & CO., 1107 Market St., PHILADELPHIA, PA.

Irrigation in California.

Continued from page 48.

water is effected, and the greatest amount of labor from a given amount is obtained.

THE WRIGHT LAW.

The growing importance of irrigation in California and the necessity for some measures whereby irrigators could organize for their mutual benefit in this direction led to the passage, by the legislature, in 1887, of "An Act to provide for the organization and government of irrigation districts, and to provide for the acquisition of water and other property thereby for irrigation purposes." This is commonly known, from the name of its sponsor, as the Wright law. This provides for the organizing of fifty, or a majority of freeholders owning lands susceptible of one mode of irrigation, into an irrigation district, and empowering them to issue bonds, which are a lien upon the realty of the bonded district, for the purpose of purchasing or developing water for the same.

The object aimed at was a most desirable one, and many of the residents on and owners of arid lands availed themselves of the provisions of the bill and in a short time a number of irrigation districts was formed.

There are now in existence in the State 38 districts organized under this law, as follows:

COUNTIES.	Districts.	No. Acres.	Assessed Value.	Bonds Voted.
Colusa.....	2	270,050		1,430,000
Fresno.....	2	354,320	5,221,853	850,000
Fresno & Tulare.....	3	705,927	5,587,630	2,675,000
Glenn.....	1	26,000	600,000	100,000
Kern.....	1	40,000		500,000
Kern & Tulare.....	1	84,335	1,810,400	700,000
Los Angeles.....	5	44,600	819,723	832,000
Orange.....	1	32,500	1,245,742	600,000
San Bernardino.....	7	63,867	4,450,691	2,615,000
San Diego.....	8	147,136	4,661,451	3,794,000
Stanislaus.....	2	254,774	6,289,814	2,000,000
Tulare.....	3	77,580	2,616,575	641,000
Yuba.....	1	44,000	800,000	140,000
Totals.....	38	2,149,069	32,982,849	16,776,000

There have been some difficulties in placing the bonds of many of these districts. The securities provided are new, and capital is always conservative and fearful of new schemes. The need of a canal and irrigation works in any district indicates *prima facie* the aridity of that district, with a consequent lack of population in its vicinity. Capitalists want the most ample immediate security for their loans, and are not willing to invest on prospective improvements and a consequent advance in value. This is especially true of eastern capitalists who have not yet overcome their early prejudice against the great American desert.

The advantages offered by the Wright law, however, are amply illustrated by the fact that, in some cases, communities with ample and well-secured water rights, owning paying, and improved farms and orchards, have organized under its provisions in order that they may avail themselves of its benefits in working as a unit instead of as individuals.

ADVANTAGES OF IRRIGATION.

The effect of water upon land may be classed under two general heads—chemical and physical.

The chemical effects may again be divided into:

1. Supplying fertilizing qualities, contained in the water, to the soil.
2. Changing the chemical composition of the plant food already existing in the soil.
3. Dissolving and preparing the plant food of the soil and fitting it for absorption and assimilation.
4. The deposition of beneficial or injurious salts.

The physical effects are fewer but no less important, and are—

1. The softening of hard soils and rendering them suitable for working.
2. The disintegrating of the harder particles and making the texture of the soil finer.

The matter of fertilization is one of the gravest importance to the Eastern farmer. The continual cropping of the soil has so deprived it of the constituent elements of plant life as to have rendered, in some cases, land worthless that was valuable until such continual cropping without making any returns had rendered the soil barren; in other cases, the farmer has to return a very large percentage of his earnings to the soil in the way of artificial fertilizers, in order to supply the necessary plant elements. While it is unquestionably true that we in California shall have to supply some portion of these elements, the water from our mountains, and even from our artesian wells, is so freighted with the larger part of them as to reduce the cost of this requirement to a minimum.

These constituent elements, which are drawn from the soil and absorbed from the air, are potash, soda, lime, magnesia, brown oxide of magnesia, iron oxide, alumina, phosphoric acid, sulphuric acid, silica, chlorine. These are usually found in abundance in all virgin soils, but continual cropping without returns in some form will ultimately exhaust them, and as a result, crops are light and unprofitable.

Our irrigating water is generally derived from the mountains. It falls in winter as rain and snow, follows the surface of the land to the main channels, and gathers up on its way all these elements, or it penetrates the soil, washes down the rocks, and breaks forth in the spring, and finds its way to the main stream. In either case the necessary elements of plant life are gathered up, held in solution and are ready for deposition on the soil to which the water finally finds its way. In the gathering of these fertilizers the water is aided by the heavy frosts of the mountain regions, which work continually, disintegrating the rocks and pulverizing the rich mountain soil, releasing all the elements required by plant life, which the water in its turn gathers up and carries on their life-giving mission.

The duty of water in irrigation is to supply the sap, and to carry with it the necessary food which the soil contains or which the water brings in solution, and thus forms the plant and the fruit. This it does by dissolving the plant food of the soil in which the plant is growing, changing its chemical composition and forming it anew in such shape that the plant can absorb and assimilate it. Coming charged, as they do, with so large a part of these necessary qualities, and finding others in the soil itself, our irrigating waters are supplied with perfect conditions, and, in that wonderful laboratory—the tree or plant—converts these elements into fruits or grain or flowers, as desired. And it is largely to these qualities of our water and soil that California owes its advantages as a fruit-producer.

Besides the great saving in the outlay for fertilizers, and the greater productive power of his land, the farmer or fruitgrower in the irrigated region has other great advantages over his brother in the rain belt.

He has no fear from the effects of drought. He has learned to overcome all danger from this source. Here every year is a drought year, but with irrigation the effects of drought are rendered nugatory and every year is made a year of full and abundant crops. Farmers here take no account of the rain, and everything that is put into the ground is planted with the full knowledge that it must depend upon irrigation for water. And the agriculturists of the rain belt would be astonished could they see the growth made here. This can be understood from the fact that in the growing season we have no cloudy days, no chilling rains, but a uniform warmth that supplies the necessary conditions of temperature. Then water is applied at the right time and in proper quantity. No heavy storms or floods threaten the irrigating farmer in the summer, and when his harvest is ready, he has ample time to secure it without danger of its being damaged or destroyed by an inopportune storm. There is no hurrying here to get the half-cured crop housed before an untimely rain falls, or take the risk of having the entire product of a year's toil ruined by a storm. In California our wheat ripens in May and June, and our wheat farmers harvest and thresh in the field, leaving their ripened grain standing until it suits their convenience to gather it, sometimes until October or November. A summer rain would be as much dreaded in the arid region as a summer drought is in the rain belt, and this is a condition which Eastern people who first come to California find it hard to understand. When they first come they remark, "What a beautiful land it would be if you only had summer rains." When they have been here a few years they know better and learn what a dreadful affliction summer rains would be to us.

Illustrating the great advantages of irrigation, the condition of the people of southern Dakota, Nebraska and Kansas may be instanced. This territory had been settled by people accustomed to rely upon natural rainfall for crops. Some three years since, this failed them, and a condition of severe hardships followed. Tales of suffering equal to those of the famine-stricken regions of India and Russia reached us, and a nation was called upon to aid them in their troubles. A general panic was the result. Towns were deserted, farms and homes abandoned, and for a time it seemed as though this country would relapse into its original state. Yet the means of life and health were at these people's doors had they but then learned to avail themselves of them. Irrigation was introduced as a necessity, and the scene has changed. The towns are again prosperous, the farmers hopeful, and

the future as bright as in any part of the Union, and it is a question whether the farmers in this erstwhile drought-stricken land would, under the new order of things, exchange places with in the rain belt.

OUR ARID LANDS.

Irrigation has within a very few years assumed a position of importance that few would have dreamed of 30 years ago. The first efforts made in this direction were by the Mormons who, arriving in Salt Lake valley in 1847, found a large basin of most fertile soil producing nothing but sagebrush, while the mountains rushed perennial streams on their way to the lake. Irrigation was a matter of necessity with them, and locating on these streams they diverted the water to the land and the results were surprising. The yield of wheat and corn and vegetables was enormous. While the system of irrigation introduced by the Mormons was crude, it served to show what arid lands would do when under water, and the great boast of this people was that they had "made the desert to blossom as the rose."

The steady increase of population in the East, the absorption of all available Government lands within the limits of the rain belt, had a tendency to push population into the arid district, and gradually irrigation has obtained a foothold until it has grown to proportions that are surprising, and now, instead of speaking of the great American desert, we allude to the great West as the irrigation empire. This empire includes all of Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, North and South Dakota, Utah and Wyoming, and large sections of Kansas, Nebraska, Oregon and Texas, with over 7,000,000 people dependent upon it for homes and food. The importance of this subject first made itself appreciated in Congress as late as 1874-5 when the first inquiry into it was ordered made, and an examination of the San Joaquin valley, with a view to its reclamation by irrigation, was made by Government agents. Ten years elapsed before it received further recognition, at which time attention was again called to it by the arrival of an Australian Royal Commission to investigate our irrigable area and methods, when the Department of Agriculture detailed Richard J. Hinton to prepare a report on "Irrigation in the United States." Three years after this Congress provided for an irrigation survey under direction of the United States Geological Survey, and their inquiry into the condition of the arid lands was ordered by the Senate, having in view their possible reclamation by irrigation.

The rapid growth of irrigation is shown by the fact that when the first report was completed in 1886, the area of land reported as reclaimed by irrigation was 5,500,000 acres, a large proportion of which was used for pasture and the growth of natural grasses. In 1891 the total area under ditch is given at 17,086,034 acres.

The following table for 1891, given in the report of the Office of Irrigation Inquiry at Washington, will show how this area is distributed:

States and Territories.	Estimated Under Ditch.	Acres Under Cultivation 1891.
Arizona.....	680,000	315,000
California.....	4,500,000	3,550,000
Colorado.....	3,007,050	1,800,000
Idaho.....	1,200,000	330,000
Kansas (west of 97 long.).....	180,000	120,000
Montana.....	1,250,000	410,000
Nebraska.....	200,000	40,000
Nevada.....	150,000	75,000
New Mexico.....	700,000	465,000
North Dakota.....	2,500	2,000
Oregon.....	125,000	45,000
South Dakota.....	100,000	54,000
Texas.....	1,500,000	160,000
Utah.....	735,000	423,000
Washington.....	175,000	75,000
Wyoming.....	3,091,494	185,000
Totals.....	17,086,034	8,040,000

From this table it will be seen that California leads in the quantity of land under irrigation systems and in the amount of that land now under cultivation.

Irrigation in its relation to the agriculture of the western States and Territories is the subject of a bulletin recently issued by the census office, giving the results of its investigations to that date. The following is a summary of the results of this special investigation:

Of the 124,808 farms enumerated in the arid region in 1899, 52,584, or 42.13 per cent, contained land on which crops were raised in 1889 by artificial application of water, the entire area of land irrigated being 3,564,416 acres, 20.72 per cent of the total area of the 52,584 irrigated farms, 9.66 per cent of the total area of the whole number of farms enumerated, and about one-half of one per cent of the total land area of the arid region. To this must be added 1552 farms, containing 66,965 acres irrigated, in the western parts of North Dakota, South Da-

kota, Nebraska, Kansas and Texas, designated, for convenience, the subhumid region, where irrigation is slowly making its way as a method of agriculture, always advantageous but not always absolutely necessary.

The average value of the land irrigated in 1889, with the improvements thereon, is found to be \$83.28 per acre, and the average value of products for the year stated, \$14.89 per acre. By correspondence with over 20,000 irrigators, fairly distributed through the arid and subhumid regions, it has been ascertained that the average first cost of irrigation is \$8.15 per acre, and the average value placed upon the water rights, where separable from the land, \$26 per acre, or over three times their original cost.

The average annual expenditure for water, as distinguished from the purchase of water rights, is \$1.07 per acre, and the average cost of the original preparation of the ground for cultivation, including the purchase of land at the Government rate of \$1.25 per acre, is \$12.12 per acre. By applying, with necessary modifications, to the enumerators' returns the averages obtained for each separate State and Territory, it has been found that in round numbers the total investment in productive irrigation systems utilized in 1889, in whole or in part, was, up to June 1, 1890, \$29,611,000. Their value at that date was \$94,412,000, showing an apparent profit of \$64,801,000, or 218.84 per cent. In the same manner the aggregate first cost of the irrigated areas, with their water rights, not including the farms of the subhumid States, has been ascertained to be \$77,490,000, and the value of the same on June 1, 1890, \$296,850,000, showing an increase in the value of land and water rights of \$219,360,000, or 283.08 per cent. In other words, the land irrigated in 1889 was worth nearly four times what it cost, no allowance evidently being made for failures. The total expenditure for water, including the maintenance and repairs of ditches, in the arid States in 1889 was \$3,794,000, and the value of products \$53,057,000.

The number of artesian wells used in irrigation in the arid and subhumid regions in June, 1890, was 3,930, constructed at an average cost per well of \$245.58, and giving an average discharge of 54.43 gallons per minute. The area of land thus irrigated, averaging 13.21 acres per well, amounted to 51,896 acres, or 1.43 per cent of the total area of irrigated land in the arid and subhumid regions.

The territory under discussion, as the arid region, covers an expanse 1500 miles in length and 1000 miles in width, lying west of the 100th meridian and extending from British America on the north to Mexico on the south, embracing two-fifths of the area of the United States. Until within the past few years it was known as the great American desert, and was believed to be utterly useless except for the precious metal which the hardy pioneers who pushed into it obtained at the risk of their lives. But as civilization advanced this desert contracted on the east and west. Its boundaries were pushed out of Nebraska, California was removed from it; it pushed beyond Wyoming, out of the larger part of Utah, and is now known only in spots, of which the Mojave and Colorado deserts form the most important remains. From the great American desert it became the arid region, and is now fast earning the name of Irrigation Empire. Two-fifths of the area of the United States, it is indeed an empire worthy of reclamation. As the hardy pioneers of irrigation proved what wonderful results that desert was capable of when placed under water, it soon forced itself into notice, and at last Government is paying some attention to this most important part of its domain.

Eastern people are realizing two facts which must induce the settlement and development of our arid lands; the first is the superior fertility of those lands, and numerous advantages over lands in the rain area, and the second, the rapid absorption of all Government lands within the rain region.

Taking the area still open to settlement in the arid regions, as soon as the water which is now going to waste is properly preserved and we have an empire capable of supporting an enormous population. The States which come within this irrigating area are:

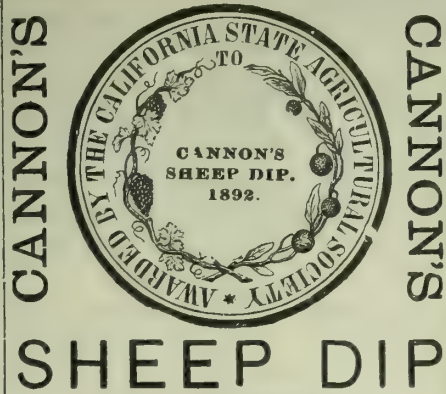
	Acres.	Sq. Miles.
California.....	100,992,640	157,801
Oregon.....	60,975,360	95,274
Utah.....	54,380,800	84,970
Washington.....	44,769,160	69,994
New Mexico.....	77,688,640	121,201
Nevada.....	71,787,600	112,090
Arizona.....	72,996,240	150,982
Colorado.....	66,880,000	104,600
Wyoming.....	62,645,120	97,883
Idaho.....	65,228,160	86,194
Montana.....	92,016,640	143,776

To this add 100,000 square miles, or 64.

000,000 of northern and western Texas, and the whole of Kansas and Nebraska west of 97 long., and some idea of the area and importance of our irrigation empire can be formed, and it serves also to show the importance and necessity of governmental aid in its reclamation. Within the arid region there is now a population of 7,000,000 souls. This number is rapidly increasing, and from estimates made by the office of Irrigation Inquiry, \$64,000,000 have been expended in irrigating works, as follows:

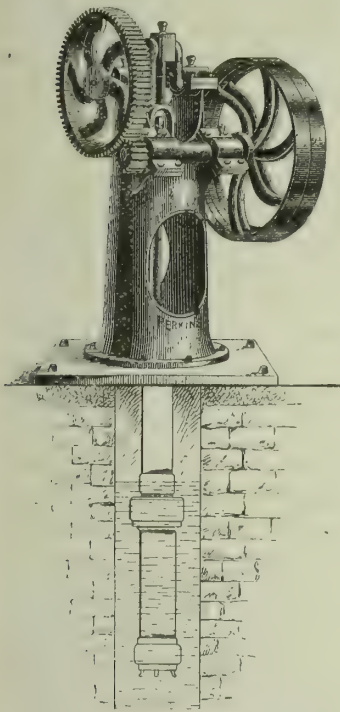
Under ditch the acreage given represents (at service of 250 acres per mile) a total ditch length of.....	Miles. 74,132 488-1000
Total of actual expenditures (not of capitalization) for the mileage given at an estimate of \$3 per acre will be.....	Cost. \$56,599,321
Allowing actual expenditures for other works, not under ditch mileage, and its necessary appurtenances, we may estimate the total at about.....	\$64,000,000

These figures are certainly conservative, and the actual expenditures for irrigating works will probably far exceed them. Enough, however, is shown in the way of population, capital invested, and area to be reclaimed, to show the necessity for extensive Government aid in this important work.



IS THE BEST.
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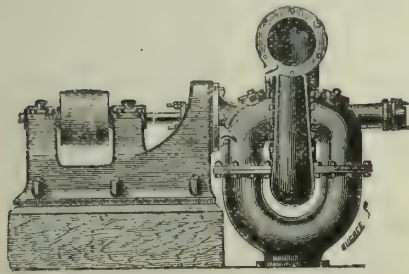
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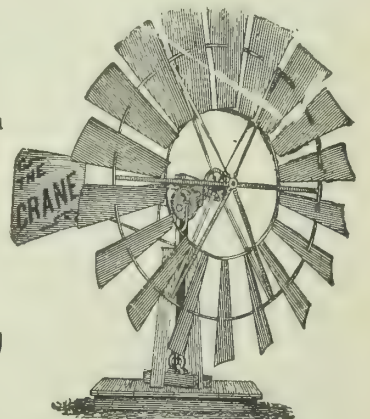
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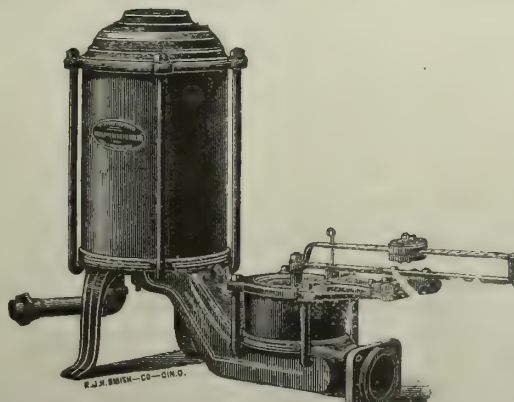
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These machines have already come largely into use in all parts of the country, and are rapidly superseding every other device for the purpose. They will work effectively under a head as low as two feet, and for every foot of fall will elevate 20 feet. By means of an adjusting lever the capacity of any of the various sizes can be reduced 50 per cent or more, as may be desired, to provide for a variation in water supply, without disadvantage or loss in efficiency.



The fall from the spring, stream or other source of supply to the engine determines the height to which the water can be elevated, as well as the relative proportion between the water raised and wasted, the quantity raised varying according to the height it is carried and the distance conveyed. For ordinary purposes it is sufficient to say that with a discharge pipe 1000 feet in length, one-sixth of the water can be raised and discharged at an elevation five times the height of fall or one-twelfth 10 times the height of fall.

Parties writing for information should give the quantity of water that can be supplied to the engine, either in gallons, cubic feet or miners' inches; the head or fall from source of supply to point where the engine is to be located, length of drive pipe, height to which the water is to be raised, distance from engine to place of discharge, and the quantity of water it is desired to elevate. No reliable information can be afforded without an explicit answer to these inquiries.

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THE BIG CITRUS SHOW.

Fine Displays at the Mechanics' Institute

A VARIETY OF TASTEFUL COUNTY EXHIBITS.

Sacramento's Orange Locomotive--The Rock of Ages Depicted in Fruit. A Working Windmill and Great Triumphant Arch in Yellow.--Arcades, Grain Pavilions, Etc.

The sixth annual northern citrus fair, and the first ever held in San Francisco, began at the Mechanics' Pavilion, Tuesday, January 10th, and will continue its daily exhibitions until Saturday, February 11th. It is fitly described as the "dress parade for the World's Fair." It is held in connection with the twenty-seventh annual exhibition of the Mechanics' Institute, of which it is the leading feature, and for which it has been a conspicuous and successful attraction. The very large numbers of visitors to the Fair attest a measure of interest not accorded to the Institute of recent years by the California public, which, it is not too much to say, found insufficient variety and benefit in the annual exhibitions of the Institute, and have not accorded it the patronage its merits deserved.

A tour through the Mechanics' Pavilion to-day is an education as to the resources and products of the State of California. It is a marvel both to the Californian and to the stranger. The variety of products, fruit and agricultural, is prodigious. The methods of exhibit are tasteful and satisfactory. The arrangement is splendid and even magnificent. Some displays are very pretentious and strike the beholder with an involuntary feeling of admiration, if not with positive awe. The several county exhibits are without exception in charge of gentlemen and ladies who take an active interest in showing their products, with their numerous and manifold beauties, to all who take the trouble to inspect or inquire. The success of the entire exhibition attests the care, capability and liberality of those who have it in charge.

It is the design of this article to present a review of the leading features of the various county exhibits at the Fair. It will be impossible to notice, adequately, or even at all, the various private displays, meritorious and inviting as the majority of them are. The various county exhibits have been given places of honor for their citrus displays. They are five in number, viz.:

Placer.
Sacramento.
Yuba.
Butte.
Tulare.

They are in the center of the great Mechanics' Pavilion, visible alike from the ground floor and from the gallery, and each takes up many hundred square feet. From the gallery, where a better perspective can be obtained than from any other point, the ensemble is unique, striking and even magnificent. First comes Placer, the Gateway County, which fitly vindicates its appropriate pseudonym by a great triumphal arch whose constituent element appears to be wholly oranges. On the right is Yuba with its artistic windmill of oranges, nuts and lemons. On the left Tulare, with a small but excellent display, and Sacramento with its orange locomotive. At the rear is Butte county, with its great, orange Rock of Ages, fine market pavilion, and handsome grain and fruit palace. Butte county takes up more space than any other, having altogether perhaps 10,000 square feet.

PLACER COUNTY.

As Placer county comes first after entrance of the pavilion, so it will be taken up in the beginning of this description. The arch is built on a most imposing and impressive place. It stretches from one side

of the vacant space under the gallery to the other. Its dimensions are about 15x80 feet, at a guess. It has three openings—one main in the center and two at the side—and is of the familiar plan seen in all pictures of ancient Roman triumphs, and at our own Fourth of July and other important celebrations. It is well-proportioned and really artistic and finished in its architectural whole. It is in reality a rude wooden structure, but it is so completely and artfully covered with oranges that little of its real supporting timbers or framework is visible. Between 45,000 and 50,000 oranges were used in its make-up, placed in even rows with care and infinite labor. One side of the arch is covered with oranges contributed by Robert Hector of Penryn. The varieties are Mediterranean Sweets, Washington Navels and Seedlings, in proportions about as follows: Sweets, one-fourth; Navels, one-fourth; Seedlings, one-half. Contributors to the other side of the arch are Owen R. Owen and Mrs. F. Owen of Penryn. The varieties found on this side of the arch are as follows:

Washington Navel,	Paper Rind St. Michaels,
Australian Navel,	Azorea,
Florida Navel,	Florida Sweet,
Jaffa,	Malta,
Mediterranean Sweets,	Majorca,
Magnum Bonum,	Homossassa,
Wolfskill,	Konab,
Parson Brown,	Higbys Late,
Beaches No. 1,	Tangerine,
	Oonshiu.

Ten years ago it was not thought that orange-trees would thrive in Placer county, which, as its name indicates, had for its chief industry the operation of mines. Its population depended very largely upon the development of its mineral riches for support, and immigration was attracted thither chiefly by interests and allurements of that kind. About ten years since, however, experiments were made with orange orchards, and it was found that they would produce a fruit of luscious and delicate flavor. From an experiment, orange cultivation rapidly developed into an industry of respectable dimensions and permanent conditions, and to-day Placer county produces the orange in commercial quantities for export. It is already a source of revenue, and is destined to be a large factor in the growth and development of the county, and a heavy contributor to its wealth and prosperity.

It should be mentioned that Placer makes an auxiliary exhibit of dried and preserved fruits, which have found a station near the arch. It is varied and creditable, and is a fine showing of the county's citrus and other resources, outside the more pretentious and obtrusive fresh-fruit display.

The Placer county exhibit has already received the premium of \$250 for the "most original and attractive exhibit on the opening day." This is exclusive of citrus products.

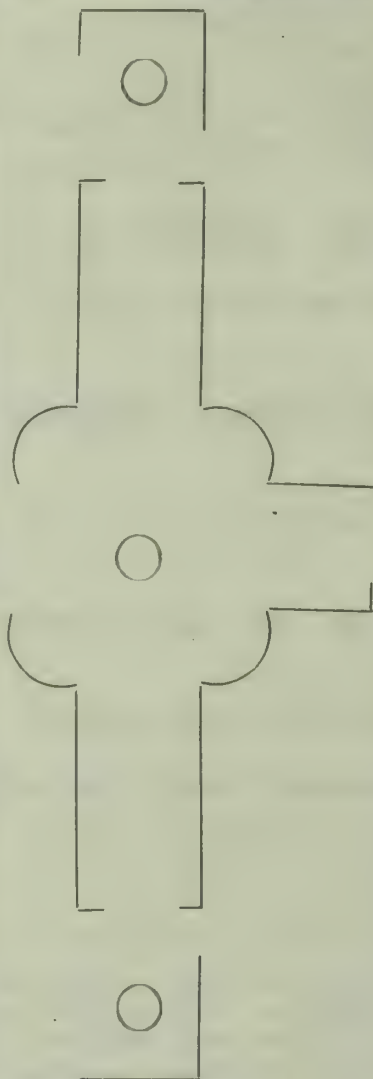
SACRAMENTO COUNTY.

Upon Sacramento county has officially been conferred the high distinction of having the "most complete exhibit on the opening day," and for the "widest range of useful products on the opening day." These two honors have been accorded by the judges, the first taking with it a premium of \$500 and the second \$250, making \$750 in all. Sacramento county also won the first premium at the last State fair. While these prizes are for farm products, and are bestowed because of very fine displays of almost innumerable articles, it is still a fact that the most unique and interesting feature of the Sacramento exhibit is the citrus locomotive. The likeness is faithful as to preparation and appearance, even in the minutest particular. One almost expects to hear the bell clang, the whistle shriek and to see the engine and tender go tearing down from its improvised track and across the great hall, throwing noisy musicians right and left (the music stand is directly in front of the pilot) and square into the Butte county Rock of Ages on the opposite side. Of course, no dreadful and sanguinary miracle of that woful nature can by any possibility take place, but it doesn't take a very greatly disordered imagination to speculate on what it might do. The locomotive, is built on the narrow-gauge principle, and is equipped with about 35,000 oranges, fastened on to a wooden structure with painstaking diligence and industry. There are also numerous lemons in the make-up, and dried prunes, figs and apricots, peanuts, walnuts, and even Chinese lemons. The dried fruits have been used in appropriate places for making letters, varying colors, and so on. The realistic effect is heightened in a very great degree by the use of real locomotive appliances, such as bell, piston, steam-gauge, oilcups, and signal lanterns. So genuine does the locomotive appear that it seems hardly too much to say that the only thing

lacking to make it fully equipped and ready for instant and permanent use is motive power.

It has been stated freely in print that the designers of this locomotive intend to exhibit it at the World's Fair. But such is not the case. The Sacramento orange will, at that time, be practically out of season, and no such exhibit will be made. It may be interesting to know that the total cost of construction of the locomotive, its transportation here, and its establishment in the pavilion, is about \$1,000.

At a distance from the great locomotive is the Sacramento county agricultural and deciduous fruit exhibit—that part which has already won \$750 in premiums. It has not a very desirable location, being under the gallery and off to one side. The ground dimensions are 110x25 feet, and the general plan is indicated by the following diagram:



Plan of Sacramento County Exhibit.

There are probably 2500 pieces in the exhibit, of which over 1000 are in glass. In general, the articles on exhibition are comprised under the following heads:

Grains,	Lard,
Flour,	Bacon,
Fruits,	Butter,
Wool,	Cheese,
Hops,	Honey,
Flowers,	Jams,
Woods,	Jellies,
Minerals,	Vegetables,
Pottery,	Granite,
Wines,	Hay,
Nuts,	Pickles,
Grasses,	Canned Goods.

It will thus be seen that the range is enormous and comprises almost everything, of whatsoever nature, produced in the temperate zone. A categorical description of the innumerable specimens would be impossible. Even to mention the articles of real value and merit would take up a vast deal of space. It is not out of place, however, to specify a few. The specimens of turnips, cabbages, pumpkins and cauliflower are particularly fine. There are corn-stalks 18 feet high and a sunflower 19 feet. "The fact is," said Mr. J. P. Odbert, who is one of those in charge of the exhibit, "we made no special attempt to show prodigies of the vegetable kingdom, but simply the best specimens of excellence in our vegetable productions." However, there is one freak that attracts a great deal of attention. It is a double pumpkin, weighing about 50 pounds, being apparently a sort of Siamese-twin pumpkin—two in one. "Two pumpkins with but a single stem, two hearts that beat as one," as some one poetically said.

There are 18 varieties of grain and over 100 specimens of these varieties, in sheaf, in

sack and in glass. Among other interesting things, Mrs. G. H. Kerr has an exhibit of fig preserves, fig jam, fig marmalade, fig syrup and pickled and crystallized figs. They are evidently of fine quality and splendid color.

New potatoes of quite large size are prominently shown.

Seventy plums on one stalk are an attraction in a large glass jar. They were put up by Mr. Odbert, who says there were twenty more on the stem, but he could not get them in the jar.

Noticeably large lemons of beautiful color, bright and clean, are displayed in jars on the shelves. They appear to be an especially fine fruit, and if they are as good as they look, it is certain that Sacramento's future as a lemon producer is great.

Washington Navel oranges are displayed, measuring 14 inches both ways—long and short. They are smooth and symmetrical, and of excellent color, that heavy appearance often accompanying large oranges being totally absent.

The Jelly exhibit is large and meritorious. Ninety kinds of jelly were put up by Mrs. Odbert alone, in 400 glasses. For a similar exhibit she received a gold medal at the State fair.

It is designed to take the best specimens of this magnificent exhibit to the World's Fair. Mr. Walter Greer is superintendent.

Connected with this exhibit is a new patent extension ladder, shown by Mr. J. F. Logue, and designed for the use of orchardists.

YUBA COUNTY.

Yuba county has a number of fine displays, arranged and placed on exhibition by various towns and localities. One of the most impressive is that of Smartsville, which is a miniature representation of the California building at the World's Fair. It is the individual production of James K. O'Brien, superintendent of the entire citrus exhibit. It presents a handsome appearance, and the oranges are arranged so as to be displayed to the best advantage. Between 12,000 and 15,000 are required to cover the building.

Brown's valley is represented by a gigantic bell, covered with oranges. Lemons are also prominent.

Wheatland has a picturesque Eiffel tower, about 12 feet high.

The county as a whole is represented by a full-size windmill, in which oranges, lemons, peanuts, prunes and figs are conspicuously shown. The fans of the wheel are made up largely of gilded peanuts. Windows, doors and other appliances of a genuine windmill are in their proper places and the likeness is carried out to the smallest particular. The wheel is operated by electricity. Surrounding the mill is a neat plot of made-ground, in which appear a pretty waterfall, grasses, mosses, displays of fruit and other pleasing things.

The Yuba county exhibit as a whole is a prominent and inviting part of the entire citrus show, and reflects credit upon the taste, care and liberality of those who got it up.

SUTTER COUNTY.

Attached to the Yuba county exhibit is a collection shown by J. P. Onstott, of Yuba City, Sutter county. It is of seedless raisin-grapes, and it has been accorded a considerable share of attention. It is claimed for this grape, that besides being a fine raisin-grape, it is delicious for table use. Mr. Onstott claims for it that "it is larger than the Seedless Sultan, and its pulp is more meaty; in this respect, and in its color, it more nearly resembles the Muscat grape. It ripens ten days earlier than the first crop of Muscats, and all the fruit ripens at the same time, there being no second crop. This grape does not burn on the vine. It cures rapidly and evenly, and as the bunches and berries are very nearly of uniform size, it requires no sorting when taken from the drying trays. It will cure in fully two-thirds of the time required by the first crop of Muscats, and three and twenty-seven hundredths pounds of the ripe grapes make a pound of raisins.

"For a number of years I have kept careful account of the crop of Thompson's Seedless vines growing in my own vineyard near Yuba City, Cal.

"I weighed the fruit from the same vine for the years named, with the following results:

1885.....	50 lbs.
1886.....	68 lbs.
1887.....	70 lbs.
1888.....	109 lbs.
1889.....	15 lbs.
1890.....	24 lbs.
1891.....	147 lbs.

"This vine was not isolated, but stood in a vineyard where the vines are set eight feet apart each way. The average per year for

the first four years, when properly pruned, was 74½ lbs. per year."

STANISLAUS COUNTY.

Stanislaus county has a single representative, Mr. C. H. Mero, of Knight's Ferry. Mr. Mero shows a pyramid of about 5,000 oranges, conspicuous among which is the blood Navel, which, Mr. Mero says, has, among other good qualities, the important one of bearing well. Mr. Mero has had no help from his county, but the exhibit is independent and paid for by himself. Mr. A. Collins, a neighbor, contributed ten boxes of Seedlings to make up his display.

BUTTE COUNTY.

Butte county has the most extensive citrus display of any at the fair. That is to say, it occupies more space. It is one of the leading features of the entire exhibition, and has attracted general and most favorable attention. The chief portion is the "Rock of Ages," constructed by the town of Oroville. A "Rock of Ages" made up of oranges might seem an anomaly, but the effect is made realistic by a painted background, representing the stormy sea, and lowering clouds, and a frowning rock boldly appearing from the angry waters. The foreground is an enormous bed of oranges, with lemons arranged here and there in a very pretty manner. The "Rock of Ages" is placed at the rear of the pavilion. The structure is at least thirty feet high and forty feet broad. On the semicircular frame at the top is a decoration of palm leaves, and under it the inscription "Rock of Ages," in ornamental text, each letter being made of oranges. The cross in the foreground, its base surrounded by rocks, ferns and running water, is also covered with the golden fruit. At the extreme apex of the arch is an electric star, and the whole scene is suffused by the blaze of a search light at night.

At nine o'clock each night a tableau is presented, at which a young lady in white comes forth and clings to the cross, in the affecting fashion usually depicted in the familiar allegorical picture. The band in the meantime plays the grand old hymn.

Palermo, Butte county, is represented by a structure called an "arcaded market." It is a square building, surrounded by a tower and a clock. Its basic dimensions are 25x35 feet, and its height about thirty. Through the numerous open arches of the substructure are seen numerous displays of citrus fruit by private exhibitors, about twenty in number. The arcade took 39,000 oranges for its composition, and is said to have cost about \$1200. It was put up by the Palermo Land and Water company.

Chico, Butte county, has a fruit and grain palace, under charge of Mr. B. F. Allen. It is no less than a handsome edifice made up entirely of boxes of grain and fruit, ingeniously and skillfully placed, so that each distinct specimen shall be shown through glass to the best possible advantage. The palace is also copiously decorated with glass jars containing grains, nuts, etc., fixed in convenient niches and other repositories, and disclosing the entire range of such products in Butte county. Around its base are sheaves of wheat and other grains. There are seventy varieties of wheat, twenty-five of barley, fifteen of oats, three of flax and seven of rye, a large part of which comes from the ranch of the famous Gen. John Bidwell. There are forty kinds of nuts, and one hundred specimens of beans, peas, corns and seeds. There are fifteen exhibits of almonds, and there are many olives and figs. There is also a display of Butte county cotton.

Vegetables and melons are shown, among others the casaba, of the musk-melon family, held by the inhabitants of Butte county to be superior to any kindred melon. It is a native of Italy that thrives remarkably well in California.

Chico has also on exhibition an orange pavilion, on which are shown about 7,000 oranges, and large and luscious varieties of fruits in glass jars. All kinds of peaches, plums, apricots and prunes are also displayed. The deciduous fruits are designed for the World's Fair.

In the two Chico exhibits there are in all about 600 specimens in glass, put up with care and good judgement, and making on the whole a very excellent showing.

There should be added to the foregoing mention of the "speltz" a hybrid grain, a cross between wheat and barley. It is first-class feed, and is grown quite extensively in Butte county. It was announced, a few days since, that this grain was grown this year for the first time in Skagit county, Washington. The statement is an error. "Speltz" has been raised on Gen. Bidwell's place for several years.

As an entirety, Butte county makes a splendid showing. In common with other displays, its exhibits appear best at night

under the full glare of the strong lights, but they are sufficiently beautiful at any time, day or night, and without the assistance of such advantageous artificial contrivances.

On either side of the "Rock of Ages" stands an orange-tree, one of them at the time it left Oroville showing 186 oranges and the other over 150. Many of these still remain on the trees despite the trials of transplantation and transport. To the left of the triangular orange slopes is a special exhibit of lemons, citrons, shaddockes, etc., showing that Oroville has considerably more than one string to her bow. The two inclosures in front of these main exhibits are devoted to Thermalito colony displays, and are under the auspices of the Oroville Citrus Association. Never has there been probably a more creditable display of oranges than is here presented. They are most of them budded oranges, among the varieties being Herminosas, St. Michaels, Mediterranean, Washington Navels, Parson Browns, Majoricas and Malta Bloods. Here can be seen, too, exhibits of olive oil, pickles and limes. Twenty-two large views of the favored section represented attract much attention in their single large frame suspended between two of the uprights of the northern stand.

TULARE COUNTY.

Tulare comes forward with rather a small exhibit for so big and so prolific a county, and it is represented by growers from one section only—C. Frost, W. J. Prettyman and Phil. M. Baier, of Porterville. The varieties of oranges shown in a well-arranged display are as follows:

Majorica,	Dancy,
St. Michaels,	Cataline Navels,
Magnum Bonum,	Sanford,
Rugby Blood,	Dancy Tangerine,
Washington Navels,	Seedlings,
Jaffa,	Hanford Mediterranean.
Star,	

Mexican limes and Lisbon and Eureka lemons are also shown. The latter seem to be further advanced than the northern lemon, and are of especially fine color and appearance.

The Porterville oranges are comparatively new to San Francisco. Their market is almost wholly in the East. Their merit is great and the producers claim they have little or no difficulty in effecting sales.

One of the exhibitors—Mr. Baier—said to a representative of the RURAL PRESS: "We do not claim to have the best oranges in California. What we say is, we have oranges that are first-class in all particulars, and that is enough for us. Other communities may, and doubtless do, have the same."

It is probable that Tulare county will also be represented at the southern citrus fair at Colton.

SAN LUIS OBISPO.

Over in one corner of the pavilion is to be found a very unpretentious but, at the same time, notable exhibit of the products of San Luis Obispo county, in charge of J. N. Young. No citrus fruits in quantity are shown, but there is a very large and valuable collection of grains, vegetables and deciduous fruits. There are shown sixty varieties of grain in sheaf and in glass, forty specimens of beans, and corn, peas, seeds, alfalfa, beets, pumpkins, melons, walnuts, apples, onions, potatoes, squashes, carrots, dried fruits, wines and mineral water, lemons, asphalt and Indian relics—quite a variety in all. There are seventeen varieties of apples and twenty-two exhibits of table squash, eighteen of carrots, sixteen of beets, six of potatoes and two of onions. The display of apples is from Mr. Young's orchard.

Among the prodigies shown by Mr. Young are the following: Big onions are displayed in a jar that weigh five pounds each. The biggest potato pulls down the scales to seven pounds. Two gigantic pumpkins are shown—one a blue seal weighing 212 pounds and another a potiron, 208 pounds. A Mangel beet weighs 80 pounds, and a carrot 12.

From the Suey ranch is a display of giant lemons. They are in a glass and cannot now be measured or weighed, but they appear to be the largest in the pavilion.

There is also a display of asphalt in different forms, antimony, quicksilver and chromic ore just turned out by the new chrome works in San Luis Obispo. Petrifactions are shown in which is a large oyster shell found 35 miles from the seashore.

There is a sunflower 15½ feet high, the flower of which was five feet in circumference when green.

There is building-rock and the unique fire-rock peculiar to San Luis Obispo. It is stated of this rock that a fragment dipped in oil will burn one-half hour with a bright flame when the match is touched to it. It is commonly used for building fires.

Mr. Young himself collected the entire exhibit, for which he has as yet received no remuneration.

ALAMEDA COUNTY.

Alameda county makes a very complete and meritorious exhibit of fruits, nuts, dried prunes, grains, pickles, asparagus, almonds, rhubarb, peas, etc., all in glass. Among interesting features is an arch, with columns of immense glass jars, completely filled with a variety of fruits, arranged in artistic profusion. Surmounting the jars is the inscription, "Alameda." A unique exhibit is a Japanese mandarin orange tree with fruit, and a great variety of other fruits at its base, among others a ripe watermelon. There is also a sugar exhibit, showing the beet in all its stages of progress from the naked vegetable to granulated sugar.

There are in all, in the Alameda exhibit, several thousand pieces. Unfortunately, no one seemed to be in charge on the several occasions it was visited by a representative of the RURAL PRESS, and its many merits could not at that time be specifically explained to visitors.

SONOMA COUNTY.

The Sonoma county exhibit was late in place. No visitors were admitted for a number of days after the fair opened, and a full description therefore cannot be given at this time. There is a rumor that a leading feature of the display is a pumpkin weighing 300 pounds or less. This paper will take occasion to verify the report (or otherwise) at some other time.

HUMBOLDT COUNTY.

To Humboldt county belongs the honor of presenting a collection that is in the greatest degree singular and entertaining. It is a museum of curiosities, labeled "Humboldt as it was in 1850." If civilization in Humboldt forty-three years ago was nearly as wild and uncouth as here represented, all strangers within its limits must have felt that they bore their lives in their hands every time they advanced a step into that land of wonders and terrors. The exhibit is, in short, an ideal representation of the roughest and most dangerous, and adventurous aspects of existence in that weird wilderness at an early pioneer day. There are shown savage animals, weapons, Indian relics, strange household appliances made from the skins and horns of wild beasts and other natural resources, snakes, scalp, baskets, knives, slings, canes, dresses, and a thousand other things that went to make up the surroundings and domesticities of Indian life and of the new civilization then just gaining a foothold in Humboldt. The collection belongs to and is exhibited by Mrs. R. F. Herrick, and is one of the fruits of her long existence and labors among the Indians, and of her pioneer life. The collection was begun by Seth Kinman, the famous hunter and trapper, who died about ten years since.

The principal feature is a huge grizzly bear—stuffed and very much dead—having been killed years and years ago, 30 or more. There is a story connected with his slaughter that is worth narrating. A Spanish ranchero in Humboldt had for a long time been much troubled by the devastations of a giant grizzly. Cattle and sheep were carried off through the prowess of the fierce beast for long weeks and even years. Finally, it was decided to organize an expedition to slay him. The ranchero and several vaqueros started out horseback in his quest. They found him. A bullet in the head—a practically invulnerable portion of his tremendous anatomy—enraged the grizzly and he started in hot pursuit of the party. One horse was slow, and the bear gained rapidly. Seeing his capture inevitable, the rider abandoned the horse and climbed a tree—a very wise proceeding, as events showed. The grizzly overtook the horse, attacked him and tore every rib from one side of the poor animal's body at one blow. The monster afterward retired, and the trembling Spaniard escaped.

Next week Seth Kinman volunteered to engage the grizzly in combat. So he started out with several attendants. They went along the seashore, and, sure enough, there was the giant (the original prototype of *ursa major*) engaged in the peaceful pursuit of digging clams. A well-aimed shot by Kinman slew him, the ball taking effect in the back just behind the foreleg.

The bear weighed 1800 pounds and was, it is said, over ten feet high when erect. His length now is 8 feet 8 inches, but it is claimed that he has shrunk a very great deal since his death and in the process of years of decay. His paw was 18 inches across, his claws several inches in length. The Indians said he was about 32 years old, being cut off in the prime of life. He ought to have lived to be at least 75. If he had been

a good bear, he might have been alive today, giving his progeny sound moral advice and guiding them into the paths of rectitude and sobriety. On the other hand, he might have joined a sideshow to a circus and given the eloquent and accomplished gentleman who always delivers an oration on the outside an opportunity to stretch the truth a great deal as to his stature—"20 feet in height, weight 3600 pounds, he eats an ox at every meal, etc., etc." So, in the interest of good morals, it is perhaps as well that Mr. Grizzly had his predatory career thus suddenly cut short by Mr. Kinman's bullet.

Mrs. Herrick shows a beautiful chair of elk horns that was to have been given by Mr. Kinman to President Garfield, but the presentation was prevented by the President's assassination. A similar chair was given to President Hayes, and Kinman had the distinguished honor of appearing in a photograph with the President, the latter seated in his barbarian chair, the other in his hunter's garb, standing very erect and looking very proud.

A violin with the frame made of a mule's skull is another curiosity. Kinman was a violin player, and he had a mule that was of a disposition irresistibly musical. Coming across the plains, whenever Kinman played the violin, this gentle hybrid of Apollonic instincts would come and stick his head in the tent, his ears gently waving to and fro in strict time to the music. So, when the mule died, after an honorable and faithful service of many years, Kinman dedicated his immortal soul to music by imbedding his skull in a violin frame.

The scalp of Lassic, a bad Indian chief who tried to kill Kinman, and was prevented by a slight accident—the accident consisting in Kinman getting the drop on him first—is also proudly shown.

Moose, deer and elk horns are also prominently displayed. One set of horns is of a mule deer, and has 22 points, believed to be the largest number on any horns in existence.

A cane used by Daniel Boone in his old age, a musket nearly 200 years old, and various Indian charms and other things are also in the collection.

Mrs. Herrick says the Indians have promised to find and donate to her that extraordinary rarity—a white deer skin. The white deer is an object of veneration and profound worship among the Humboldt Indians. He stands in the same relation to them as a white elephant to the superstitious East Indians.

Fruits, grains, woods and fish are also a part of the Humboldt county exhibit.

MISCELLANEOUS.

One of the very interesting exhibits at the fair is the aquarium, which, though not large, is quite attractive. The following varieties are shown: Rainbow trout from Klamath; salmon fry from Sisson hatchery; catfish, suckers, carp, whitefish from Lake Tahoe; cutthroat trout from Lake Tahoe; black bass from Russian river; brook trout from Mt. Shasta; terrapin.

Another very interesting collection is the Wells, Fargo & Co.'s display. Its most prominent feature is the relics of various desperate robberies of which the company has been the victim.

The machinery department is not extensive; but it is creditable.

An excellent band discourses music afternoons and evenings.

The attendance so far has been very satisfactory.

Of course the new wash-machine man is on hand. No show would be complete without him, or the lightning sketch-artist, or the Edison phonograph conductor. "Five cents hears it; \$350 buys it."

At one place an industrious old lady operates a spinning wheel, said to be 200 years old.

Possibly it was an oversight, but the exhibitors have generally given poor old Columbus a rest—and this is Columbian year, too.

The citrus exhibit is called "the dress parade for the World's Fair," because a number of its features are to be reproduced at the great exposition.

The state mining bureau has a large and complete exhibit.

The great statue of California occupies a prominent place, nearly in the middle of the pavilion.

One serious drawback is the absence of seats to accommodate a big crowd. As a matter of fact, however, there is little space for them. The arrangement of the pavilion is not up to modern requirements.

None of the private exhibits is more unique and attractive than the salt display of Mr. G. W. Durbrow, of Salton. Salt in all its various forms—coarse, fine and crystallized—are shown in most picturesque shapes, and the processes of salt-gathering

and refining explained by drawings and otherwise. Among other interesting things, there are shown the remains of a wheelbarrow recovered from Salton sea. It is one mass of glistening crystallizations, not a vestige of wood being visible. The exhibit is to be taken to the World's Fair, where it is certain to excite much attention.

During the present week, special nights have been devoted to the various counties, when the managers of the several exhibits were "at home" to the public. These nights thus set apart were:—

Monday night—Butte county.

Tuesday night—Yuba county.

Wednesday night—Placer county.

Thursday night—Humboldt county.

Friday night—Alameda county.

Saturday night—Sacramento county.

THE FAIR A SUCCESS.

Taken as a whole the fair is a success. In some features it is superior, in others quite equal, to its predecessors. It is a fact that heretofore exhibits were monopolized by local merchants, machinists and implement houses. While their displays were in the highest degree creditable and deserving, they were of necessity much the same each year, and the fair really amounted to little more than a display of the work of these various business houses. The same things can be said even of the art exhibition, in which were found many rare and beautiful paintings; but inspection of the catalogue never failed to disclose that at least one-half the productions of genius were for sale by the artist to the first purchaser, and the inference was irresistible that the sole purpose of exhibition was to find a buyer, and that it was not a contribution to an artistic collection for art's sake.

It is likely that all citrus fairs in the future will be held in connection with the Mechanics' fair, and that a feature of superior permanent interest will thus be added. Previous citrus fairs held in places in the interior of the State have no doubt possessed equal merit and attractiveness with the present fair; but it is undeniable that they have not been visited by as many thousands as have already spent a pleasant and instructive afternoon or evening in attendance at the present show. The chief object of a citrus fair, as of any other, is to present such a variety of objects, in pleasing and artistic shape, that it will draw many people to inspect its features. Attendance is a leading element of success. It is the design of the various exhibitors to interest the largest possible number of people in their displays. It appears, therefore, to have been a wise decision that brought the fair to San Francisco, because the products of the various counties will here be in view of more people than in any other city in the State.

AWARD OF CITRUS PRIZES.

The cash premiums of the Northern Citrus Association, amounting to \$2500, were awarded last Tuesday night by A. W. Porter, D. E. Allison and John G. Wetmore, judges. Butte county got first, as it has at previous fairs. The several citrus awards are as follows:

CLASS I—BEST GENERAL DISPLAY OF CITRUS FRUITS.

First premium, Butte county, \$250; second premium, Placer county, \$200; third premium, Tulare county, \$150; fourth premium, Yuba county, \$100; fifth premium, Sacramento county, \$50.

CLASS II—BUDDED ORANGES.

First premium, G. Frost, Porterville, Tulare county, \$200; second premium, Robert Hector, Monte Rio, Placer county, \$150; third premium, Oroville Citrus Association, Butte county, \$100; fourth premium, N. W. Winton, Thermalito, Butte county, \$75; fifth premium, W. A. Rogers, Thermalito, Butte county, \$50; sixth premium, Butte County Infirmary, \$40; seventh premium, G. A. Fisher, Thermalito, Butte county, \$30; eighth premium, J. W. Hutchins, Marysville, Yuba county, \$20; ninth premium, A. F. Jones, Oroville, Butte county, \$10; tenth premium, Mrs. F. Owen, Penryn, Placer county, \$5.

CLASS III—BUDDED ORANGES.

(Best 12 budded oranges grown by exhibitor.)

First premium, G. Frost, Porterville, Tulare county, \$10; second premium, Mrs. A. F. Jones, Oroville, Butte county, \$5; third premium, Oroville Citrus Association, Thermalito, Butte county, \$8; fourth premium, G. Frost, Porterville, Tulare county, \$7; fifth premium, Robert Hector, Monte Rio, Placer county, \$6; sixth premium, Mrs. C. D. Dunn, Oroville, Butte county, \$5; seventh premium, George A. Fisher, Thermalito, Butte county, \$4; eighth premium, G. Frost, Porterville, Tulare county, \$3; ninth premium, Oroville Citrus Association, Thermalito, Butte county, \$2; tenth premium, G. Frost, Porterville, Tulare county, \$1.

CLASS IV—BUDDED ORANGES.

(Best display standard boxes packed for market. Not less than five boxes.)

First premium, Oroville Citrus Association, \$25; second premium, Jacob Mansfield, Wyandotte, Butte county, \$20; third premium, R. C. Chambers, Palermo, Butte county, \$15.

CLASS V—SEEDLING ORANGES.

(Best general display by producer.)

First premium, James O'Brien, Smartsville, Yuba county, \$150; second premium, O. R. Owens, Penryn, Placer county, \$100; third premium, Butte County Infirmary, \$75; fourth premium, C. H. Mars, Knight's Ferry, Stanislaus county, \$60; fifth premium, E. W. Fogg, Pence Ranch, Butte county, \$40; sixth premium, Excelsior Company, Yuba county, \$30; seventh premium, Mrs. W. N. Rogers, Marysville, Yuba county, \$25; eighth premium, Mrs. Mary Karr, Marysville, Yuba county, \$20; ninth premium, F. G. Condon, Smartsville, Yuba county, \$10; tenth premium, Miller & Lusk, Marysville, Yuba county, \$5.

CLASS VI—SEEDLING ORANGES.

(Best twelve seedling oranges grown by exhibitor.)

First premium, W. J. Pettyman, Porterville, Tulare county, \$10; second premium, Jacob Mansfield, Wyandotte, \$5; third premium, J. W. Currie, Plano, Tulare county, \$8; fourth premium, W. B. Vineyard, Smartsville, \$7; fifth premium, Mrs. Mary Karr, Smartsville, \$6; sixth premium, Excelsior Colony, Yuba county, \$5; seventh premium, Mrs. M. A. Benjamin, Oroville, \$4; eighth premium, Robert Beatty, Smartsville, \$3; ninth premium, William A. O'Brien, Smartsville, \$2; tenth premium, F. G. Condon, \$1.

CLASS VII—SEEDLING ORANGES.

(Best display standard boxes packed for market. Not less than five boxes.)

First premium—L. R. Ketchum, Bidwell's Bar, Butte county, \$25; second premium—James O'Brien, Smartsville, \$20; third premium—Butte County Infirmary, \$15.

CLASS VIII—LEMONS.

(Best display by producer.)

First premium—W. J. Pettyman, Porterville, \$50; second premium—E. Tucker, Oroville, \$35; third premium—Pogue Lime Kiln, Tulare county, \$25; fourth premium—Mrs. Mary Karr, Marysville, \$15; fifth premium—Mrs. M. D. Coombs, Marysville, \$10.

CLASS IX—LEMONS.

(Best twelve lemons grown by producer.)

First premium, J. C. Henry, Thermalito, \$7; second premium, N. J. Pettyman, Porterville, \$5; third premium, Pogue Lime Kiln, Tulare county, \$2.

CLASS X—LIMES, ETC.

(Best display by producer.)

First premium, E. Tucker, Oroville, \$20; second premium, W. J. Pettyman, Porterville, \$15; third premium, M. Biggs, Jr., Oroville, \$10; fourth premium, J. Gardella, Oroville, \$5.

CLASS XI—CITRUS NURSERY STOCK.

(Seedling and budded, grown from seed by exhibitor.)

First premium, Oroville Citrus Association, \$20; second premium, H. C. Bell, Oroville, \$15.

CLASS XII—ARTISTIC EXHIBITS.

First premium, windmill, Yuba county, \$75; second premium, locomotive, Sacramento county, \$50; third premium, watch tower, Butte county, \$25.

To the list of awards the committee adds: "We wish to call special attention to the exhibit of the Thermalito Olive Oil Association, which, though we could give no premium, has an excellent display. The Seedless Azorean St. Michael exhibit by Herold & Curtis, Palermo, is a promising variety and worthy of special attention by growers of citrus fruit. The general excellence of the exhibits deserves special mention, as we believe they are equal to anything that could be shown by growers of citrus fruit in any part of the world."

Seedling oranges from the Brown's Valley Irrigation District made an excellent display, but were not entered for prizes.

The committee on artistic displays was composed of Norton Bush, Mrs. W. G. Richardson, Miss Mary D. Bates, R. D. Yelland and C. E. Grunsky.

EVERY oyster has a mouth, a heart, a liver, a stomach, besides many curiously devised little intestines and other organs, necessary organs such as would be handy to a living, moving, intelligent creature. The mouth is at the end of the shell, near the hinge, and adjoining the toothed portion of the oyster's pearly covering.

Growing Roses.

There is a world of pleasure to be derived from a garden full of roses; even a single flower, in a little red pot, will brighten the home and bring good cheer. With the right kind of plants there is no difficulty in the way of everybody having the choicest roses; a little soil, water and sunshine is the only care they require, and they amply repay for the slight trouble and expense. The best roses for home culture are those grown by the Dingee & Conard Company at West Grove, Pa. For twenty-five years this firm has been propagating roses of every variety on their own roots and sending them by mail to every part of the land. Their method of starting a rose is peculiarly their own. When the plant leaves their hands it is ready to thrive and bloom in pot or garden. This firm publishes an illustrated "Guide to Rose Culture" which contains complete instructions for growing flowers of all kinds, and much other information interesting and valuable to the lover of flowers. They offer to send it free, and enclose a specimen copy of their floral magazine, "Success With Flowers," to all who make application.

WHEN YOU ARE READY FOR SEED, send to Kansas Seed House of Lawrence, Kansas, for one of its descriptive catalogues. This firm, besides being one of the largest in the West, is noted throughout the country for a number of leading novelties and specialties in the seed line.

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==PRACTICAL EXPERIENCES==

—BY—

PRACTICAL MEN.

"I have now in use Five of your ROCHESTER GANG PLOWS, and desire to say that they give excellent satisfaction, and I find them indispensable. The price is so much reduced from that formerly paid for a like implement that no orchardist should do without a ROCHESTER." Signed, N. P. CHIPMAN, Red Bluff, Cal.

"Your ROCHESTER PLOW is a success, and the lightest weight Plow doing effective work." Signed, L. E. BLOCHMAN, Santa Maria, Cal.

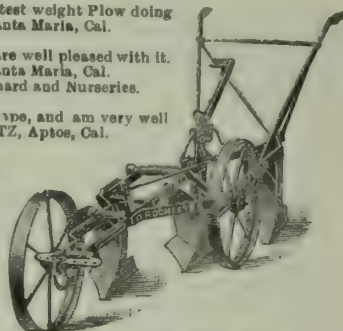
"We started the ROCHESTER GANG PLOW to-day, and are well pleased with it. It does the work well." Signed, JONES & MAULSBY, Santa Maria, Cal. Olive Hill Orchard and Nurseries.

"I received the ROCHESTER PLOW yesterday, in good shape, and am very well pleased with it." Signed, T. LILIENTRANTZ, Aptos, Cal.

"I consider the ROCHESTER GANG PLOW the best I have ever seen used." Signed, B. H. BANCROFT, Concord, Cal.

"Having used the ROCHESTER GANG PLOW in my orchard, I am pleased to say it does its work well and is lighter on my team than I expected." Signed, E. C. W. MACDONALD, Aptos, Cal.

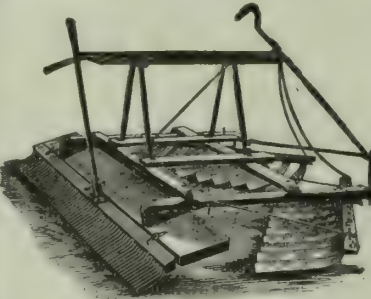
"I am well pleased with the ROCHESTER GANG PLOW, as it does fine work and is very light draft, two horses handling it easily." Signed, E. PARSONS, North Pomona, Cal.



ROCHESTER GANG PLOW.

"Am well pleased with the CYCLONE PULVERIZER I purchased from you last year. For the last workings of an orchard it is especially valuable, leaving the ground well pulverized and level." Signed, DR. GEO. W. HANDY, Saratoga, Cal.

"I have used the CYCLONE PULVERIZER here for two years, and it is a good tool to work in orchards and will do better work than a harrow. There is no better set of tools to prepare the ground for sugar beets than the CYCLONE PULVERIZER and CYCLONE CULTIVATOR." Signed, A. B. ANNIN, Fullerton, Cal.



CYCLONE PULVERIZER.

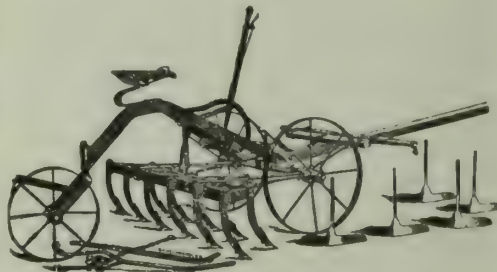
"The CYCLONE PULVERIZER arrived, and I started it within an hour of the time I received it. To say that it gives satisfaction is not saying half enough in its favor. It is the most complete Pulverizer I ever saw. It leaves the ground as fine as a flower garden. Three small or two medium horses, and one man, can finish fifteen acres every day, and do the work better than can be done with any other tool now in use." Signed, W. E. COLE, Capay, Cal.

"I have used the TOWER CYCLONE PULVERIZER on my orchard in Sutter county, and take pleasure in recommending it to parties wishing an implement for surface cultivation. I am using cultivators of your different makes, all of them doing good work; none of them, however, finishes up the surface of the ground and levels it equal to the TOWER CYCLONE." Signed, G. W. PEACOCK, Marysville, Cal.

"We find our 8-foot LUITWIELER CULTIVATOR all that is claimed for it—a successful implement for orchard use, and recommend it to all who wish a first class cultivator." Signed, A. P. CHRISMAN, Los Gatos, Cal.

"The 8-foot LUITWIELER CULTIVATOR I received from you is giving good satisfaction. My team is medium and handles it quite easily." Signed, M. B. STEINBURG, Woodland, Cal.

"After giving the DEERFIELD STEEL HARNESS a trial, I am prepared to say that I find it very successful for orchard use. Can recommend it to all who wish to use a Harness which will not injure their trees." Signed, G. F. SMITH, Carpinteria, Cal.



LUITWIELER STEEL CULTIVATOR.

"We have used your DEERFIELD STEEL HARNESS in plowing vineyard, and it is the most complete arrangement we ever saw. Also, for 2-horse work on wagon, it works equally as well as in our vineyard or orchard." Signed, W. E. & H. BENJAMIN, Santa Rosa, Cal.

"Having used the DEERFIELD STEEL HARNESS, and given it good tests, am now prepared to say that it is the best Harness for orchard work I have had on my place. I recommend it to my neighbors." Signed, RUSSELL HEATH, Carpinteria, Cal.

"I find your DEERFIELD STEEL HARNESS A1 for orchard and vineyard work, and by far the most convenient Harness for a lead team and for a general purpose Harness on a farm." Signed, M. S. BOWDISH, Los Gatos, Cal.



DEERFIELD STEEL HARNESS.

"Your DEERFIELD STEEL HARNESS has been given a trial in my vineyard, and works well, preventing injury to vines and trees to a great extent. It is a decided advantage to be able to hitch up the horses separately and attach them afterward." Signed, WM. WEHNER, Evergreen, Cal.

"My teamster reports that the DEERFIELD STEEL HARNESS works well. I enclose check for payment. Please send me another set of harness." Signed, NATHAN W. BLANCHARD, Santa Paula, Cal.

"The EVANS' STEEL HARROW came all right. The more I use it the better I like it, and would not part with it at any price. It is the best Harrow I ever saw." Signed, F. D. BENNETT, Santa Cruz, Cal.

SEND FOR Horticultural Pamphlet

G. G. WICKSON & CO.,

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The Wheaten Loaf.

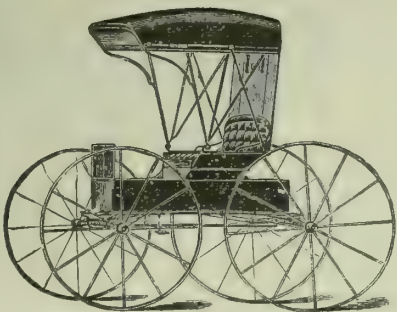
The ideal loaf depends on the perfection of the leavening process. Baking fixes the air cells, and the quicker that is accomplished the better. If dough is placed in the oven before it is sufficiently "proofed" the bread will be close-grained or heavy. If the temperature of the oven is too low then soggy bread results; if overheated the crust will form too quickly, becoming hard, thus preventing the escape of water. The result is an "underbaked" loaf. The right temperature and medium-sized loaves result in such a penetration of the heat through the loaves as to delay the baking of the crust until the necessary changes have been made. To test the oven throw on its floor a tablespoonful of fresh flour. If it takes fire or burns black quickly the oven is overheated and must be allowed to cool. If the floor remains white after a few seconds the temperature is too low. If the oven is right the flour will turn a blackish or brownish yellow and look slightly scorched.

In the large cities there are immense bakeries where machinery and reel ovens are employed in bread-making. This reduces the cost to the consumers, who will ere long be able to buy, if they are not already, bread as cheap as they can make it at home, taking fuel and labor and loss from bad bakers of bread into account. In the large bakeries the dough is mixed in huge oval tubs of oak which hold five barrels or 1000 pounds of flour made into dough, which is worked by machinery. The tub is elevated on a platform so as to permit the working of revolving steel blades. Three men are thus enabled to work up in one day without touch of hand 150 barrels of flour, which, if done in the ordinary or old method by hand, would require the services of thirty men. A huge lump of twenty-four pounds of dough is cut by a machine in a few seconds into twelve loaves. Economy of material, better bread and low cost are the result of these mechanical improvements.—Food.

In orchard and vineyard cultivation as in general farming the plow is the first and most important implement. On page 68 of this issue will be found an announcement of interest to every fruitgrower in the State. It refers to the justly celebrated Oliver Chilled Plows. Particular attention is being paid by this company to the needs of the Pacific coast, and every season they are adding new patterns to their already very complete list. It is not exaggeration when we say that their line of plows for orchard and vineyard work is the best and most complete of any on the market to-day.

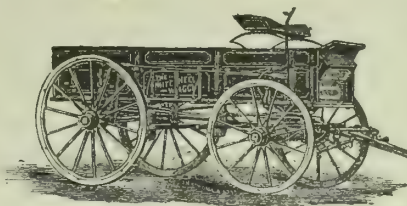
RICE COIL SPRING BUGGIES, SURRIES AND CARTS.

—EASIEST RIDERS KNOWN.—



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MONARCH OF THE ROAD.



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LARGEST LINE OF VEHICLES OF ALL DESCRIPTIONS.

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GENUINE STAR MOLINE PLOWS, fitted with Crucible Steel Shares and Soft Center Moldboards, are the best. We have them all sizes, 6 to 16-inch cut.

FLYING DUTCHMAN JR. SULKY PLOWS, FLYING DUTCHMAN 2, 3 & 4-FURROW GANG PLOWS.

THE OLD RELIABLE SOUTH BEND CHILLED PLOW has more friends than any other chilled plow made.

HARROWS—All Styles.

RIDING AND WALKING CULTIVATORS, FEED CUTTERS, PUMPS.

"EXTERMINATORS."—DEATH TO MORNING GLORY.

THE ALLISON-NEFF SPRAY PUMP—Three sizes, A, B and C; latest and best.

CORN, BEAN AND BEET PLANTERS, ETC., ETC.

DON'T plow your orchard or vineyard but once during the season. The now famous CLARK'S REVERSIBLE OUTAWAY DISC HARROW will keep the weeds down, your land well pulverized and level, and at one-third the cost of plowing.

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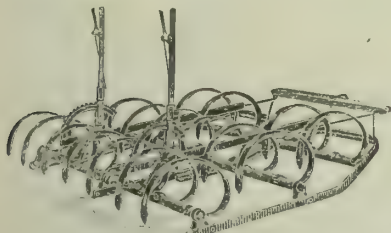
Vitus Californica Seedlings.

Two years old.

THE ONLY VINES PHYLLOXERA PROOF
Ten Dollars per Thousand.

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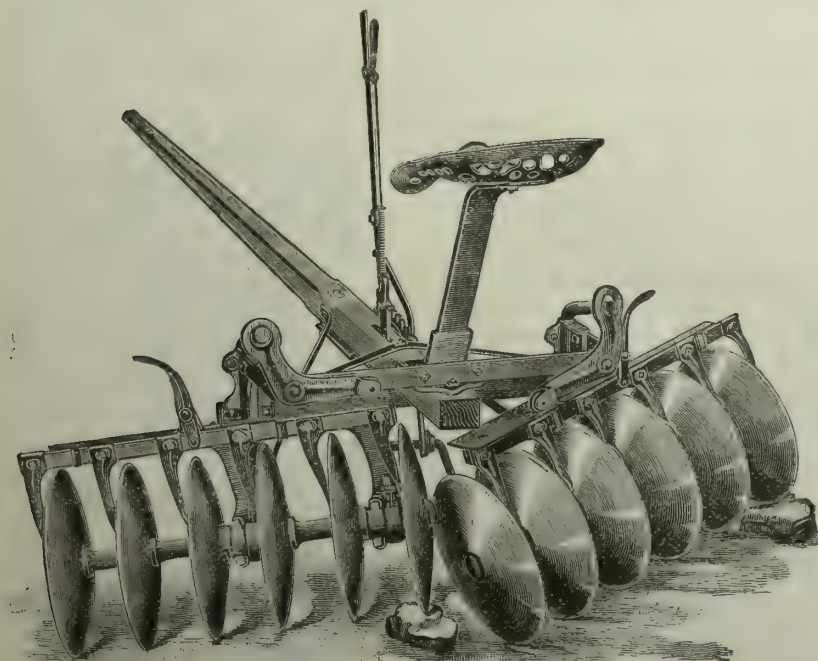
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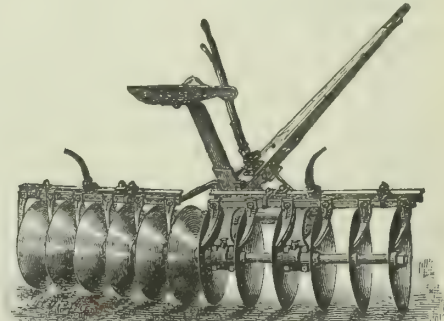
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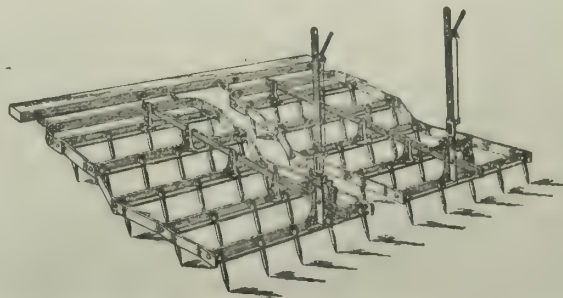
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Osborne Flexible Disc Harrow.....All Steel, Ball Bearings, Flexible Gangs, 16 and 20-inch Discs



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All Steel, Ball Bearings, Rigid Frame, 16 and 20-inch Discs
Scrapers and Weight Boxes.



Osborne Set Lever Peg Tooth All Steel Harrow - Any Desired Width

D. M. OSBORNE & CO., 27 Main Street, San Francisco.

THE HOME CIRCLE.

Fate's Frustrated Joke.

Once Fate, with an ironic zest,
Made man—a most delicious jest,
"From out the void I man evoke,"
Said Fate, "my best and latest joke!
I stand him on two slender props,
Two pins on which the creature hops.
I'll watch the unbalanced gawky sprawl,
Prong after prong behold him crawl;
And when a strong wind from the east
Blows on this perpendicular beast,
I'll laugh to see him topple o'er,
And all the gazing gods shall roar!

This mite shall feed the lion's maw
And dangle on the tiger's paw,
Shall be the sportive panther's prey,
And flee from dragons night and day.
This featherless bird of awkward mold
Shall chatter through the winter's cold;
No hair or wool to him I give,
No turtle shell in which to live;
Nor can he, like the bear," said Fate,
"Dig holes in which to hibernates."
Out in the universe I fling
This naked, helpless, shivering thing;
Of all my jokes this is the best,
This masterpiece of jest!"

But Fate, in mixing man his brains,
Forgot to take the usual pains,
Dropped in, and made a fearful muss,
An extra scoop of phosphorus;
Then man he silly said: "You wait,
And I will get the joke on Fate."
He did not feed the lion's maw,
Or dangle on the tiger's paw,
But cut the lion into steak,
And used his skin a coat to make.
The whirlwind from the east might blow,
But still it could not overthrow
This feathered biped, for 'tis plain
This extra phosphorus in his brain
Was just enough upon each limb
To hold him up and balance him.
And so through all the years that come
He keeps his equilibrium.

And so this pronged and toppling thing
Stood straight and made himself a king;
This straddling biped did not fail
To rule the elephant and the whale,
And even great Leviathan
Accepts the sovereign sway of man;
And sheltered safe from wounds and scars,
His thoughts went out beyond the stars,
And traveled through time's shoreless sea,
And "wandered through eternity."
And baffled Fate said: "Well, I see
The fellow's got the joke on me!"

—S. W. Foss, in Yankee Blade.

In a Cathedral.



OLONIALS, on the whole, I think, have more appreciation of St. Paul's cathedral than of any other of London sights. Coming over from Australia for a six months' visit, one of the first things I promised myself was to see St. Paul's. I felt it impossible to go back and face my friends if I could not say that I had seen the metropolitan cathedral. First one thing intervened and then another, until my last day in England had been reached. The last day I had kept clear of engagements purposely, but unfortunately a telegram arrived in the morning summoning me to Norwich, and it was 8 o'clock in the evening before I reached Liverpool street on the return journey. Now, I was bound to start for Brindisi the next day, and it seemed as if it were to be my fate to miss the last chance of seeing St. Paul's. Still I was determined, and a fast hansom put me down at the corner of St. Paul's churchyard. As I stood on the pavement, looking up at the giant dome, the clock struck 9. The sun had set, and high overhead the golden ball and cross stood out against the sky, still burnished by the evening glow. The traffic had slackened, there were but few pedestrians and an occasional cab crawled by. The city seemed to sleep, and St. Paul's was fastened up.

Was I doomed to see only the outside? Bending my neck and gazing upward, I saw that about the great golden ball was a tracery as of cobwebs, and men like flies were crawling about. Stout scaffoldings and cables there were, no doubt, but from the street they appeared but trifling. After quickly walking around in vain search for an open door, I came to the end of the south transept; I spied a light. Presently I heard a door softly closed, and a gray-haired old verger opened the iron grille. With all the eloquence of which I am master I entreated him to let me into the sacred fane. He hesitated and shook his head. "Very well," he said. "It is against the rules, but as you say, it is a long way from Australia; I'll let you in if you don't mind stopping inside for an hour. I shall return then, but I must lock the door behind me. Do you still wish to go inside?"

Thanking him warmly, I said, "Certainly, yes."

I got under the great dome, which hung

like a luminous cloud above, full of hazy, uncertain shadows, a faint circle of light flitting around the huge piers—white figures gleaming here and there in shadowy recesses, marble warriors, heroes and statesmen. Under the dome in the vast open space was a vast crowd of chairs, rush-bottomed, lashed together in rows looking eastward. Choosing one of the most central of these I sat down and began to dream, peopling the area with a vast invisible congregation. In soft, long-drawn cadence the bells tolled out the hour of 10. I had been in the place an hour. I felt chilled and numbed. I walked briskly up and down an avenue between the chairs. I had seen enough and wanted to get away from the scene of the shadows. Looking upward a faint circle of light marked the soaring vault, and just above my head I saw a rope hanging down from the vast height above. Then I remembered the spider webs I had seen outside above the ball and cross, and as I stood and listened I heard faint sounds of hammering and knocking. Men were at work, hundreds of feet above; lights shone here and there, twinkling like stars. In years gone by I used to be a famous gymnast, and the sight of the rope hanging above me put me in mind of my former prowess. How many times, I wondered, could I, hanging on to that rope, draw my chin up to my knuckles? I leaped up and caught the rope.

Once, twice, thrice.

Drawing myself up and down until I grew tired, I stretched myself, expecting to reach the ground with my toes. But I could not. Glancing below me I saw with horror that the flooring had vanished from under me. I was swinging suspended by my hands high up toward the dome. If I had dropped at that moment I might have been safe, but I hesitated and was lost. Slowly and steadily the rope was being wound up. I shut my eyes. Was this a hideous delusion? No, I looked down—the floor below me was almost out of sight. There I swung, a tiny, human speck, half-way between heaven and earth. My muscles were wearied with the load. I made huge efforts to grasp the rope with my feet also, but impossible. I could not do it. I could, therefore, only hold on. I was now on a level with the plinth that surmounts the great arches of the dome; the colossal fresco figure seemed to mock my agony. I must be half-way up now—could I hold on to the end? But to my despair I now saw that the seeming dome was a false one, above which rose the real conical roof another hundred feet or more, and that through a vast round orifice—the sham dome—the rope was to ascend to the upper most peak. In that moment of torture I saw that my fate was inevitable. My muscles were now relaxing, my grasp would fail and I must fall and be dashed to pieces. Confused thoughts whirled through my brain. Voices, I thought, were calling me. I was slipping, slipping, and I fell.

"How do you feel now, sir?" was whispered close to my ear.

Was it possible? Was I still alive? Yes, my brain was conscious. But, my frame? Shattered, no doubt; a mere human wreck. I only dared to use my ears, and yet I had no feeling of pain. An old man was bending over me, the same who had admitted me. He had a wine glass in his hand. A candle by his side formed a little chamber of light above us.

"Am I knocked all to pieces? Do say," I whispered. "I don't think so, sir; you are not hurt a bit. Bless you, sir, you only fell about three feet." I stretched out my arms; they were all right, and my leg was sound. "How is this?" I said, sitting up and looking about me. "I thought I was carried up into the dome."

"And so you were. You'd have been a dead man by this, but just in the nick of time I came back. I don't suppose I should have noticed you, because of the light, but I caught sight of your body against the gilding, and then you gave a sort of a moan."

"Says I: 'There's death here if I don't think of something at once.'"

"Then I recollected hearing that the workmen chaps whistle three times when they want the rope lowered, so I piped away and the rope began to come down. I shouted to you to hold on and keep your heart up, but you didn't seem to hear anything. When your feet came to within a yard of the floor you quivered and fell in a dead faint. But what were you about, to let them draw you up like that?"

I explained my gymnastic feats. "O, I see, you shook the rope. That's the signal to pull up, and they pulled. The men are working double shifts now, and are in a hurry to get finished."

When I left St. Paul's cathedral that evening I felt weak and nerveless, as if I had gone through a long illness. I have written

this true and unvarnished account of my mishap as an outlet to my feelings. I did not talk much about St. Paul's when I returned to the antipodes.—Sheffield Telegraph.

What is a Friend?

London *Tid-Bits* has offered a series of prizes. The latest is as to what constitutes the word friend. The winning definition was: "The first person who comes in when the whole world has gone out."

Some of the best of the other definitions are as follows:

A bank of credit on which we can draw supplies of confidence, counsel, sympathy, help and love.

The image of one's self reflected in the mirror of mutual esteem and affection.

One who loves the truth and you, and will tell the truth in spite of you.

One who considers my needs before my deservings.

The triple alliance of the three great powers, love, sympathy and help.

The essence of pure devotion.

A safe in which one can trust anything.

The link in life's long chain that bears the greatest strain.

A star of hope in the cloud of adversity.

One who understands our silence.

A volume of sympathy bound in cloth.

A jewel whose luster the strong acids of poverty and disaster cannot dim.

One who smiles on our misfortunes, frowns on our faults, sympathizes with our sorrows, weeps at our bereavements, and is a safe fortress at all times of trouble.

A diamond in the ring of acquaintance.

One who, having gained the top of the ladder, will not forget you if you remain at the bottom.

One who in prosperity does not toady you, in adversity assists you, in sickness nurses you, and after your death marries your widow and provides for your children.

The jewel that shines brightest in the darkness.

Friendship in the personification of love and help.

The ripe fruit of acquaintanceship.

The sunshine of calamity.

Friendship, one soul in two bodies.

A harbor of refuge from the stormy waves of adversity.

One who multiplies joys, divides griefs, and whose honesty is inviolable.

Your second self.

God's earthly representative.

A balancing pole to him who walks across the tight rope of life.

A good banking account.

A second right hand.

The holy of life; whose qualities are overshadowed in the summer of prosperity, but blossom forth in the winter of adversity.

He who does not adhere to the saying that No. 1 should come first.

A watch which beats true for all time, and never "runs down."

An insurance against misanthropy.

An earthly minister of heavenly happiness.

A friend is like ivy—the greater the ruin, the closer he clings.

One who to himself is true, and therefore must be so to you.

The same to-day, the same to-morrow, either in prosperity, adversity, or sorrow.

One who combines for you alike the pleasures and benefits of society and solitude.

The best plaster for the sore cuts of misfortune.

One who acts as a balance in the see-saw of life.

A permanent fortification when one's affairs are in a state of siege.

A link of gold in the chain of life.

A stimulant to the nobler side of our nature.

One who guards another's interest as sacredly as his own, and neither flatters nor deceives.

A nineteenth century rarity.

One who will tell you of your faults and follies in prosperity, and assist you with his hand and heart in adversity.

One truer to me than I am to myself.

The Wife's Strike.

The walking delegate never tired of talking of the strike. He held that it was justifiable if ever a strike was, and he was prepared to demonstrate that it was perfectly proper to strike to secure any desired result. He so told his wife, and she seemed to agree with him. She said it seemed to be the easiest way of enforcing a demand.

And that night when he came home he found that the table was not set.

"I want a new dress," she said, when he asked what the trouble was.

"I know. You've been bothering me for

that dress for a month," he said, "but how about supper?"

"There isn't any," she replied. "This is a strike."

"A strike?"

"Yes, a general tie-up. I've been trying to secure a peaceable settlement of this trouble for some time, but now I mean to enforce my rights."

"Mary, do you dare—?"

"O, don't talk to me that way! If I can't get you to arbitrate, why I've got to strike. I don't care if it does block the wheels of trade."

"But, Mary, you don't understand."

"O, yes, I do. I've made my demands and they've been refused. A strike is all that there is left, and I've struck."

"But your demands are unreasonable."

"I don't think they are."

"You're no judge."

"You're the judge of your own demands when you strike, and I am just as good as you are when I want something. It's no use talking. This strike is on."

She folded her arms in a determined way, and he subsided. It was perhaps half an hour later when he looked up and said:

"Mary, is the strike still on?"

"It is still on," she replied.

"Aren't you hungry?"

"No. I saw that I had something in the treasury before the strike was ordered."

"Meaning the pantry?" he asked.

"Meaning the pantry," she returned.

"I believe I'll get a bite," he said.

"It's locked," she replied. "The reserve is to be used simply to keep the strike going. You can't touch the striker's resources."

"Be careful, Mary," he said, warningly.

"If I shut off the cash—"

She laughed and nodded toward the pantry.

"I can stick it out a week," she returned.

Five or ten minutes later he proposed that they compromise on a basis of ten dollars.

"Twenty," she replied firmly.

"But that means ruin," he protested. I can't afford it."

"That's your business," she answered.

"I offered to arbitrate once."

It was ten o'clock that night when he finally gave in, and somehow he felt that he had experienced a new phase of the strike business. It looked different from the other side of the fence.—Detroit Free Press.

Five Public Men.

Some one figures out that President Harrison has been able to save nearly half of his salary of \$50,000 a year. This is more than any other occupant of the White House has ever done.

President James Buchanan left a fortune of \$200,000, but a large portion of this was made long before he became President.

The fortunes of Presidents Lincoln and Andrew Johnson were estimated at \$75,000 and 50,000 respectively at the time their estates were settled.

Attorney-General W. H. H. Miller is said to be a rich man. He is a very shrewd lawyer and an admirable business man. He recently invested \$40,000 in Indianapolis real estate, which pays him 12 per cent interest.

Ex-Attorney-General Garland, of Cleveland's Cabinet, is said to have lived comfortably on his salary of 8,000 a year and saved money.



A cream of tartar baking powder. Highest of all in leavening strength.—Latest U. S. Government Food Report.

ROYAL BAKING POWDER CO., 106 Wall St., N. Y.

YOUNG FOLKS' COLUMN.

The Step-Mother.

First she come to our house,
Tommy run and bid;
And Emily and Bob and me
We cried just like we did
When mother died—and we all said
'At we all wisht 'at we was dead!

And nurse she couldn't stop us,
And pa he tried and tried—
We sobbed and sobbed and wouldn't look,
But only cried and cried;
And nen some one—we couldn't jus'
Tell who—was cryin' same as us!

Our step-mother! Yes, it was her,
Her arms around us all—
'Cause Tom slid down the bannister
And peeked in from the hall.
And we all love her, too, because
She's purt nigh good as mother was!

—JAMES WHITCOMB RILEY.

"I Once Had a Doll."

I once had a sweet little doll, dears,
The prettiest doll in the world;
Her cheeks were so red and so white, dears,
And her hair was so charmingly curled.

But I lost my poor little doll, dears,
As I played on the beach one day;
And I cried for more than a week, dears,
But I never could find where she lay.

I found my poor little doll, dears,
As I played on the beach one day;
Folks say she is terribly changed, dears,
For her paint is all washed away.

And her arms trodden off by the cows, dears,
And her hair not the least bit curled;
Yet for old sake's sake she is still, dears,
The prettiest doll in the world.

—CHARLES KINGSLEY.

Bill.

BILL seemed to the casual observer a very grown-up name for such a little boy, and especially for that kind of a little boy. He had eyes of a deep violet-blue, surrounded by lashes which turned up and turned down, like those of a French doll; and they looked out from a face which was all softness and dimples—quite angelic with its halo of golden hair.

But those who knew him best understood that he could never have been called anything else. Even Billy wouldn't have done, and as for Willie, or Will—oh! well, it simply would not have done at all. Possibly under some circumstances he might have been called William, but Bill and the proper circumstances did not come together. In the first place, Bill nearly always associated with men. He liked men who owned dogs and canes, and who asked him to go walking with them, and who didn't treat him as if he had once worn dresses.

When I first met Bill he was just three years old, and in his first trowsers. He looked shorter than he felt, and at a distance you couldn't be quite sure whether he was on his side or his feet, for he was nearly as broad as he was long. But it wasn't Bill's fault if he didn't look tall. He always stood extremely straight and carried his hands in his pockets. He did this because most of his friends carried their hands in their pockets, and besides, it emphasized the fact that he had pockets.

What Bill's charm was is difficult to tell. He certainly didn't talk much, but what he did say was uttered with a stately slowness which perhaps gave it an importance it would not otherwise have had; and he very rarely laughed or even smiled. Indeed, his unsmiling demeanor gave rise to a belief that in a former state of existence he was King Henry I. But whether or not he was this royal personage, slightly softened by time, I cannot say; I only know that we became a circle of fawning flatterers around him. We vied with each other in our attentions to him; and when he honored either of us by a visit, we were pretty apt to mention it.

Why, I've known Brewster, one of the best-looking fellows in town, and himself immensely run after, to stand at the top of the stairs in the boarding-house, and hold a conversation with Bill, who stood at the bottom, somewhat as follows:

"Halloo, Bill, is that you? Coming up?"

"No."

"I've got a box of candy in my room."

"Beel doesn't want any candy."

A pause in which Brewster tried to think what next to say, and Bill sat down on the lowest step with his back turned squarely toward him.

"I've got a new canary in my room," to the back.

No notice taken of this.

"He's a beauty, Bill, as yellow as an orange."

"H'm."

"Want to see him?"

"No."

"He's a great fighter."

As he receives no reply, Brewster becomes discouraged and retires to his room, and Bill seems to have settled for life on the lowest step.

An hour or so after, he enters Brewster's room, without any show of undue haste, and stands with his hands clasped behind him and surveys the yellow canary in its shining cage. Then he fixes his host with a cold and penetrating glance, and asks—

"Why—ain't—he a fitin'?"

And Brewster feels that both he and his bird have fallen in Bill's respect.

One afternoon one of the fellows—Culbert—persuaded him to go with him and call upon some lady friends who were desirous of making Bill's acquaintance, and the two started off in fine spirits—at least Culbert was, for he particularly liked to call at that house, and besides, he was not indifferent to the distinction which Bill's company would give to him in our circle. Of course Bill showed no outward signs of rejoicing. The visit was a great success. The ladies were charmed by Bill's beauty, and at once felt his peculiar fascination. At the door, when coming away, Culbert lingered a moment for a few last words with their hostess. If Culbert was occupied, Bill was not idle.

On the way home darkness overtook them, and Bill declared himself weary and willing to be carried. So Culbert took him up and they jogged homeward. He was never much given to confidences, so his weariness must have rendered him weak, for Culbert was presently amazed to hear a low chuckle as he tapped his pocket and said softly, as to a willing accomplice:

"Beel's got it."

"Got what, Bill?"

The little hand went into the pocket and closed over the treasure.

"Beel will get the knob the next time."

Culbert came to a dead halt and asked anxiously:

"What have you been doing?"

"Beel has got the key," and in a triumphant whisper, "They—can't—shut—the—door—to-night."

Bill had abstracted the key from the door while Culbert was having those last words.

But though Bill occasionally put his friends to confusion, I never knew of but one who actually broke with him, and that was Brownlee.

In an ill-advised hour he invited Bill to walk forth with him one fair spring day, and as the invitation contained a hint that there would be a visit to a certain ice-cream place for which Bill cherished a tender regard, the invitation was graciously accepted. Bill was arrayed in his best attire, and many were the admiring glances which followed the two friends as they swung bravely along. The ice-cream treat was to Bill's entire satisfaction. He refreshed himself with the cream, and his remarks about it refreshed Brownlee. When they were about to leave, the latter said:

"Now, Bill, I'm going to take you to the barber's with me, and you may see me being shaved."

"Beel will go," was the solemn response.

"All right then; come along."

Arrived at the barber's, Bill watched the proceedings with profound interest. He seemed to take a grim pleasure in seeing his friend tucked into a chair and evidently hors de combat, his face lathered beyond recognition. He watched keenly the first sweeps of the razor down the cheek. Then his attention was distracted by the sharp click of the shearing machine, and glancing into an adjoining room he beheld a sight which seemed, for a moment, to curdle his blood. Under its gleaming teeth, wrapped in a white cloth, sat a man whose locks were falling in a shower about him. Bill looked and realized. The man was having his hair cut. Now if Bill had one spark of vanity in him it lay in his hair. Not a golden thread had ever known the shears, and the threat that his hair should be cut was the one threat that ever moved him. He must have gone through a course of reasoning both swift and terrible. If this man, both big and strong, could be caught and made to sit still in a chair, and be shorn until his scalp was laid bare, what chance of escape could he hope for? With a stricken heart, but an outward calm, he announced with only a little quaver in his voice:

"Beel is going home."

"Not just yet, Bill, I'm not quite ready," cheerily responded Brownlee.

"Beel is going home."

"Yes, presently, Bill."

"Beel is going home now," backing toward the door.

"Bill, don't you dare go," roared Brownlee.

Bill made no reply, but continued to back

toward the door, keeping a fascinated gaze upon the awful sight within. When he gained the door he turned and flew like a bird into the crowded street and disappeared.

Brownlee leaped from the chair, shouting wildly to him to come back. He saw him flash past the window and turn down another street. He would be lost; the child had no idea of his whereabouts. Bill's mother had trusted him to bring her boy safely back.

"I must go after him."

Brownlee and the barber seized a towel, and between them they smeared off the lather as best they could, and in another moment he, hatless and half-shaven, fled around the corner after Bill. He saw him making for the most fashionable promenade, which at this hour was sure to be crowded, and he shouted to him hoarsely and excitedly.

Bill turned a flushed and terrified face for an instant, and then fled on.

"Catch him! catch him!" he called to a knot of cabmen whose stand they were passing.

The cabmen joined in the chase. Brownlee saw two of his young lady friends approaching. He tried to snatch off his hat as he passed by, and realized that he was bareheaded. His heart hardened toward Bill, who at that moment was struggling in the clutches of a cabman.

"Bring me your cab," was all he said as he drew up panting beside them.

A grinning boy from the barber's shop arrived with his hat.

He and the fugitive got into the cab, and, with a face disfigured by flecks of lather and rage, he said in a choking voice—

"Bill, you're a scamp."

"Beel is going home," answered the scamp; and then with just a touch of triumph in his returned composure, "and Beel is going home in a carriage."—Annie Howells Frechette, in the Wide Awake.

Mother at Prayer.

Once, says a writer, I suddenly opened the door of my mother's room and saw her on her knees beside her chair, and heard her speak my name in prayer. I quickly and quietly withdrew, with a feeling of awe and reverence in my heart. Soon I went away

from home to school, then into life's stern duties. But I never forgot that one glimpse of my mother at prayer, nor the one word—my own name—which I heard her utter. Well did I know that what I had seen that day was but a glimpse of what was going on every day in that sacred closet of prayer, and the consciousness strengthened me a thousand times in duty, in danger and in struggle. When death came at last and sealed those lips, the sorest sense of loss I felt was the knowledge that no more would my mother be praying for me.—Exchange.

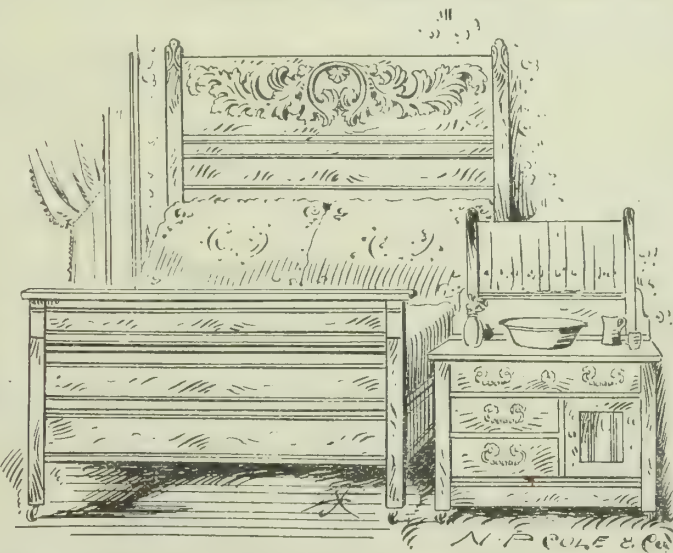
DOMESTIC ECONOMY.

LEMON SAUCE.—Boil one cup of granulated sugar in two cups of hot water, wet a tablespoonful of cornstarch in cold water, add it to the syrup and cook ten minutes; add the juice and grated rind of one lemon and a tablespoonful of butter.

GINGER POUND CAKE.—Six eggs, one-half pound of butter, one pound of flour, one small pint of molasses, one-half pound brown sugar, one teacup of ground ginger, one glass of wine or brandy, a teaspoonful of soda dissolved in a little vinegar and water. Cream butter and sugar together, then add eggs, beaten separately, and other ingredients, soda last.

CRANBERRY SAUCE.—Wash one quart of cranberries in cold water, put them in a porcelain kettle, add a pint of boiling water, cover, cook five minutes, press through a colander, add one pound granulated sugar, cook one moment and turn out to cool. This mixture should be thick but not jelly, as is a sauce. When jelly is wanted, cook five minutes after adding sugar.

ISRAEL CAKE.—Take half a pound of butter, half a pound of sugar, a good half-ounce of cornstarch, three-quarters of an ounce of wheat flour (good weight), and three eggs. Beat the butter to a cream, add the eggs and sugar, and the flour at the last. Stir half an hour. The butter ought to be rather thick. Butter a shallow sheet-iron pan, fill it with the batter about a quarter of an inch high, smooth it with the blade of a knife, then dust sugar over it, and, if you wish, some almonds cut into fine shreds. Bake in a cool oven, light yellow. Cut into small pieces of any shape you wish while still warm.



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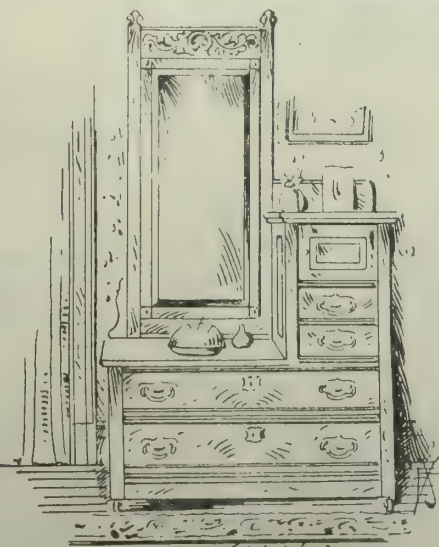
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From Worthy Master Davis.

SANTA ROSA, Jan. 9, 1893.

If the Grange has fully established the fact, and it is a fact, that farmers can well afford to buy for cash, then the Grange has won a great victory. The credit system is always a dangerous system. No people, no line of trade, can too long prosper on a credit basis. "Pay as you go, or else stay at home," is the rule of the railroad; they have found that to allow Tom, Dick or Harry to have an open account is to invite a large percentage of loss, and hence they ask for cash in advance. If the farmer will but adopt the plan of buying no more than he can pay for, and crop no more than he can cultivate, he will, sooner or later, have the means to buy additional lands, horses, houses, and, better still, books, papers, buggies, organs, pianos, and the hundreds of those things which go to make the labors of this life cheerful. None of us can afford to devote all of the day to the social and mental culture of self alone, neither can we afford to entirely neglect these things for the sole accumulation of wealth alone. A happy medium makes the solid, safe and popular man or woman. The Grange has taught these lessons. Many have profited by the teaching, and we want to urge on lecturers of subordinates to keep up the work so well started, and so fully appreciated by many.

The data furnished by Governor Markham, in his message to the legislature showing the annual importations of products which ought to be produced in this State, is rather surprising. Why is it that we have to import such articles as eggs, potatoes, meat, honey, lard, etc.? Surely, California is well adapted to the production of all these. Surely, there is good pay in producing them, or importers could not buy in eastern or other markets, pay commission, heavy freight, and take hazardous risks in order to supply the people of this State. What better service could be done by boards of trade, county, district and State agricultural, horticultural and poultry organizations than to investigate these matters and then assist in developing ways and means for their establishment and operation? Let the Order of Patrons of Husbandry see to it that these subjects receive careful attention. Let us keep ourselves posted as to the needs of the people in this State. We don't want them fed on products from other sections, which might be better and profitably produced in our own fair California. "Look well to the West!" and her rights, opportunities and profits!

The question of territorial jurisdiction of subordinate Granges is one that will, no doubt, soon have consideration from the State Grange of California. An effort was made at the last session of the National Grange to allow members of dormant Granges to affiliate with a State Grange on the payment of \$1.20, provided said member does not live within 15 miles of a live subordinate Grange; and as soon as a subordinate Grange is organized within 15 miles of the home of said Patron, he or she must affiliate with that Grange. Although the committee reported favorably on this proposition to the National Grange, that body failed to give the necessary vote to secure the purpose of the resolution. The question of jurisdiction of subordinates is one of great importance, and it will require some action on the part of State Granges to make it fully operative.

Now is the time to suggest amendments to the Road Law. Everybody is permitted to have a "say" on this subject, as will be seen by reference to the proceedings of the legislature.

Seven members are required to open a subordinate Grange. Remember that! See Digest.

Senator D. A. Ostrom of Yuba county made a strong point when he insisted that the Governor should appoint more farmers to office, and especially that a farmer should be appointed a director of the prisons.

How many farmers are on the Board of Regents of the State University? And yet there is the State's Agricultural College. Can we have a few farmers on the Board of Regents?

Senator Earle has introduced a bill providing that all Regents of the State University shall be appointed from the list of graduates till the majority of the Board is composed of the alumni of the University.

Have you noticed the number of bills which carry with them the appropriation of public money?

There are several members of the Alliance and of the Grange in the Senate and in the Assembly. Will they act as a unit on matters that affect the farm?

Have you noticed the number of bills creating places for somebody? Commissions without number, but each one with a big salary provided. Haven't we commissions enough and to spare without creating new ones?

Are you going to the World's Fair? If so, visit the Grange headquarters. You will be very welcome. "Columbia" will be glad to see you.

The many friends of Bro. X. X. Charters, one of the Executive Committee of the National Grange and Worthy Master of Virginia State Grange, will be pained to hear of his serious illness. All who know him will hope for his speedy recovery to health.

Sixth-degree certificates will soon be ready for distribution.

San Jose Grange.

San Jose Grange was honored by a visit from Bro. I. C. Steele, State treasurer. Three members from Florin Grange were also present. The newly elected officers were all in their respective stations. The question of surrendering the charter and forming an independent Order was very pleasantly discussed. The question was not proposed with any desire to do such a thing, but only for the purpose of weighing the advantages derived from the State Grange. The resolution to withdraw was unanimously voted down. M. J. WORTHEN, Sec.

The Secretary's Column.

By A. T. Dewey, Secretary State Grange of California.

BRO. R. P. McGLINCY writes that he cannot under pressure of farm work devote his time at present in Sacramento.

MRS. L. FRINK, whose husband has been treasurer of Temescal Grange for over ten years, died at their residence in Oakland, Jan. 16th. Members and many friends who knew her in Sacramento and Oakland will lament the departure of so noble and kind a Sister and friend.

TULARE FARMERS' INSTITUTE.—Under the auspices of Tulare Grange, writes Bro. A. J. Woods, the Tulare Farmers' Institute will meet Jan. 21st. All Patrons and farmers and their wives and families should be present. Every one interested in rural affairs, social literary enjoyment and advancement will be welcome.

SUPPORT YOUR COMMITTEE.

Now is the time for every true Patron to act for the cause of good legislation. Write to the Grange Legislative Committee all the information you can that may help in urging the passage of the different enactments recommended by the State Grange. Send such letters of introduction to your local Senators and Assemblymen as will let your legislative members know what your wishes are and that you expect them to do their duty with no blinking or shirking. Let them know that you will support them if they earnestly endeavor to do the right. Take up questions of importance to your locality, express the sentiments of your Grange in decorous but plain and emphatic resolutions. Sign petitions and send early to J. H. McKune, Sacramento, for the Grange Legislative Committee. Prompt presentation will thus be secured for the same through our legislative committee and assistant.

Frequent consultations between Grange and other farming members of the legislature, in favor of honest and progressive legislation, we trust will prevail, until a strong cooperative power will be wielded effectively for good and against pernicious legislation.

EXECUTIVE COMMITTEE MEETING.

The Committee met in Sacramento at Grange Hall at 11:30 A. M. January 5th. Present:—E. W. Davis, G. P. Loucks, B. F. Walton, Cyrus Jones and A. T. Dewey, secretary. Visitors:—Daniel Flint, W. L. Overhiser, J. D. Huffman and S. H. Jackman.

Merced Grange resolution favoring the continuation of the Coyote Bounty law was read, and on motion of B. F. Walton, indorsed.

Communications to the W. M. from Petaluma Grange and Sister Perry, of Merced, were read in regard to locating the next State Grange. The subject was made a special order for the next meeting.

Moved by Walton, and carried, that W. L. Overhiser be authorized to contract with business firms in Stockton, and W. W. Greer with business houses in Sacramento. Walton was authorized to act as a committee to secure contracts with more San Francisco business houses; also personally, or through agents, with business houses in other places in the State.

The recommendation of the secretary in his annual report for a farm to farm canvass, referred by the State Grange to the executive committee, was duly considered. The following resolution, offered by Walton, was carried.

Resolved, That the sum of \$500, or so much thereof as may be required, be set apart from the Lecture Fund to make a thorough visitation and inspection of the subordinate Granges of this State, and a "house to house" canvass, organizing and reorganizing subordinate Granges and building up the Order.

This subject and the appointment of lecturers will be continued at the next meeting.

By the counsel and advice of the committee, Chairman Davis appointed the following legislative committee: "Thos. McConnell (chairman), of Elk Grove; J. H. McKune, E. Greer and G. Doty of Sacramento; Geo. Ohleyer Sr., of Yuba City. R. P. McGlinchy, of Campbell, Santa Clara Co., was requested to assist the committee and represent the Order before the committees of the present legislature. The legislative committee was requested to meet at the Golden Eagle Hotel, Sacramento, Feb. 7th.

GRANGE ELECTIONS.

[Secretaries are requested to send us as early reports as possible for publication under this head.]

MILVILLE GRANGE.—Election Dec. 24; officers chosen: J. S. Edington, M.; Mrs. A. J. Asbell, O.; Mrs. M. W. Webb, L.; F. M. Hackler, S.; L. S. Hackler, A. S.; Mrs. F. Draper, C.; Mrs. M. F. Nichols, T.; C. P. Dunham, Sec.; Levi Rawlings, G. K.; Nissie Karr, Ceres; Jennie Dunham, P.; Elsie Fallon, F.; Clara M. Geer, L. A. S. Date of installation, Jan. 21, 1893.

ELK GROVE GRANGE.—Election Dec. 3; officers chosen: Louis Sehlmeier, M.; Delos Gage, O.; James Caples, L.; Wm. Schaller, S.; John Craddock, A. S.; Mrs. S. Stelter, C.; Fred Stelter, T.; Geo. S. Williamson, Sec.; E. W. Stickney, G. K.; Miss Maud Caples, Ceres; Miss Mabel Craddock, P.; Miss Dora Henley, F.; Miss Mattie Maholm, L. A. S.; Thomas McConnell, Trustee. Date of installation, Jan. 21, 1893.

FLORIN GRANGE.—Election Dec. 10; officers chosen: Milton Casey, M.; T. E. Davies, O.; Sister I. A. Casey, L.; Jesse Casey, S.; Julius Buell, A. S.; Sister Jane Clark, C.; C. Fowl, T.; John Reese, Sec.; Arthur Jenkins, G. K.; Sister Mary Davies, Ceres; Sister Blanche Gillman, P.; Sister Laura Jenkins, F.; Sister Martha Davies, L. A. S. Date of installation, Jan. 28, 1893.

MARCH GRANGE.—Election Dec. 10; officers chosen: R. K. Stevenson, M.; Mary Stevenson, O.; Mrs. C. C. Patridge, L.; Ida Fairlee, S.; Jennie Clyma, A. S.; Mrs. E. Young, C.; W. T. Lam, T.; Jas. Myers, Sec.; J. H. Myers, G. K.; Gertie Williams, Ceres; Clara Fairlee, P.; Irene Kingsbury, F.; Tillie Stevenson, L. A. S.; Aaron Pugh, Trustee. Date of installation, Jan. 14, 1893.

CARPINTERIA GRANGE.—Election Dec. 5; officers chosen: O. N. Cadwell, M.; Andrew Martin, O.; Delos Wood, L.; H. D. Woods, S.; Mrs. S. J. Wood, A. S.; Mrs. H. A. Stinson, C.; James

Blood, T.; H. A. Stinson, Sec.; John Pyster, G. K.; Mrs. C. Blood, Ceres; Mrs. C. Pyster, P.; Mrs. C. Pinny, F.; Miss Lizzie Lambert, L. A. S.

SEBASTOPOL GRANGE.—Election Dec. 3; officers chosen: James Moran, M.; Geo. N. Sanborn, O.; Miss Vina Litchfield, L.; Geo. T. Espey, S.; Charles Hotle, A. S.; Mrs. Ellen Sheridan, C.; Chauncey Wightman, T.; Martin Litchfield, Sec.; John K. Howard, G. K.; Mrs. E. Palmer, Ceres; Mrs. Harriet Allen, P.; Mrs. Albee Morris, F.; Miss Loraine H. Lawton, L. A. S.; J. K. Howard, Trustee. Date of installation, Jan. 7, 1893.

VACA VALLEY GRANGE.—Officers chosen: J. A. Webster, M.; P. S. Bragdon, O.; Sister M. C. Smith, L.; J. O. Hunt, S.; T. H. Buckingham, A. S.; S. Ashley, C.; Sister H. Barrow, T.; Gertrude Montgomery, Sec.; H. A. Loud, G. K.; Mrs. Buckingham, Ceres; Portia Hill, P.; Rose Smith, F.; G. G. Smith, L. A. S.; J. O. Hunt, Trustee. Date of installation, Jan. 11, 1893.

Joint Installation by Eden and Temescal Granges.

After a long lapse of time, the Patrons of Eden Grange had the pleasure of participating in a reunion and installation with Temescal Grange. We enjoyed the intellectual feast, and that from the bountifully spread tables so kindly prepared for us by the brothers and sisters of Temescal Grange.

The subjects were such as to make us think of life and its realities, Sister Shuey's poem showing how very much there is to be developed in moral excellence and unselfish living. Bro. Perkins, the installing officer, spoke volumes, showing how little people of large intelligence, or "representative men," as he called them, thought of true manhood or their moral responsibility to themselves and posterity. How necessary it is for the welfare of all that the moral faculties should be equally developed with the intellect! In fact, large intellects are dangerous when the morals are ignored. As we understand it, true manhood and womanhood are attained only by cultivating all the faculties that nature has given, not for selfish purposes, but for the good that can be gained by true living.

Bro. Blackwood, compared the Christmas times of the present with those of his boyhood days, and created considerable merriment in his after-dinner speech.

The music by Sisters Dewey and Lufkin and Bro. Alfred Dewey was exceptionally fine, and the tribute to "Somebody's Mother" by Miss Bessie Babcock was one of the good features of the day.

R. W. P.

The Grangers' Bank.

The nineteenth annual meeting of the stockholders of the Grangers' Bank of California was held on January 10th, about 9000 shares of the capital stock being represented. A dividend of 6% per cent was declared, amounting to \$55,482.80, due and payable February 9th, 1893, and the remainder of the earnings carried to credit of reserve fund. The ninth installment of \$10 per share was also levied upon the capital stock of said bank.

The old Board of Directors was unanimously re-elected, with the single exception of Dr. T. E. Tynan, whose vacant place on the Board has been filled by Dr. W. Dickinson, of the same county (Stanislaus), the Board now consisting of A. D. Logan, I. C. Steele, Thos. McConnell, Seneca Ewer, H. M. LaRue, J. H. Gardiner, Daniel Meyer, Uriah Wood, H. J. Lewelling, J. W. Mitchell, and Dr. W. L. Dickenson.

A. D. Logan was reelected president; I. C. Steele, vice-president; A. Montpelier, cashier and manager, and F. McMullen, secretary. Stockholders and patrons of the bank generally will be gratified at the continuation of an administration which has done so much for the advancement of the institution.

Take Care of the
NICKELS
and the
DOLLARS
Will Take Care of Themselves.

If you only save one or two
Nickels on each Fifty-cent purchase

You will be many Dollars
ahead at the end of the year.

Send for our new catalogue.

Pacific Coast Home Supply Association,

Mention this paper. 132 MARKET ST., S. F.

SEMI-ANNUAL STATEMENT

OF THE

GRANGERS' BANK
OF CALIFORNIA.

Amount of Capital actually paid in U. S. Gold Coin, Surplus paid up and Reserve Fund..... \$916,269 18

STATE OF CALIFORNIA

City and County of San Francisco, }
A. D. Logan and A. Montpelier being each duly sworn, severally depose and say that they are respectively the President and Cashier and Manager of the Grangers' Bank of California, above mentioned, and that the foregoing statement is true.

(Signed) A. D. LOGAN, President,
(Signed) A. MONTELLIER, Cashier and M'gr.
Subscribed and sworn to before me this 11th day of January, 1893.
(Signed) JAMES L. KING, Notary Public.

SEMI-ANNUAL STATEMENT

SHOWING THE ACTUAL CONDITION
OF THE

GRANGERS' BANK OF CALIFORNIA,

AND THE VALUE OF ITS ASSETS AND LIABILITIES

At the Close of Business December 31, 1892, viz:

ASSETS:

Loans on wheat, real estate and other securities.....	\$2,088,491 04
Due from banks and bankers.....	21,878 86
Real estate.....	163,716 79
Office furniture, fixtures and safe.....	5,500 00
Cash on hand.....	229,863 53
Total.....	\$2,478,750 22

And said assets are situated in the following counties in the State of California, to-wit: Alameda, Butte, Contra Costa, Colusa, Fresno, Merced, Monterey, Placer, Stanislaus, Sutter, Solano, City and County of San Francisco, Tehama, Tulare, Yuba and Yolo.

LIABILITIES:

Capital stock paid in U. S. Gold Coin.....	\$859,280 00
Reserve fund.....	\$56,979 18
Dividend No. 18.....	55,482 80
Due depositors, banks and bankers.....	1,607,008 24
Total.....	\$2,478,750 22

STATE OF CALIFORNIA

City and County of San Francisco, }
A. D. Logan and A. Montpelier, being each duly sworn, severally depose and say that they are respectively the President and Cashier and Manager of the Grangers' Bank of California, above mentioned, and that the foregoing statement is true.

(Signed) A. D. LOGAN, President,
(Signed) A. MONTELLIER, Cashier and M'gr.
Subscribed and sworn to before me this 11th day of January, 1893.
(Signed) JAMES L. KING, Notary Public.

OFFICE OF THE
GRANGERS' BANK OF CALIFORNIA

SAN FRANCISCO, January 11th, 1893.

To the Stockholders of the Grangers' Bank of California:
DIVIDEND NO. 18.

You are hereby notified that at a meeting of the Board of Directors of the GRANGERS' BANK OF CALIFORNIA, held on the 10th instant, a Dividend of Six and one-half (6½) per cent, equal to \$5.20 per share on the Stock upon which 9 installments have been paid, and \$0.60 per share upon the stock paid up in full, has been declared payable February 9th, 1893.

A. D. LOGAN, President.
FRANK McMULLEN, Secretary.

OFFICE OF THE
GRANGERS' BANK OF CALIFORNIA

SAN FRANCISCO, Jan. 11, 1893.

To the Stockholders of the Grangers' Bank of California:
NINTH ASSESSMENT.

You are hereby notified that at a meeting of the Board of Directors of the GRANGERS' BANK OF CALIFORNIA, held on the 10th inst., an assessment of 10 per cent (\$10 per share) was levied upon the Capital Stock of said Bank, payable immediately in U. S. Gold Coin, to the Cashier, at the office of the Bank, N. W. corner California and Battery streets, San Francisco. Any stock upon which this assessment shall remain unpaid on the Ninth day of February, 1893, will be delinquent, and advertised for sale, at public auction, and, unless payment is made before, will be sold on the 9th day of March, 1893, to pay said assessment, advertising and expenses of sale.

A. D. LOGAN, President.
FRANK McMULLEN, Secretary.

EGGS! EGGS! EGGS!

S. C. White and Brown Leghorns, White Minorcas, Barred Plymouth Rocks. My pen of Barred Plymouth Rocks won second prize at the great Petaluma Show. Eggs from Leghorns and Minorcas, \$2.50 per 13, \$4 per 20; B. Plymouth Rock eggs, \$3 per 13. Satisfaction guaranteed to all.

FRANK A. BRUSH,
Care Santa Rosa National Bank.....SANTA ROSA, CAL.

DIVIDEND NOTICE

GERMAN SAVINGS AND LOAN SOCIETY, CALIFORNIA STREET. For the half year ending Dec. 31, 1892, a dividend has been declared at the rate of five and one-tenth (5-10) per cent per annum on Term Deposits, and four and one-quarter (4-14) per cent per annum on Ordinary Deposits, payable on and after Tuesday, Jan. 3, 1893.

GEO. TOURNY, Secretary

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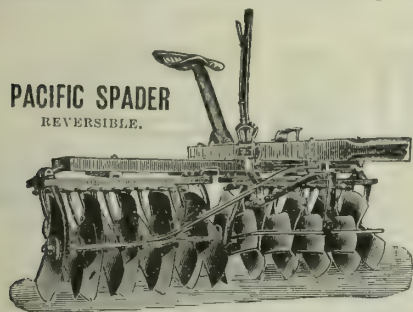
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Operated by one small boy. No Man required.



Spader throwing Soil from the Center.

The Pacific Spader and Vineyard Cultivator does more work in one stroke than a Disc Harrow in ten. Sizes, 5½ to 12 feet.

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SIZES:—		
No. 5D—5½-foot Spader.....	16-Inch Blades	
No. 6D—7 " " " " " " " "	16 " "	
No. 10D—5½ " " " " " " " "	20 " "	
No. 14D—7 " " " " " " " "	20 " "	
No. 18D—8 " " " " " " " "	20 " "	
No. 20D—10 " " " " " " " "	20 " "	
No. 24D—12 " " " " " " " "	20 " "	



AN OLD STYLE PULVERIZER.

Especially adapted to pulverizing "bottoms"—one man and a small boy can operate it.

Linden, Cal., Nov. 26, 1892.

Messrs. Truman, Hooker & Co.,

San Francisco, Cal.

Gentlemen:—I was induced by your agent, Mr. I. O. Fowler, to purchase one of your PACIFIC SPADERS, which I have tested on some very hard land and must say it does its work to perfection. I will say to all who contemplate purchasing a Cultivator to take the Pacific Spader every time. I remain
Yours very truly,

C. V. Webb.

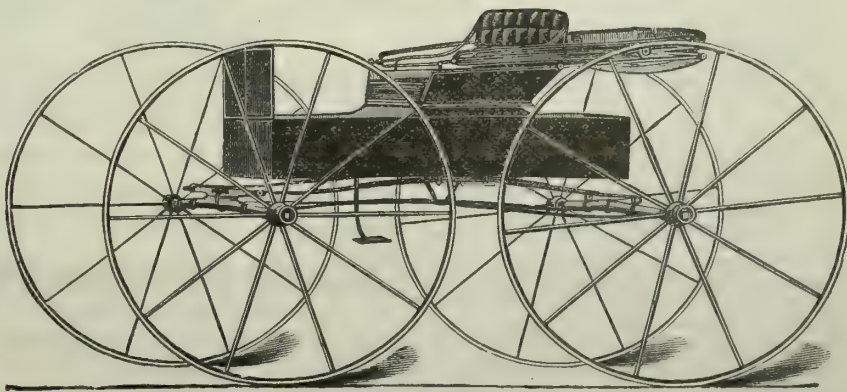
BUGGIES, all sizes, - \$75 to \$150,
PHÆTONS, - - - - \$95 to \$150,
SURREYS, - - - - \$125 to \$175,
ROAD WAGONS, - - - \$48 to \$60.

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Science In Medicine.

The recent address at St. George's, London was delivered by Dr. Bowles, of Folkestone. The lecturer commenced by welcoming the new students, and urging them all to preserve the tradition that "a St. George's man is expected at all times and under all circumstances to be a gentleman." The apprenticeship system was announced to be dead—defeated by the rapid march of science. This led to the main subject of the address, "the application of physics to physic." It was pointed out that all changes occurring in physiological and pathological processes formerly supposed to depend on that unknown quantity, "vital force," were really nothing more than the action of the recognized forces of nature on the organs and structures of the body. Coughing, sneezing, snoring, etc., were all shown to have immediate origin in physical conditions. Surgery is the proper application of the laws of physics; injured parts and broken limbs are kept at rest, dislocated parts are placed in their natural positions, redundancies are removed, and natural deficiencies often well supplied; crooked paths are made straight, and blocked and narrowed ones made patent; stiffened joints are made to move, crooked limbs put into shape, eyes are made to see that would not, and ears to hear that could not.

Surgery is a department of physics—a physical art. Medicine, formerly the region of the unknown and the happy hunting ground of quacks, is rapidly following in the same lines. The so-called practical man and the believer in dogmas and nostrums are rapidly giving way to minds trained in the laws of physics. Physiology, Medicine's forerunner and its handmaid, is steadily, step by step, and without prejudice elucidating the ways and doings of animal life. By instruments of the most elaborate and delicate nature, by patient and continuous observation, by anatomical and histological searchings, and by the application of the laws of gravitation, chemistry, heat, light and electricity, always by ways and means connected with physics, we are getting to understand better and more surely the movements and functions of respiration, of circulation and digestion, of secretion and excretion, and finally we hope to understand the most subtle and mysterious of all functions—the operation of the nervous system.

The lecturer then reviewed the rapid progress made in late years in the studies on which the medical art is based. Schroeder in Germany, and Pasteur in France, by their investigations on fermentation and putrefaction, and Chauveau on the particular nature of contagia, have opened up an entirely new world. We have now not only to study the causes as well as the changes of the disease in the body, but also the doings of the bacteria outside the body and within it. In view of the more scientific methods of modern pharmacology and therapeutics, students were cautioned against long and complicated prescriptions. Not a single drug ought to enter the body except under clear intention of what object it is to fulfill there. Compounds may be good cookery, but do not form scientific medicine. Finally students were warned against mistaken views of materialism. The students of the physical and biological sciences are emphatically the servants of nature. The man of science interprets the physical laws, and equally with the teacher of religion tells us of the greatness and grandeur of the Creator. Every discovery of the scientist can only tend to increase our wonder at the omniscience of the ways of God.

FACIAL EXPRESSIONS.—A close observer of the facial expressions of different individuals, says the *Optician*, will find a great variety in their delineation, based almost entirely upon the direction of the axis of vision. In children this axis is almost constantly parallel, producing the impression of thoughtlessness or the childish, innocent look. With increasing intelligence, the eyes lose the parallelism by being fixed upon objects of investigation. All affections of the mind are now manifested by certain motions and positions of the eyes, which become more and more convergent. The lurking look of the criminal on trial, the watchful scrutiny of the over-suspicious, the lustful look of the libertine, the piercing glance of anger, the rude gaze of the ruffian, and the fearful glare of the maniac, all are modifications of the same act, produced by an increasing convergency of the axis of the eyes. The eyes of a frightened person diverge; the wish to be far away from the place of danger causes the dilating of the pupils and the opening of the eyelids. In old age the axis of vision again becomes parallel. The pas-

sions of former years are calmed, and the mind, in a contemplative mood, is now diverted upon its future distant home. At last the eye dies in the absolute parallelism of the axis of vision.

MAGNETS AND THE HUMAN ORGANISM. Experiments have recently been carried out at the Edison laboratory by Dr. Fred Peterson and A. E. Kennelly to prove that no therapeutic effects result from the application of magnetism to the human system. It has been commonly supposed for some time that the magnetism of dynamos has some direct influence upon the bodies of animals, and these experiments were undertaken with a view to settle the question finally. For purpose of experiment the armature was taken from a dynamo, and in the cylinder formed by the inner ends of the set of powerful converging field magnets a dog was confined and kept for a period of five hours. The intensity of these magnets was from 1000 to 2000 C.G.S. lines to the square centimetre. At the end of the time mentioned the dog was set at liberty, and beyond his apparent joy at thus being set loose the operation did not seem to affect him in the least. A boy was also confined for a short time in the same position, and was also uninfluenced. Several other experiments of like nature were made. Dr. Peterson and Mr. Kennelly conclude from their experiments that the human organism is in nowise affected by the most powerful magnets known to modern science.

Are You Going East?

Take the Santa Fe route. You will find it to your interest to call on or address the undersigned before purchasing tickets. No other line crossing the continent can offer you a trip combining equal comfort and pleasure. The only line running Pullman palace and tourist sleeping cars through to Chicago on the same train every day without change. Personally conducted excursions through to Boston leave every Tuesday. W. A. BISSELL, 650 Market street, Chronicle Building, San Francisco.

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TO LOAN IN ANY AMOUNT AT THE VERY LOWEST MARKET rate of interest on approved security in Farming Lands. A. SCHULLER, Room 8, 430 California Street, San Francisco.

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THE BEST AND CHEAPEST FRUIT
LAND IN THE STATE.

40 Acres—a splendid piece.....\$75.00 per acre
40 Acres—15 acres in prunes..... 85.00 "
120 Acres—one half cleared, all good
soil..... 30.00 "
20 Acres—all in fruit, mostly prunes,
15 acres full bearing..... 225.00 "
15 Acres—Good house and barn, 10 acres full
bearing trees; price.....\$5,000.00
Apply at once.

JOHN F. BYXBEE,

42 Market Street.....San Francisco

FOR \$19.00

We can send you one of our

SPECIALTY SINGLE BUGGY
HARNESS,

Which is the result of years of figuring to make the best harness ever known for the money. It is made from oak stock, hand stitched and finished by skillful mechanics, handsome full nickel or Davis hard rubber trimmings.

Just the Harness for an Elegant Turnout.

They sell ere for \$25.00, and harness not as good is often sold for \$35.00 in retail shops. If harness is not as represented, money will be refunded.

Liebold Harness Co.

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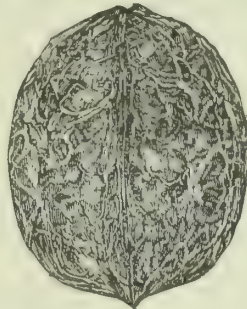
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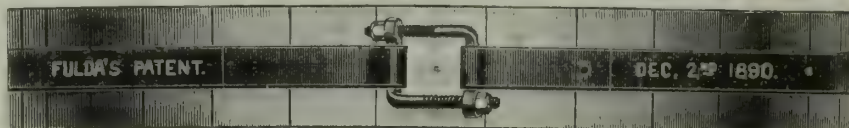
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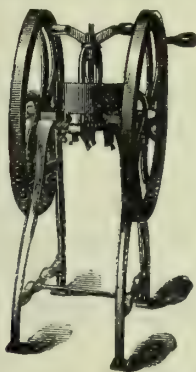
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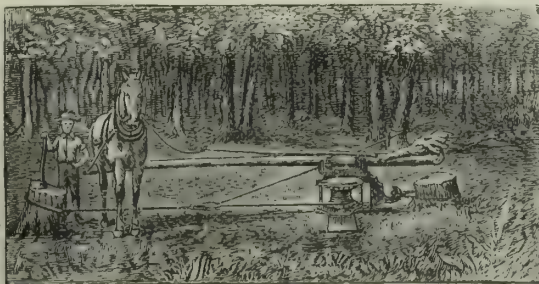
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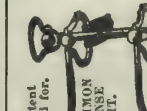
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ing, Leveling Land, Road Making, etc.

This implement will take up and carry its load to any
desired distance. It will distribute the dirt evenly or
deposit its load in bulk as desired. It will do the work
of Scraper, Grader, and Carrier. Thousands of these
Scrapers are in use in all parts of the country.

This Scraper is all steel—the only one manufac-
tured in the State.

Price, all Steel, four-horse, \$40; Steel two-horse, \$31
Address all orders to G. LISSENDEN, Stockton
California.



N. CLARK & SONS,

17 Spear Street, - San Francisco.

SEWER, WATER AND CHIMNEY PIPE
AND CAPS.

Send for prices on Sewer Pipe for culverts, for roads,
and for draining lands.

TREE WASH.
"Greenbank" Powdered Caustic
Soda and Insecticide.

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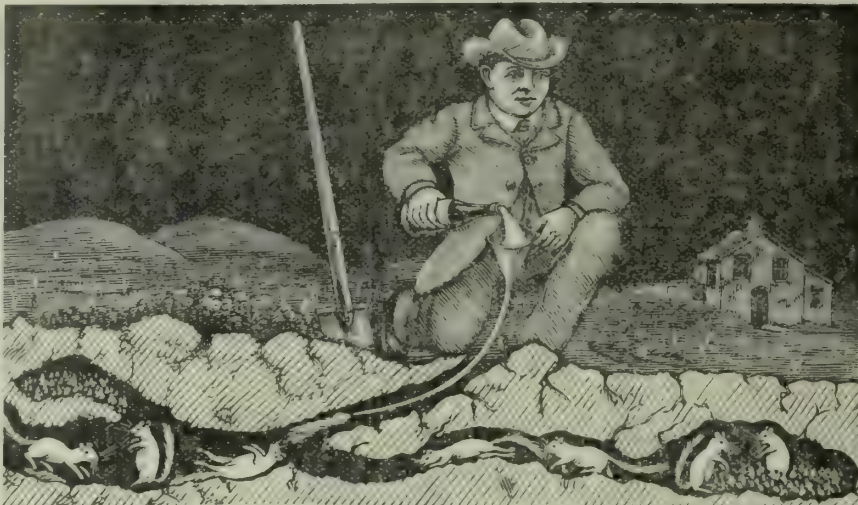
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SOLICITORS.
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CALIFORNIA FRUITS AND HOW TO
GROW THEM. By Prof. Edward
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A practical, explicit and comprehensive book embodying
the experience and methods of hundreds of successful
growers and constituting a trustworthy guide by which the
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NO MORE GOPHERS!



METHOD OF APPLYING WHEELER'S CARBON BISULPHIDE.

COMPLETE EXTERMINATION can be effected only by means of this remedy. Sold by the trade and by the
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NOTE ITS SUPERIORITY.

WHEELER'S C. B. is of unvarying strength. Kills
every occupant of the burrow, be they one or 100.
Injures nothing outside but is buried from sight; is
safe to handle or have about.
Has no effect on the operator; is not poisonous nor
injurious to the skin or clothe and once applied is for-
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POISONED WHEAT, ETC., loses its effect if exposed
any time. Kills, if any, only the first animal which find
it (perhaps a sheep, horse or cow). The poisoned animal
will then poison the pet dog or cat and, de-aying be-
comes offensive. Leaves always enough survivors to
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THE MOST EFFICIENT WOOD PRESERVER.

Fence Posts will be preserved and you will have
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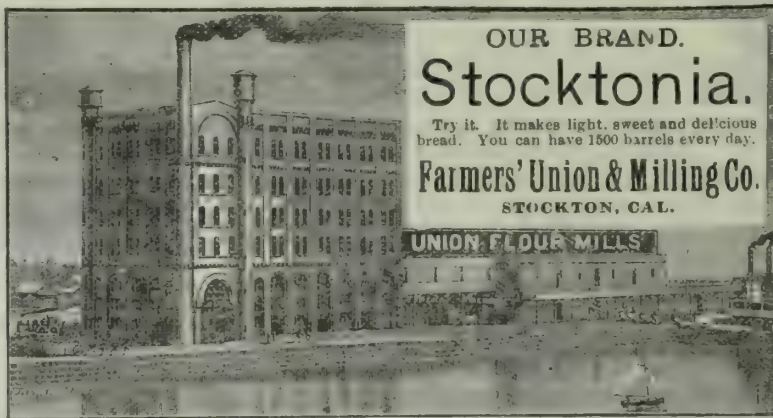
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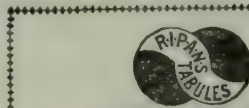
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SHIPPING ORDERS A SPECIALTY.

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Hides, Pelts, Tallow, etc., 422 Front St., and 231, 232,
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REGULATE THE
STOMACH, LIVER AND BOWELS,
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A RELIABLE REMEDY FOR

Indigestion, Biliousness, Headache, Consti-
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1500 Engravings. The American Well Works, Aurora, Ill.,
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S. F. MARKET REPORT

Market Review.

SAN FRANCISCO, Jan. 18, 1898.

The past week has developed a decidedly better feeling in the wheat market, and Saturday and Monday positive activity was noted. Quotations have advanced materially, both at home and abroad. There has been no decrease of stocks, but buyers have been forced to meet sellers' figures. The general tendency was upward until yesterday, when some weakness was developed in places, but more in the line of futures. For sample trading there was no decrease in figures, but late advances held firmly. There has been some talk of an advance in grain bags, but it is entirely speculative and has no substantial foundation. It is too early to sell bags, except for speculative purposes, and an advance or decrease in prices at this time must be based on estimate of the volume of the coming crop about which little or nothing can be positively known, to say the least.

Though wheat has advanced, local flour prices remain the same, owing to the fight among millers. The combine stays with its determination to keep prices down to a minimum, and of course millers outside the combine have attempted to make no advances.

Local trade in barley has been light. Prices are fairly firm, under light receipts.

Oats are in the same condition as a week since. Black are dull, white moderately active.

Corn is firmer, with decreased supplies. Beans keep up well. Pinks and Bayos meet good shipping demand. Limas are off.

There is a better demand for rye, particularly for export.

Dried peas vary a great deal in quotations.

Poultry and Eggs.

The poultry market is off again, and quotations are down. There is little demand. Wild game is also in liberal supply.

Eggs are notable for their unvarying good quality. W. C. Price & Co report good sale for choice. An egg corner in Chicago has sent prices up there, and if it is sustained, it will have a similar effect here, eastern imports having already lessened materially. Dealers, however, say they expect the corner to burst, and prices here to go still lower. Quotations are: choice ranch, 34 @ 35c; choice store, 31 @ 32c; choice fresh eastern, 30c; choice cold storage 25 @ 26c. Other quotations are nominal.

Fruits.

The milder weather has caused a better demand for fresh fruit, and the market is better than for some time. Oranges, however, continue to come in freely. A prominent local dealer says in reference to dried fruits.

"The dried fruit market is in better shape than it has been for years past at this season of the year. January and February are usually considered dull months here, and eastern buyers have been in the habit of coming out and picking up 'snaps' as holders who have carried over fruit as late as this are generally in a condition to take any reasonable offer."

"The present season is an exception, as stocks are almost entirely cleaned up from first hands, and are concentrated with firms who are holding them at prices which the eastern trade is gradually taking hold of."

"The fact is that with the exception of raisins and prunes there are but few goods that can be quoted out in carlots, and even the amount of these two varieties is much less than is generally estimated. It is doubtful if there are over 150 or 200 cars of raisins remaining in growers' and packers' hands, while fully half of these are off grades, which do not come into competition with good stock."

"Shipments of prunes have been quietly going out until it is doubtful if there are over 50 cars left in the State. The consumption on this coast and the adjoining territories should easily take care of this amount, even were there no further eastern demand, which in all probability we will have. Taking it altogether, the dried fruit situation is in remarkably fine shape, and parties having any left can hold with every assurance of good prices. Evaporated apples are higher."

Vegetables.

Potatoes are, in some instances, quoted still higher. Early Rose and Salinas Burbanks have both advanced. Dealers say they expect free receipts in a day or two, and then a weaker tone. Sweet peas are weak, and have suffered a decline.

Onions have advanced a little. New vegetables have been in light supply, and the market is in fairly good condition.

Butter and Cheese.

Butter is weaker, and quotations are down. Receipts are plentiful, and only a very fancy article meets good demand. Dealers will shade prices on packed stocks in order to sell.

Fancy cheese is firm, while other varieties are not so strong.

Provisions.

A still further advance is noted in hams, California and Eastern. Still higher prices are to be expected. The situation is not at all relieved in the East, and the upward tendency continues its effect here.

Miscellaneous

Wool is stagnant. The hide market is weak and slow. Beef and mutton are in good supply. Hogs bring full prices. Honey is scarce and firm. Hay is down, and prices have fallen off.

Local Tonnage Statistics.

The following is a summary of the engaged and disengaged tonnage here and on the way to this and neighboring ports yesterday morning:

	1893.	1892.
Chartered for grain.....	37,738	64,078
Miscellaneous charters.....	9,901	17,907
Disengaged.....	133,754	72,409
Totals.....	181,393	154,395
At neighboring ports—		
Total tons for 1893.....	26,482	
Total tons for 1892.....	50,730	

TONNAGE ON THE WAY.

	1893.	1892.
To San Francisco.....	250,006	235,137
To San Pedro.....	7,474	4,349
To San Diego.....	17,308	20,502
Totals.....	274,788	259,988

Grain Futures.

Liverpool.

The following are the closing prices paid for wheat options per cwt. for the past week:

	Jan.	Feb.	Mar.	April.	May.	June.
Thursday.....	60 1/2d	58 1/2d	60 0/2d	60 0/2d	60 3/4d	60 3/4d
Friday.....	58 1/2d	58 1/2d	60 0/2d	60 0/2d	60 3/4d	60 3/4d
Saturday.....	58 1/2d	58 1/2d	60 0/2d	60 0/2d	60 3/4d	60 3/4d
Sunday.....	60 0/2d	60 1/2d	60 3/4d	60 3/4d	60 3/4d	60 3/4d
Tuesday.....	60 1/2d	60 1/2d	60 1/2d	60 1/2d	60 3/4d	60 3/4d

The following are the prices for California cargoes for off coast, nearly due and prompt shipments for the past week:

	O. O.	P. S.	N. D.	Market for P. S.
Thursday.....	30 1/2d	31 1/2d	30 1/2d	Quiet
Friday.....	30 1/2d	31 1/2d	30 1/2d	Firm
Saturday.....	30 1/2d	31 1/2d	30 1/2d	Firm
Monday.....	31 1/2d	32 1/2d	31 1/2d	Quiet but steady
Tuesday.....	31 1/2d	32 1/2d	31 1/2d	Firm

San Francisco. WHEAT.

	Jan.	May
Thursday, highest.....	1 30	1 34 1/2
" lowest.....	1 30	1 33 1/2
Friday, highest.....	1 33 1/2	1 33 1/2
" lowest.....	1 30	1 33 1/2
Saturday, highest.....	1 35	1 34 1/2
" lowest.....	1 31 1/2	1 34
Monday, highest.....	1 35	1 35 1/2
" lowest.....	1 32 1/2	1 35 1/2
Tuesday, highest.....	1 35	1 34 1/2
" lowest.....	1 32 1/2	1 35 1/2

*Sample market—choice milling.
The following are to-day's recorded sales on Call:
Wheat—Morning—Informal: May—1400 tons, \$1.33 1/2; 400, \$1.33 1/2; 230, \$1.33 1/2 per cwt. Regular session: No sales.
Afternoon—May—100 tons, \$1.33 1/2; 200, \$1.33 1/2; 700, \$1.33 1/2; 100, \$1.31; 300, \$1.33 1/2; 100, \$1.33 1/2 per cwt.

BARLEY.

	Jan.	May
Thursday, highest.....	1 00	85
" lowest.....	1 00	84 1/2
Friday, highest.....	1 00	84 1/2
" lowest.....	1 00	84 1/2
Saturday, highest.....	1 00	84 1/2
" lowest.....	81 1/2	84 1/2
Monday, highest.....	81	85 1/2
" lowest.....	81	85 1/2
Tuesday, highest.....	97 1/2	85
" lowest.....	87 1/2	85

*Sample market—choice brewing.
The following are to-day's recorded sales on Call:
Barley—Regular session: No sales. Afternoon—May—100 tons, 84c; 10, 84c per cwt.

General Produce.

Extra choice in good packages fetch an advance on top quotations, while very poor grades sell less than the lower quotations.
JANUARY 18, 1898.

BEANS AND PEAS.			
Bayo, cwt.....	2 50 @	2 60	
Butter.....	2 75 @	3 00	
Pea.....	2 50 @	2 75	
Red.....	2 75 @	3 00	
Small White.....	2 25 @	2 50	
Large White.....	2 40 @	2 60	
Lima.....	2 90 @	3 00	
Fid Peas, bkt eye.....	1 10 @	1 65	
Do green.....	2 00 @	2 25	
Split.....	4 50 @	5 50	

BUTTER.			
Cal. poor to fair, lb.....	15 @		
Do good to choice.....	20 @	27 1/2	
Do Giltedged.....	28 @	29	
Do Creamery.....	27 1/2 @		
Do do Giltedged.....	31 @	32	
East rn, lad e.....	15 @	18	
Cal. Pickled.....	20 @		
Cal. Keg.....	20 @	24	
East rn Or any.....	22 @		

CHEESE.			
Cal. choice cream.....	12 1/2 @	14	
Do fair to good.....	10 @	12	
Do Giltedged.....	14 @		
Do Skim.....	5 @	6 1/2	
Young Am.....	13 1/2 @	14 1/2	

EGGS.			
Cal. "as is," doz.....	30 @		
Do shaly.....	15 @		
Do candled.....	30 @		
Do choice.....	32 1/2 @		
Do fresh laid.....	35 @		
Do do Giltedged.....	37 1/2 @		
Eastern cold storage.....	25 @		
Do fresh.....	28 1/2 @		
Do selected.....	32 1/2 @		
Outside prices for selected large eggs and inside prices for mixed sizes—small eggs are hard to sell.			

FEED.			
Bran, ton.....	14 00 @	15 00	
Feedmeal.....	25 00 @	26 00	
Grd Barley.....	19 00 @	19 50	
Middlings.....	21 00 @		
il Cake Meal.....	35 00 @		
Manhattan Horse Food (Red Ball Brand) in 100-lb. cabinets.....	8 00 @		

HAY.			
Compressed.....	7 00 @	10 00	
Wheat, per ton.....	8 00 @		
Do choice.....	13 50 @		
Wheat and oats.....	8 00 @	11 00	
Wild Oats.....	7 00 @		
Cultivated do.....	6 00 @	9 00	
Barley.....	6 00 @	9 00	
Alfalfa.....	8 00 @	10 50	
Clover.....	8 00 @	9 50	
Straw, bale.....	35 @	60	

GRAIN, ETC.			
Barley, feed, cwt.....	80 @	81 1/2	
Do good.....	80 @		
Do choice.....	81 1/2 @		
Do treading.....	94 @		
Do do choice.....	93 @	95	
Do do Giltedged.....	97 @		
Do Ohevalier.....	80 @		
Do do Giltedged.....	1 15 @		
Buckwheat.....	2 25 @		
Corn, white.....	1 02 @	1 07 1/2	
Yellow, large.....	1 02 @	1 05	
Do small.....	1 03 @	1 07 1/2	
Oats, milling.....	1 35 @	1 37 1/2	
Feed, choice.....	1 34 @		
Do good.....	1 34 @		
Do fair.....	1 30 @		
Do common.....	1 25 @		
Surprise.....	1 45 @		
Black feed.....	1 05 @	1 15	
Do seed.....	1 15 @	1 30	
Gray.....	1 30 @		
Rye.....	1 12 1/2 @	1 17 1/2	

Wheat, milling.....	1 27 1/2 @	1 35	
Do choice.....	1 25 @		
Do fair to good.....	1 25 @		
Shipping choice.....	1 25 @		
Do good.....	1 25 @		
Do fair.....	1 22 @		
Common.....	1 20 @		
Sunora.....	1 20 @	1 30	

HOPS.			
1892, fair.....	17 @		
Good.....	18 @		
Choice.....	19 @		

WHEAT.			
Extra, city mills.....	3 90 @		

SEEDS.			
Alfalfa.....	9 1/2 @	10	
Clover, Red.....	15 @		
White.....	30 @		
Flaxseed.....	2 25 @		
Hemp.....	44 @		
Mustard, yellow.....	7 @		
Do brown.....	5 @	5 1/2	

WOOL.			
8 Joaquin, plain.....	6 @	10	
Do mountain.....	8 @	11	
Do lamb.....	8 @	10	
Northern Choice.....	14 @		
Do Detective.....	13 @		
Do Lamb.....	10 @	14	
HONEY—1892 Crop.....			
White comb.....	9 1/2 @	12 1/2	
2-lb frame.....	11 1/2 @	14 1/2	
White extracted.....	8 @		
Amber do.....	6 1/2 @		
Dark do.....	6 1/2 @		
Beeswax, lb.....	25 @	26	

Fruits and Vegetables.

Choices selected, in good packages, fetch an advance on the quotations, while very poor grades sell less than the lower quotations.
JANUARY 18, 1898.

Apples, Mex.....	5 00 @	5 50	
Do Cal.....	5 00 @		
Lemons, box.....	2 00 @	3 50	
Do Sicily choice.....	5 00 @	5 50	
Apples.....	35 @	65	
Do Choice.....	75 @	1 25	
Do Extra choice.....	1 50 @	1 75	
Pears.....	25 @	1 00	
do Winter Nellis.....	1 00 @	1 50	
Persimmon.....	50 @	1 00	
Oranges, pr bx.....	1 50 @	2 50	
Navela, River do.....	3 00 @	3 50	
Do Butte Co.....	2 00 @	2 25	
Do Fresno.....	2 00 @	2 50	
Do Butte Co.....	2 00 @	2 25	
Extra choice fruit for special purposes sells at an advance on outside quotations.			
Beets, sk.....	— @	75	

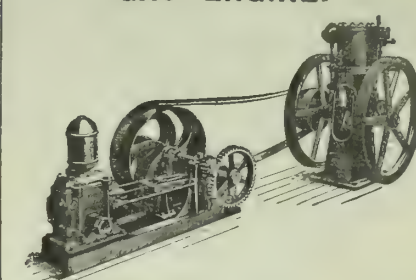


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For Rare new Tropical fruit and ornamental plants and trees. Palms, Ferns, Orange Trees, Pineapples, Bamboos, Aquatics, Etc.
Plants safely shipped everywhere. Send stamp for new and full catalogue which tells all about this subject.
REASONER BROS
Oneco, Fla.

T. W. A. E. Perkins, Cal., breeder of registered Berkshire Hogs and Plymouth Rock fowls.

"ORIENTAL" GAS ENGINE.



The best, most economical, simplest on the market for pumping or any purpose where a cheap and reliable power is required. Send for catalogue and testimonials.

M. A. GRAHAM, Inventor and Manuf'r,
105 Beale St., San Francisco.
THE BEST ENGINE FOR YACHTS.

CHAPMAN-OLIMAX
SPRAYING MACHINERY.
ORIGINAL AND BEST IN THE WORLD.
Send for Illustrated Descriptive Catalogue and Price List.
R. S. CHAPMAN,
With BOSTON WOVEN HOSE AND RUBBER CO.
Office and Works.....14 and 16 Fremont St., San Francisco.
Formerly 18 California Street.

LITTLE'S CHEMICAL FLUID NON-POISONOUS SHEEP DIP.
BEWARE OF CHEAP IMITATIONS.
One gallon, mixed with 60 gallons of cold water, will dip thoroughly 180 sheep, at a cost of 1 cent each. Easily applied; a nourisher of wool; a certain cure for SOAB. Also Little's Patent Powder Dip.
(POISONOUS). Mixes instantly with water. Prevents the fly from striking. In a two-pound package there is sufficient to dip 20 sheep, and in a seven-pound package there is sufficient to dip 100 sheep.
CATTON, BELL & CO.,
(Successors to FALKNER, BELL & Co.)
NO. 406 CALIFORNIA STREET, SAN FRANCISCO, CAL.

ST. ELMO LADDER.
THE FRUIT GROWERS' FAVORITE.
—MANUFACTURED BY—
JOHN F. LOGUE.....811 J Street, Sacramento, Cal.
Orders solicited and County Rights for sale.

"ASPINWALL"
POTATO-PLANTER
PLANTS
Corn,
Beans,
Ensilage,
Etc., Etc.
DISTRIBUTES
FERTILIZERS.
Absolutely Guaranteed.
It Marks. It Furrows.
It Drops. It Covers.
ALL IN ONE OPERATION.

POTATO CUTTER
A Boy Can Operate It.
Cuts Potatoes for Seed Faster than Eight Men Can by Hand.
Will Pay for Itself in One Day.
FULLY WARRANTED.
CORN & BEAN DRILL
THE BEST AND CHEAPEST RIDING PLANTER IN AMERICA.
The price places it within the reach of all.
Thoroughly practical.
Plants 10 to 12 acres per day.
EXTRA SLIDES for planting PEAS, BEANS, etc. with every machine.
Simple in Construction.
It consists of a series of knives secured in an opening of the table. The potato is placed in a pair of pivoted jaws above the knives, and by a plunger the potato is cut at a single stroke and the eyes divided in a most satisfactory manner. The screen below frees the seed from dirt or chips and more thoroughly prepares the cuttings for planting.
Furnished plain or with fertilizer attachment. Capacity of distributing from two hundred to one thousand pounds per acre.
Catalogue of potato and corn planting machinery FREE. Address
ASPINWALL MANUFACTURING CO., Jackson, Mich., U. S. A.
TRUMAN, HOOKER & CO., San Francisco and Fresno, Agents for the Pacific Coast.

One of the acknowledged evils of our modern times is the attempt by capital to centralize the commercial interests of the country in a few hands controlled by such vast capital as to be able to dictate both to dealers and consumers the prices that they shall pay for the necessities of life.

This has given rise to many of the social strifes that have been agitating our country during the past few years. The people have felt the necessity of combining in order that these monopolies might not completely crush them; hence we have societies, both secret and general in their declarations, whose real aim is mutual protection.

The "Grange" movement among the farmers was perhaps the earliest association of this kind, and in its wake have followed numbers untold.

How well they have succeeded is difficult now to tell, but that they have not been entirely successful is apparent to all.

The Home Knowledge and Supply Association is one of the new ventures asking for public favor, its object being to unite its members in one common source of supply as to be able to secure the lowest possible prices on all the necessities, as well as the luxuries of life.

The Home Knowledge and Supply Association had its first rise in Canada, where for years past it has been doing a large business, covering not only the Dominion of Canada, but the entire Northwest. At a more recent date a similar association was organized in Chicago, having the same object in view, and its spread was unprecedented.

Within the last year the Canada and Chicago associations consolidated, with a capital of three and a half million dollars, and will hereafter be conducted under one management, with Chicago as headquarters.

The first general branch office was established in this city in April last and incorporated with a cash capital of one hundred thousand dollars, and since that time it has been actively engaged in California, to the great benefit of those who took advantage of its offers, as testimonials now on file in the office of the association will testify.

Every member of this association becomes at once, by virtue of his relation to it, entitled to wholesale prices and trade discounts, and all other privileges that the combined influence and purchasing power of the association can bring to him.

He buys \$1 worth of goods or \$100 worth of goods at the same ratio. Through the association he deals direct with manufacturers and publishers, and thus saves the enormous expense and profit of middlemen.

The association delivers to each member a certificate of membership for life and a catalogue of general merchandise, farming implements, carriages, wagons, etc., together with book catalogues and general stationery supplies, which give them both the retail price and the price they are entitled to through the association.

As the financial standing of the association is guaranteed and their purchasing power unlimited, we know of no one in which the old adage of "a penny saved is two earned" can be better put into practice.

This association invites an investigation as to their method of doing business, ability to benefit members and their financial standing, feeling assured that those who take advantage of this plan will not only save themselves money but will also help to stamp out the centralization and monopoly power.

The "Oriental" Gas Engine.

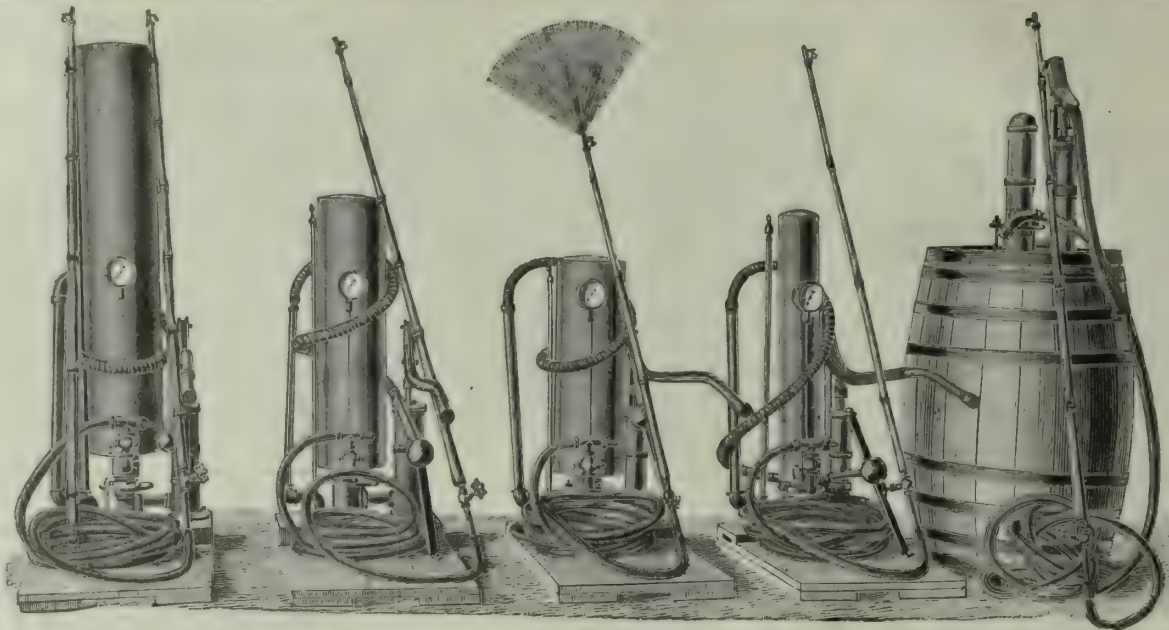
Pumping plants for irrigation and other purposes, operated by gas engines, are working so successfully and taking such hold upon popular favor that it is well to call attention to the fact that the "Oriental," manufactured by M. A. Graham, corner of Beale and Mission streets, this city, now stands at the head of the class, as the following testimonial (one of many) gives ample proof:

SAN BERNARDINO, Sept. 7, 1891.

M. A. Graham Esq., Oriental Gas Engine Works, San Francisco—DEAR SIR: I have been thinking you might be pleased to know just what my gas engine is doing. I am using a centrifugal pump running 1200 revolutions per minute, raising 12,000 gallons of water 40 feet high per hour, and 15,000 gallons for every gallon of gasoline used, so that it only costs me about one cent per 1000 gallons pumped. Every one wants to know the cost, and this is the estimate from a summer's trial, and I do not think I am using more than one-half of the power of my six-horse engine. From my experience, I do not think you could do better than to recommend the use of the centrifugal pump where large quantities of water are required. My engine and pump work to perfection. You can start the engine with the belt on, as it offers little resistance until the pump gets in motion. All who have seen my engine pronounce it the best in use, and you can refer to me with confidence at any time.

Yours truly,
J. R. PALMER.

ALNEER BROS., Seedsmen, Rockford, Ill., who have an advertisement in this issue, enjoy the full confidence of the seed-buying public. So they should, as they are reliable and fill orders promptly.



THOUSANDS OF THESE PUMPS ARE NOW IN USE ON THIS COAST.

They are made of the Very Best Material. Corrosive Washes DO NOT injure the valves, plunger-packing or cylinder.

Your neighbor will tell you that he can spray MORE TREES IN A DAY with the Bean Pump than with any other
DO NOT FAIL TO USE THEIR NOZZLES.

SEND FOR CIRCULARS TO

The BEAN SPRAY PUMP CO., San Jose, Cal.

Pumping Machinery.

The irrigation of arid lands in the West is attracting so much attention among practical and moneyed men at the present time, and the area of such lands now being supplied with water by various means is increasing so rapidly, that skillful hydraulic engineers find their knowledge and the product of their experience in daily demand. Among those who are making the problems presented by the above conditions a specialty, the recently-established firm of Perkins, Brandt & Co., whose engineering and pump works are at 117 Main street, is coming into prominence by reason of the superior class of work in this line that they are turning out.

Parties who contemplate improvements of any nature requiring water especially for irrigation or town supply will do well to consult with Mr. P. B. Perkins, the senior member of the firm, who has had extended experience in engineering works of this kind in more than twenty different cities and towns of the Middle and Western States, and whose ability is well known and acknowledged.

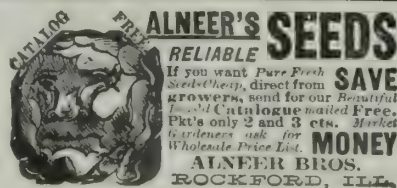
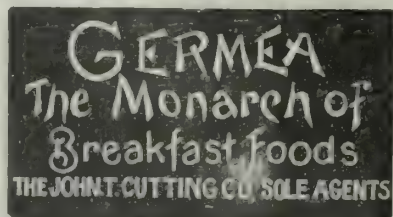
A Safe and Economical Motive Power.

Attention is called to the advertisement in another column of the Golden Gate Gas Engine built by Adam Schilling & Sons at their machine works, Nos. 211 and 213 Main street. These engines are constructed upon scientific mechanical principles, are safe and cheap to operate, have been thoroughly tested, and are giving entire satisfaction in the many places where they are being used. For raising water and a hundred other uses where a light motor ranging from one to twenty horsepower is required they are unexcelled.

They are especially adapted for combined harvesters and have been running two successfully the past season, and orders for several more for the same purpose are being filled. A circular giving particulars as to special merits and cost of the Golden Gate Engine will be mailed upon application.

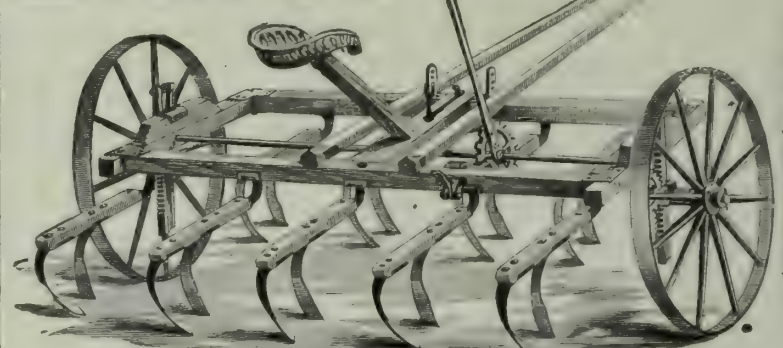
Send at Once for a Calendar for 1893.

Messrs. Frank Brothers, 33 and 35 Main street, this city, one of the largest agricultural implement firms in the Pacific States, are sending to all who apply for them, a very handsome calendar for 1893. This widely known house is handling the Walter A. Wood harvesting machinery, in such general and favorite use wherever harvesting is done in any part of the world. They also carry a fine line of farm wagons, carriages, buggies, carts, etc. In addition to which, they are the sole agents on this coast for the celebrated Columbia Steel Windmills and the Buckeye pumps. Illustrated catalogues will be mailed upon request. Give a careful look at their large advertisement on another page.



"Bull Dog" Harrows. ONLY \$25.00

Unexcelled for Vineyard and Orchard Work.



NO. 3 "BULL DOG" 6-FOOT RIDING HARROW—\$25.00

Instead of a single tooth, drawing straight through the ground, the teeth are attached in pairs (which have a spread of seven inches) to a short beam. Every two have a quarter turn (to the right or left respectively), thus presenting a cutting edge to the ground, and giving to each the position and appearance of a moldboard of a plow, or the shovel to a cultivator. This form of tooth, together with the relative positions assumed by the teeth to each other, gives to them the power of cutting and pulverizing tough soils, and hard, baked ground, which is possessed by no other form of tooth yet invented. By this peculiar disposition of the teeth, they have the advantage also, that one acts as a brace or lander to the other, and so prevents their clogging, which is a serious fault existing in all spring tooth harrows whose teeth are made of one long, continuous spring. In the "BULL DOG" HARROW the short beam which holds each pair of twisted teeth is attached by a stiff spring to the main framework of the tool. Thus these implements have the combined elasticity which exists in the teeth themselves, and in the spring which attaches the short beam to the cultivator frame. Hence the harrow retains all the vibration necessary for the successful working and cleaning of the machine, whilst it is also stiff enough to be held down to its work in the most obstinate soils without difficulty.

SHAPE OF TEETH.—As the teeth present to the soil a shearing or cutting edge, they are enabled to do the most thorough work in hard ground, and, in fact, the peculiar construction all through of the "Bull Dog" Harrows adapts them for successful working in soils where no other tools of the kind can be used.

> BIG BUYERS <

Can save big Money by ordering from a CASH HOUSE and paying "spot cash" for everything. Take what you want. Cartage free. Must Reduce Stock.

High grade Table Peaches, 1500 dozen; closing quickly at.....\$1.75
Finest Sugar Corn, guaranteed, 2000 dozen.....\$1.25, \$1.35, 1.50
Eastern String Beans, just arrived, full size, will go at.....\$1.75, 1.00
Pine Apple, put up in California, full size, Eastern output.....\$1.75, 2.25
Pie Blackberries, 1 gallon tins, \$4.00, \$4.25; Plums, Grapes, Apples, Peaches, all very cheap.
Jams, in 1 pound glass jars, fine Eastern pack, \$2.00; Jellies, nice variety.....1.85
Brown Sugar (until advanced), in 100 lb. sacks, \$3.75, Gold C. \$4, Ex. C. \$4.25, White, \$4.90, 5.00
Syrup, choice family grade, bbls., 31 gals., 17c.; 5 gal. kegs \$1.40; 1 gal. cans.....35
Oysters, we have only the leading packs; standard 1s \$1.00, or 2s (new).....2.00
Clams, we offer fine Eastern 1s at \$1.25, or 2s at \$1.75. They will please.
Sardines, finest brands of imported, overstock, by sea, say.....\$1.35, \$1.40, \$1.50, 1.60

There is nothing in general use for housekeeping, or family keeping, or storekeeping that we cannot furnish you and save you a nice profit to begin the new year. Try it. Send for our general list, free, or add 10 cents for postage on a 72-page book of useful information.

Smith's CASH Store,
414-416-418 Front Street, San Francisco, Cal.

MEXICAN PHOSPHATE AND SULPHUR CO. SEASON OF 1893.

NITROGENOUS SUPERPHOSPHATE

AS AN EFFECTIVE FERTILIZER IT STANDS UNRIVALED.

.....Send for Circulars.....

H. M. NEWHALL & CO., Agents,
309-311 Sansome Street San Francisco, Cal.

IMPORTANT SALE OF BROODMARES,

BEING A DRAFT FROM

PALO ALTO STOCK FARM.

COMPRISING MARES BY

Electioneer, Gen. Benton Piedmont, Eros, Fallis, Hambletonian 725, Kentucky Prince, Messenger, Duroc, Sultan, Arthurton, Del Sur, Mohawk Chief, Norway, Mambrino 1789, etc., etc.

IN FOAL TO THE STALLIONS

Nephew; Azmoor, 2:20½; Electricity, 2:17¼;
Whips, 2:27½; Piedmont; Alban, 2:24;
Langton, 2:26½; Good Gift; Lottery;
Hugo, 2:27¼; Sport, 2:22¼.

The sale will take place at 11 A. M., FRIDAY, JANUARY 27, at our SALESYARD, corner VAN NESS AVENUE AND MARKET STREET.

Catalogues are being prepared and will be forwarded upon application to the undersigned.

KILLIP & CO., - - - Live Stock Auctioneers.
22 MONTGOMERY ST., SAN FRANCISCO.

RED SEAL GRANULATED 98% LYE

HAS NO EQUAL

FOR DESTROYING SCALE BUGS AND OTHER INSECT PESTS
ON TREES AND PLANTS.

FOR TREE WASH!

—USE—

One pound to 5 gallons of water.

Thousands of Orchardists testify to its value, using it in preference to all other preparations. Where the Red Seal is applied it kills the insects and at the same time forms a coating through which others cannot penetrate. When used in the above proportions, it is a

GREAT BENEFIT TO
THE TREES.

Put up in SIFTING-TOP CANS so that any quantity may be used and the balance preserved uninjured.

MANSFIELD LOVELL,
124 California St., San Francisco.



Manufactured by
P. C. TOMSON & CO. PHILADELPHIA, PA.
SOLD
—BY—
ALL GROCERS.

FOR HOUSEHOLD PURPOSES

The Red Seal Lye is indispensable.

USED AS DIRECTED it will take the place, and at 75% less cost, of all other alkaline preparations, soaps, etc., now on the market. ONE CAN will make 10 to 12 lbs. of Hard Soap, or 200 lb. of Soft Soap. See Directions in Can.

It cleans floors, kills roaches and bugs of all kinds, cleans milk vessels, tin or wood; keeps farming implements bright and free from rust; is a perfect disinfectant; softens water, washes dishes and clothes; and can be put to a thousand uses in place of soap or other preparations.

P. C. TOMSON & CO.,
Manufacturers... Philadelphia, Pa.

Seeds, Plants, Etc.

Palm and Citrus Nursery

AT M NTECITO.

OLIVES LEMONS, ORANGES

And all Citrus Trees in variety.

And especially PALMS AND TROPICAL FRUIT AND ORNAMENTAL TREES, best adapted to California and its subtropical sections.

A large stock of CHERIMOYA (Custard Apple) and ALLIGATOR PEARS.

The JAVA PLUM (Eugenia Jambolana), a handsome fruit-bearing tree from Java, mailed free for 30c.

Send for Descriptive Catalogue. Address:

KINTON STEVENS,

Santa Barbara, California.

FRANK KUNZ,

PROPRIETOR OF THE UNION NURSERY.

2129 Tenth St., Sacramento.

HAS FOR SALE A FINE LOT OF OLIVES.

Grown in the open ground, namely: MANZANILLO or Queen's Olive, NEVADILLO BLANCO, RICHLINE Etc.

FREE CATALOGUE, SEEDS, PLANTS, BULBS, Etc.

HOME-GROWN

NORTHERN SEEDS.

Money made by buying my seeds.

35 pkts \$1.00. 2c to 5c pkt.

Presents with every order. Send

postal card with name and ad-

dress for catalogue.

A. R. AMES, Madison, Wis.



Fresh! Reliable! Celebrated for Purity & Strong Germinating Qualities. Only 2.5¢ & 4c per large pkg. 5,000,000 Novelty Extras with orders this year. Beautiful Illus. Colored Seed & Plant Catalogue FREE to all who address at once

H. W. BUCKBEE,

Rockford Seed Farms,

No. 23 Main St., Rockford, Ill.

CHOICE NURSERY STOCK

French and Tragedy Prunes.
L. X. L., Nonpareil and Ne Plus Ultra Almonds.
Foster, Mary's Choice, Susquehanna, Salway, Muir and Nichol Cling Peaches—ALL NUMBER ONE. One-year-olds on peach roots—4 to 6 feet.

For further particulars, address:

A. T. HATCH,

Room 42 Flood Building.....SAN FRANCISCO, CAL.

MIKADO PLUMS.

(A JAPANESE VARIETY—NEW HERE.)

If you want a new plum, large in size, very prolific bearer, bright cherry red, ripens early in June, splendid shipper, flavor of the most exquisite redolence impossible to describe, send to

BOX 84, WINTERS, YOLO COUNTY, CAL.

G. W. HINGLAY,

Choice trees by mail postpaid, 50 cents each. Dormant buds, half price.

ROSES

Their culture and care; how the famous D. & C. Roses are grown on their own roots at rose headquarters and how any one can grow roses and other flowers successfully. All this and more is told in our new "Guide to Rose Culture." A handsome book which illustrates and prices all the best flowers. We mail it free together with a copy of our grand Floral Magazine, "SUCCESS WITH FLOWERS."

Send us your address.

The DINGEE & CONARD CO.

Rose Growers and Seedmen. West Grove, Pa.

FOR SALE.

4000 to 6000 healthy unirrigated

Peach Seedlings!

Must be sold for land clearing. Address

Lock Box 994, Winters, Yolo County, Cal.

SANTA ROSA NURSERIES.

R. W. BELL.

Santa Rosa, - - Cal.

AN IMMENSE STOCK OF

BARTLETTS & FRENCH PRUNES

ON PEACH, VERY CHEAP

Freight paid on 500 or over of above surplus stock.

A fine lot of PRUNES on Myrobolan and Almond.

Muir Orange Cling and other PEACHES ALMONDS, APPLES, ETC.

All first class and raised without irrigation.

New price list free on application. Correspondence solicited.

PACIFIC NURSERIES,

ESTABLISHED 1869.

A Large and Extra Choice Stock of

Fruit, Shade and Evergreen Trees and Flowering Shrubs.

—ALSO—

The Largest and Best Stock of Camellias, Azaleas and Rhododendrons, consisting of the Best European Sorts.

Nurseries at Millbrae. Greenhouses and Office and Salesyard at Baker and Lombard Sts., San Francisco.

ADDRESS

F. LUDEMANN, Pacific Nursery,
Baker & Lombard Sts., San Francisco, Cal.

Send for Price List.

OLIVE TREES.

ALL KINDS OF

Nursery Stock.

Send and get book on Olive Culture.

HOWLAND BROS.,

Pomona, Cal.

OLIVE TREES

In Variety.

Prices and a Pamphlet on Olive Culture in California Mailed Free.

ADDRESS

JOHN S. CALKINS,

Pomona, - Los Angeles Co., Cal.

OLIVE TREES

For sale at bed-rock prices. We are again in the market with Clean, Healthy stock, grown entirely without irrigation.

WILLIAM SICKERT,

Cañada Nursery, Redwood City, Cal.

OLIVE TREES FOR SALE.

Eleven years experience has taught me how to PROPERLY root the Olive. No artificial heat used.

Address

W. ALSTON-HAYNE, Jr.,

Montecito P. O., Santa Barbara Co., Cal.

OUR HANDSOMELY

Illustrated ÷ ÷ Catalogue

FOR 1893

Is now ready and has been mailed to our regular customers. Others can receive a copy by remitting twenty cents, which may be deducted from the first order sent amounting to one dollar.

Sherwood Hall Nursery Co.

SAN FRANCISCO, CAL.

100,000 EXTRA FINE

BARTLETT PEAR TREES.

Apple, Pear, Plum, Cherry, Peach, Apricot, Nectarine, Quince, Grape Vines and Small Fruits.

500,000 FRUIT TREES!

Orange, Lemon, Lime, Olive, Japan Persimmon, and all kinds of Nut-Bearing Trees, Shade and Ornamental Trees, Shrubs, Etc.

IMPORTED FRUIT TREE SEEDLINGS
Ask for Prices.

James T. Bogue, Marysville, Cal.

MARTINEZ NURSERIES.

Importers and Growers.

A FULL LINE OF

Standard Fruits, Shade Trees, Shrubs and Ornamentals.

ALMONDS,

APRICOTS,

CHERRIES,

PEARS,

PRUNES,

PEACHES,

No Irrigation.

Free from Pests.

Write for prices and catalogue to

DUANE BROS., Martinez, Cal.

APPLE TREES

for Nurserymen, dealers, or commercial planters, in car loads or box lots.

See our prices before buying. They are very low.

ROOTGRAFTS

Apple Grafts at \$3.50 per thousand.

Prune Grafts (on Mariana Stocks) at \$9 per m.

Pear Grafts at \$8.00 per m.

All first class and best of material used, f. o. b.

APPLE SEEDLINGS.

No. 1, graded 3-16th, and all up at \$4.10 per m;

and Pear Stocks, same grade, at \$7.50 per m, f.o.b.

Free of disease. We are strictly wholesalers, and grow nothing but the above stock. Our trade has

grown to immense proportions (second to none) through the merits of our goods.

Send for samples. For full particulars, address

H.C. GRAVES & SONS, Lee's Summit, Mo.

Plant Ferry's Seeds

and reap a rich harvest. They are always reliable, always in demand, always the best

FERRY'S SEED ANNUAL

For 1893 is invaluable to every Planter.

It is an encyclopedia of the latest farming information from the highest authorities.

Mailed Free.

D. M. FERRY, DETROIT, Mich.

& CO.

WILSON'S

Common-Sense

SEED

CATALOGUE

For 1893

SENT FREE. 116 Pages, 200 Fine Engravings. Full of

useful and instructive information.

One of the Most Reliable Catalogues published.

All kinds of Guaranteed Garden, Flower and Field

Seeds, Fruit and Ornamental Trees, Small Fruits.

The Great FREEMAN POTATO Given Away!

Choice Roses, Flowering Plants and Bulbs.

THOROUGHbred POULTRY, Registered PIGS,

German Hares, &c., &c. Address

SAMUEL WILSON, Seed Grower, Mechanicsville, Pa.

IF YOU INTEND TO PLANT

SEEDS-ROSES-TREES

SMALL FRUITS, GRAPE VINES, ETC.

Why Not Procure the Best Direct from the Growers? Our Illustrated Catalogue, over 150 pages, offers one of the most complete stocks in the U. S. at right prices. Free to planters. Send for it to-day.

39 YEARS. 900 ACRES. 28 GREENHOUSES.

THE STORRS & HARRISON CO., Painesville, Lake Co., O.

THE OLIVER PLOW

Leads the Van. It Sets the Pace and Others Follow.

THE BONANZA JR.,

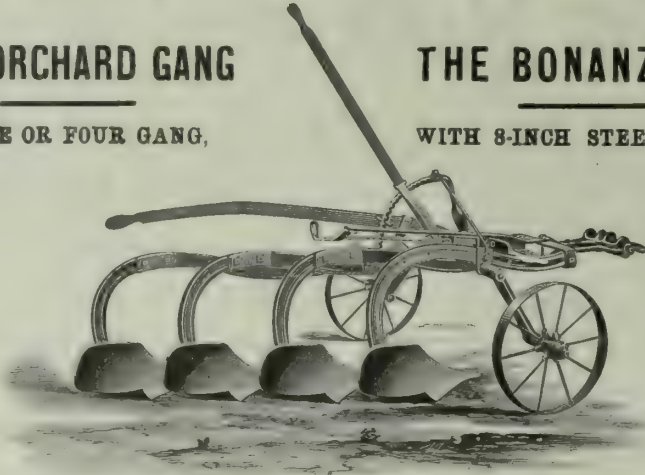
Our new 8-inch Steel Gang has met with splendid success. It is good, strong, durable, light draft, easy to handle and made of the very best material obtainable.

NEW ORCHARD GANG

THREE OR FOUR GANG,

THE BONANZA JR.

WITH 8-INCH STEEL BASES.



IT IS NOT

Exaggeration when we say the OLIVER line of plows for orchard and vineyard work is the best and most complete of any on the market to-day.

NO. 8 VINEYARD AND ORCHARD PLOW.

Has Adjustable Handles and Reversible, Self-Sharpening Shares and Slips.



NO. B VINEYARD AND ORCHARD PLOW.

Has Adjustable Handles, and is fitted with Chilled or Steel Bases, as desired.



SEND FOR CATALOGUE TO

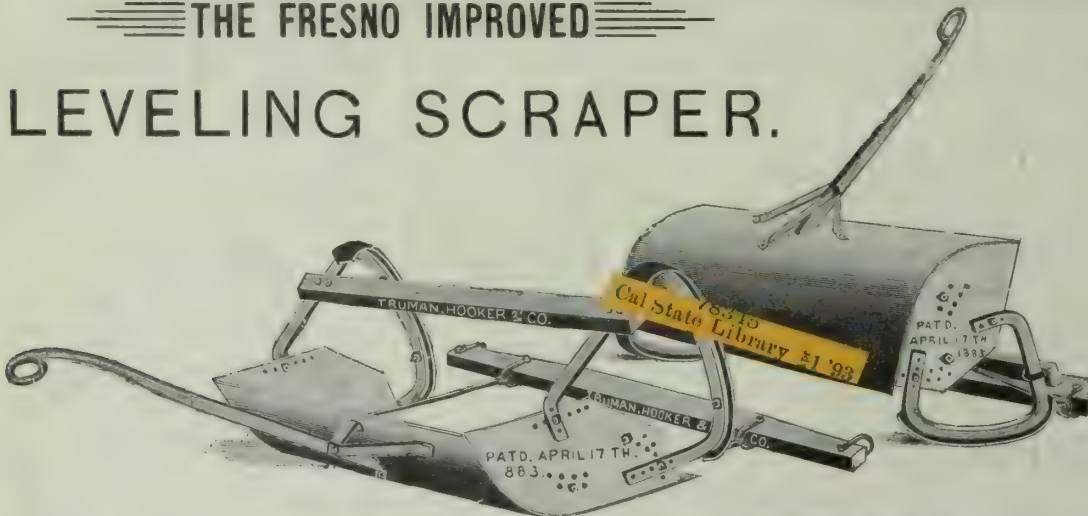
OLIVER CHILLED PLOW WORKS,

37 MARKET STREET

SAN FRANCISCO, CAL.

THE FRESNO IMPROVED

LEVELING SCRAPER.



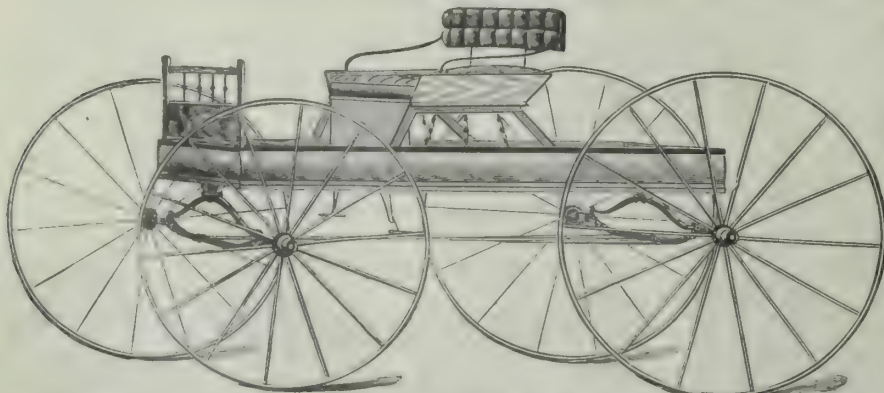
IN POSITION READY TO LOAD.

POSITION WHEN DUMPED.

FRESNO LEVELING SCRAPER.....4-horse, 5 ft; 3 horse, 4 ft; 2-horse, 3 ft. 8 in.

It is easily handled by one man, and either two large or four ordinary horses; has capacity of from 15 to 20 cubic feet of earth; is constructed of 3-16-inch steel, and has a 12-inch cutting blade that can be replaced when worn out. Total weight is about 800 pounds.

WRITE FOR PRICES ON ALL KINDS OF SCRAPERS



Our Dandy Wagon!

WITH.....

ONE or TWO SEATS.

.....A.....

NEAT, STRONG,

STYLISH, LIGHT

AND ROOMY

.....VEHICLE.....

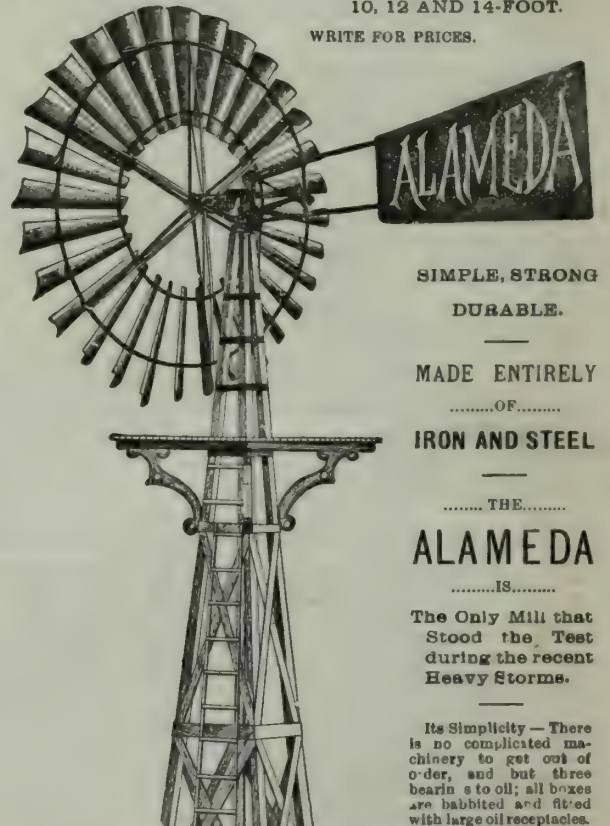
ALL HARD WOOD.

DANDY WAGON.

ALAMEDA STEEL WINDMILL

10, 12 AND 14-FOOT.

WRITE FOR PRICES.



SIMPLE, STRONG
DURABLE.

MADE ENTIRELY
.....OF.....

IRON AND STEEL

.....THE.....

ALAMEDA

.....IS.....

The Only Mill that
Stood the Test
during the recent
Heavy Storms.

Its Simplicity — There
is no complicated
machinery to get out of
order, and but three
bearings to oil; all boxes
are habbited and fitted
with large oil receptacles.

GUARANTY.

We guarantee the ALAMEDA STEEL WINDMILL, when properly set up, to withstand any wind that does not unroof houses or overthrow its tower, and that it will run easier and with less noise, pump more water, regulate better and develop more power than any other mill of like diameter in existence.

Vehicles and Agricultural Implements of every Description.

SEND FOR CATALOGUE

Rushford Farm Wagons and Pacific Spaders.

TRUMAN, HOOKER & CO., San Francisco and Fresno.

PACIFIC RURAL PRESS

Vol. XLV. No. 4.

SAN FRANCISCO, SATURDAY, JANUARY 28, 1893.

THE DEWEY PUBLISHING CO.
Office, 220 Market St.

The Sacramento Exhibit.

We present herewith the *piece de resistance* of the Sacramento county exhibit at the Northern Citrus Fair now in progress in the Mechanics' Pavilion in this city. This is the citrus locomotive which our reporter described in full detail in last week's RURAL, and concerning which he apprehended such dire ills if the orange horse should take on the functions of the iron horse whose semblance he assumes. The exhibit is certainly a striking one, and one of the most popular in the pavilion.

Unquestionably, there is something very proper in Sacramento modeling the chief feature of her display as she does. Historically, the choice is significant, for Sacramento men projected the first overland road, and was the basis of operations and supplies for the most difficult construction on the line. Even though the main offices of the railway are in San Francisco, Sacramento has always retained most important features of the work. Another point of fitness in the symbolism of the locomotive lies of

course in the eminence of Sacramento in the great eastern fruit-shipping trade, for, though there are many terminals nowadays, Sacramento is the point of dispatch for the upper two-thirds of the State, and not seldom the products from the far south pass through her portals.

Our report last week enlarged upon the great variety of the Sacramento exhibit, of which, in fact, this citrus-piece is little more than an ornament. The whole range of field, garden, orchard, vineyard and household products is fully represented, and each in almost endless variety. Such an exhibit is merely an exponent of the diversity and extent of the resources of the county, and no one was surprised that the highest awards at the fair should be commanded by such merit.

Sacramento county is unquestionably one of the best of the State. Her rich lowlands and warm uplands, her park-like expanses of wooded plains, her rich river-bank orchard lands, and her vast area of rich bottoms, afford opportunity for the widest range of husbandry, and no specialty of agriculture but can find fitting place within her boundaries. She does in fact already give a prosperous home to all the leading industries, as her exhibit

shows. The effort of the county in thus making known her resources and achievements will unquestionably rebound to her own benefit and that of the State at large.

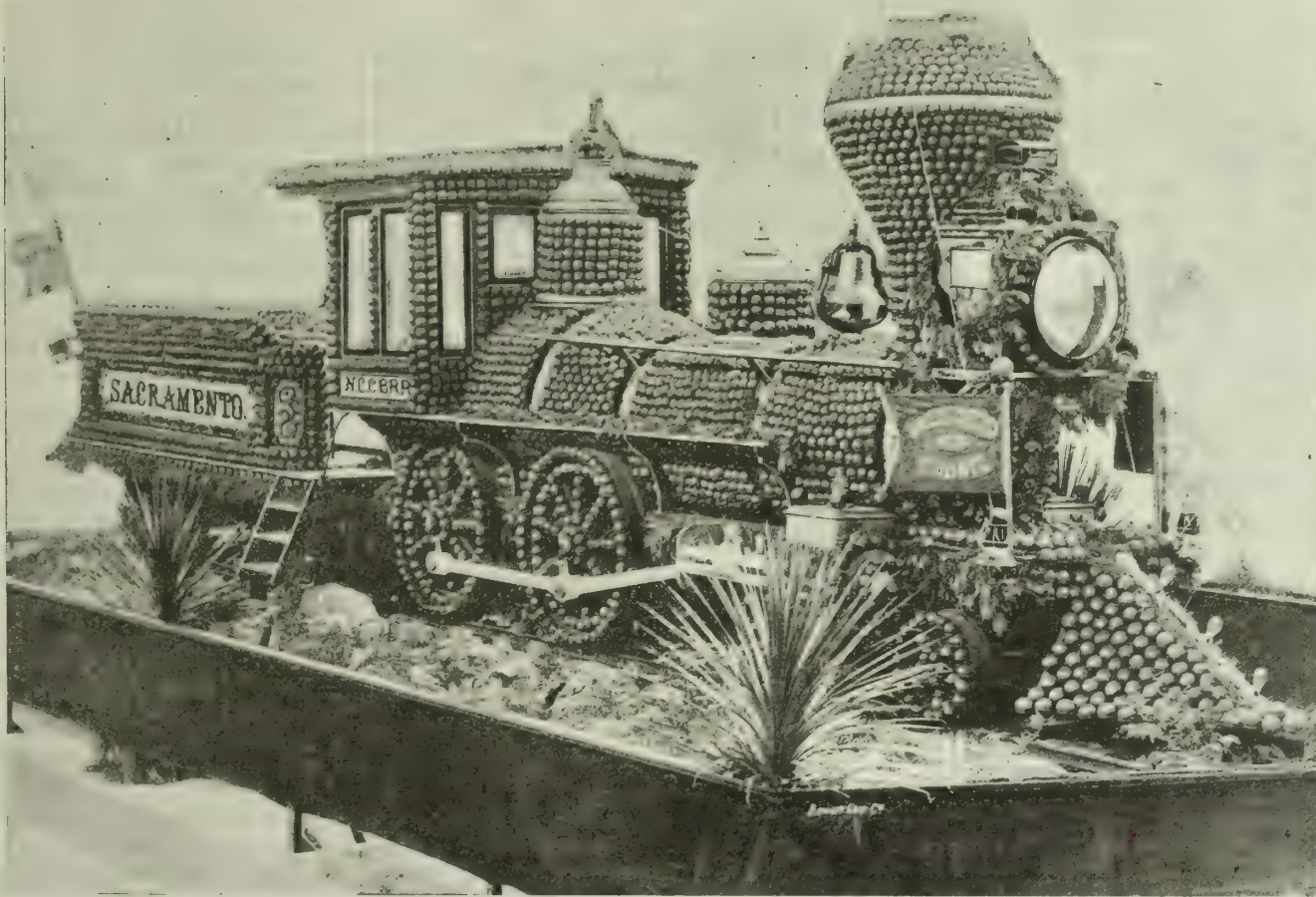
THE date of opening for the southern citrus fair at Colton has been fixed for March 15th, and the close for March 22d. Senator-elect White has been invited to make the opening address; ex-Senator Edmunds of Vermont, now at Redlands, has been invited to speak Monday, the

The Advance in Pork.

A healthy indication of the sound condition of the pork and provision market throughout the United States is the absence of speculation and the fact that purchases are almost altogether by consumers or for actual consumption. The shortage in the product appears to be genuine, and the steady rise in prices due to natural and explicable causes. The advance must of course stop in time, but the

best authorities agree that the end is not yet in sight. The deficit in stocks cannot be totally overcome until, in the course of nature, pork supplies are increased and meats dried and salted. California is not noted as a pork producer.

Local consumption, in fact, not only exhausts the home supply, but requires importations from the East. Under ordinary circumstances, there is money in hog-raising, systematically and intelligently engaged in; and now, with unusual circumstances, those who have hogs and pork products to sell have much reason to be satisfied with the condition of



PART OF SACRAMENTO COUNTY'S EXHIBIT AT THE NORTHERN CITRUS FAIR, SAN FRANCISCO.

20th, and Governor Markham, his staff and the legislature are also expected to be present. The pavilion is now nearly completed and will be the largest and finest in the State, outside of San Francisco and Sacramento, and the best arranged for exposition purposes. Judges will be appointed by the Southern California World's Fair Association. The event will altogether be a notable one in the history of southern California fruits. From preparations, it is certain to comprise many splendid displays, on a larger and more expensive scale, perhaps, than has been heretofore attempted, in view of the fact that this is World's Fair year, and the fair will be in effect a dress parade for the big show at Chicago.

ON Wednesday of this week the State Floral Society made a very welcome addition to the display in the Mechanics' Pavilion in the form of winter bloom of all kinds, chiefly from the suburban gardens of Alameda and San Mateo counties. Though the weather has been trying, a most beautiful display was made, sufficient to convince the distant visitor that California winter bloom is not a fiction.

things and also much reason to believe that the same conditions will hold for weeks, perhaps months.

It is likely also that the increased attention to hog-raising, certain to ensue from these conditions, will be helpful to the grain market. Here is an avenue for the disposition of barley and corn. The low prices of these products justify their copious use for feeding purposes, and surplus stocks may be partly and even largely disposed of in this manner. If so, the result of course will be an appreciation in values, or at least it will contribute to that end.

THE home consumer in San Francisco and other places has the most convincing reasons to believe that "eggs is eggs" when he is compelled to pay prices ranging from 25 to 60 cents per dozen the year around for this delectable poultry product. And when he comes to investigate the subject his wonder is aroused to a very elevated pitch that the entire population doesn't go into the poultry business, and get rich in a few years. The inducements for poultry-raising are certainly very strong in California. Hen "fruit" is not much below citrus fruit in merit and value.

PACIFIC RURAL PRESS.

By THE DEWEY PUBLISHING CO.

Office, 220 Market St.; Elevator, 12 Front St., San Francisco, Cal.

ANNUAL SUBSCRIPTION RATE THREE DOLLARS a year. While this notice appears, all subscribers paying \$3 in advance will receive 15 months' (one year and 13 weeks) credit. For \$2 in advance, 10 months. For \$1 in advance, five months. Trial subscriptions for three months, paid in advance, each 60 cents.

ADVERTISING RATES.

	1 Week.	1 Month.	3 Months.	1 Year.
Per Line (agate).....	\$.25	\$.50	\$ 1.20	\$ 4.00
Half inch (1 square).....	1.00	2.50	6.50	22.00
One inch.....	1.50	5.00	13.00	42.00

Large advertisements at favorable rates. Special or reading notices, legal advertisements, notices appearing in extraordinary type, or in particular parts of the paper, at special rates. Four insertions are rated in a month.

Our latest forms go to press Wednesday evening.

Registered at S. F. Post Office as second-class mail matter.

ANY subscriber sending an inquiry on any subject to the RURAL PRESS, with a postage stamp, will receive a reply, either through the columns of the paper or by personal letter. The answer will be given as promptly as practicable.

ALFRED HOLMAN.....General Manager

San Francisco, January 28, 1893.

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BUSINESS ANNOUNCEMENTS.

(NEW THIS ISSUE.)

Fruit Stocks—Thomas Meehan & Sons, Germantown, Phila., Pa.
Agricultural Implements—Deere Implement Co.
Parlor Furniture—California Furniture Co.
Pumping Machinery—Perkins, Brandt & Co.
Harrows—Byron Jackson.
Cultivators—M. McLeod, Los Angeles.
Squirrel Exterminator—F. E. Browne, Los Angeles.
Trees and Plants—Hutchinson & Sanborn, Oakland.
Saddlers—Truman, Hooker & Co.
Electric Motor—W. C. Harrison & Co., Columbus, O.
Grub and Stump Machine—James Milne & Son, Scotch Grove, Iowa.
Nursery Stock—W. E. Callahan & Co., Salt Lake City.

See Advertising Columns.

The Week.

Old residents of the interior valleys of the upper half of the State do not recall a more lasting or penetrating fog than that which they have lived in during the present month. The record of sunshine would perhaps almost rival the best deeds even of London fogs. The temperature, too, has ranged low, and therefore the fog has produced an uncommon chill. Naturally there has arisen much discussion in the valley as to the source of the fog and the reason of its long continuance. Recourse was had to P. T. Jenkins, forecast official of the weather bureau, who explained it as follows:

I can best explain it by reference to these weather maps. You see, here in Nevada and Utah is a high central plateau. On this plateau there is now and has been all through the month a vast area of high barometer. All the low or storm centers penetrating the coast are pushed north to the region of low barometer. So long as this lasts we shall have dry cold weather, and as long as we have a "high" on the east we shall have north winds. It will last until the conditions change, and will probably be followed by heavy rains.

The promise of heavy rains will enable our interior friends to endure more fog, for just now there is not a little apprehension on the rain total, especially in the upper part of the San Joaquin, where the rainfall has been very light indeed. The northern part of the State has done better, in fact, much better than it usually does, and this leaves a notable deficiency southerly. January has, in fact, proved very dry so far. The following figures are furnished by the weather service:

PLACE.	Oct.	Nov.	Dec.	Jan.
	Average.	1892-93.	Average.	1892-93.
San Francisco.....	1.31	1.67	2.79	3.91
Sacramento.....	.76	.70	2.68	8.56
Fresno.....	.62	.32	1.40	.36
Los Angeles.....	.74	.34	1.55	4.38
			4.49	4.19
				2.98
				.01

These figures show that Mr. Jenkins' heavy rains will be welcome.

A Neglected Fruit.

We have been putting in our leisure time this week pruning apple trees and naturally our cogitations have followed the fortunes of this old king of temperate-zone fruits in this world-renowned fruit region. The apple in California is certainly almost in the position of a king without a kingdom. Follow our horticultural discussions and publications and seldom will a voice be raised in honor of this old monarch. Even throats which have not forgotten the delightful sensations produced in other days and in other climes are now filled with melodious tribute to nearly every other fruit on the list. And yet the apple is still every inch a king, and, if we mistake not, will ere long assert his right to reign.

There are several reasons, no doubt, for the present rush to plant every other imaginable fruit and to neglect the apple. First, vast areas of the State are not suited to apple-growing; in fact, the greater area of those parts of the State which are now considered by planters will do much better for some other fruits. Second, the result of attempting to produce apples in improper situations and soils has resulted in disappointment. These two reasons are, of course, sufficient to justify those who are endeavoring to sell orchard lands in our warm valleys in urging the claims of other fruits, and as the portions of the State which are now chiefly engaging the attention of land-developers are in the main of this character, it is well that they say little of the apple.

But this wise disregard of the apple in certain parts of the State leads dwellers in other parts, in many cases, to act unwisely. Unquestionably there are many lands which could be well set to apples which are now being otherwise planted because of the undue noise which is made about other fruits. The fabulous reports, or at least the unwarranted conclusions which are drawn from isolated facts, are giving some fruits undue prominence or else are leading to the planting in larger areas than are likely to be profitable. The new planter, lacking insight or experience, is naturally influenced to hold that to reach success in fruit he must plant that which is most written and talked about.

We apprehend this tendency is leading toward disappointment, in that either an excessive production is foreshadowed or else, in individual cases, fashionable fruits are carried into situations in which they are not likely to succeed. We question whether the tumultuous rush after the prune will not soon lead to loss and hardship. No doubt the capacity of the American people for prunes is large, but the prospective product, if all recent plantings thrive, is immense. No doubt both in this State and farther north much land is being given to prunes which could be more profitably turned into apple orchards. We are not so apprehensive about the peach. The peach product will stand considerable expansion, and the requirements of the tree in soil and weather will stand as a fixed barrier against undue extension of its area. If the peach is carried too far into the apple country, nature will relieve the trees and enrich the planter with the treasures of experience.

We are disposed to ask for the apple a fuller consideration from those who are planting in the cooler climates of the State. In the upper counties, especially near the coast, or at elevations on the higher foothills and in the mountain valleys, vain efforts are now being made to introduce the valley fruits which will not, in all probability, be satisfactory, and even more unwise investment is urged in semitropicals. It would be far better if the owners of such lands would direct their enterprise in lines for which their lands are especially fitted.

We get not a few inquiries, for example, about the olive from those who should pursue other lines, even from regions in which a good apple product might be expected. The olive, in spite of all that is said about it, has its future still to demonstrate, and the grower will have the burden of assisting in this demonstration. The apple goes at sight if it be a good one, and no one should enlist even in apple-growing without assuming the fullness of the effort to rescue the fruit from its insect foes and handle it in the most intelligent and careful manner. To those who will do this and have suitable soils and climates at command, we believe there will be more in good apples than in any other fruit, and far more than in many fruits which are now most written and talked about.

THE repeal of the ordinance employing fruit inspectors in Butte county has created some feeling among growers, and a meeting will be held at Oroville February 6th to discuss the matter, and to take measures for its reenactment. There ought to be one opinion only among supervisors and fruitmen: Any moderate expenditure, that adequately protects growers from invasion by pests and diseased trees, is not only justified, but is absolutely imperative, if the industry is to be nourished and promoted, and if dangers are to be reduced to a minimum.

THE American Trotting Register Association has practically rejected Stamboul's record of 2:07½, made at Stockton, November 23, 1892. At a recent meeting the association passed a resolution, requiring the Stockton society to furnish affirmative proof by January 27th that the performance was in strict conformity with the rules of the association, and this the Stockton society, through its secretary, says it cannot, or will not, furnish. While it may be, and probably is, entirely true that the record of 2:07½ is authentic, still, the performance was so irregular that little fault can be found with the national association for its action. The protest of one of the judges, published two weeks since in the RURAL PRESS, shows clearly that those who were witnesses of Stamboul's performance against time were not united as to its merits. It is as well that the matter be dropped. Other records made at Stockton are also thrown out. This action is not believed to be justified.

ASSEMBLYMAN TAYLOR of Marin county has introduced in the State legislature a bill of particular importance to the live-stock industry. It provides for a system of live-stock pledges to secure the payment of money, which enables the borrower to retain possession and use of his horses or cows or other live stock during the existence of the pledge. The bill is drafted in great detail and contains a stringent penal clause against any one who may fraudulently sell incumbered live stock without supplying the purchaser with written notice of the existence of any incumbrance on the stock sold. This provision does not make it necessary for the buyer to have made a search of the records to ascertain if stock is incumbered. The purpose is to make it possible for stockraisers to sell on partial payments with a degree of safety, and for all persons to secure a team for hauling on the same terms.

THE fruitgrowers of Cloverdale, Sonoma county, have perfected an organization to be known as the "Cloverdale Citrus Fair Association," and elected the following officers: President, J. B. Armstrong; vice-president, W. T. Brush; secretary, G. B. Baer. A display of fruits is to be made Friday and Saturday, January 27th and 28th (the present week), at which it is to be shown what Cloverdale and vicinity have already done in the way of producing citrus fruits. Judging from the few specimens now on exhibition at the Northern Citrus Fair, Cloverdale oranges are entitled to be called first-class and of the highest and best quality. Sonoma county citrus fruits may in time take the same high rank as her wheat and other agricultural products.

ASSEMBLYMAN PRICE, of Butte county, has introduced in the legislature a proposition for a constitutional amendment, which provides, among other things, that "growing crops, unbearing fruit trees, unbearing vines, property used exclusively for public schools, and such as may belong to the United States, this State, or to any county or municipal corporation within this State, shall be exempt from taxation." The exemption of school property is, of course, the law at present. A bill has also been introduced to exempt all who are engaged in horticultural, viticultural and kindred pursuits from license taxes. The object of this latter measure seems to be to exempt from such taxation producing venders of farm and other products in cities.

WE have received the programme for the Farmers' Institute which will be held in Malaga, Fresno county, on Saturday, January 28th, beginning at 10 A. M. and continuing through the afternoon and evening. Mr. John S. Dore will speak on "Second Crop of Raisin Grapes," Mrs. J. M. McLean on "Can We Lighten Household Cares," J. H. Harding on "Highways and How Best to Maintain Them." Prof. Wickson, of the State University, will lecture on "Scientific Feeding." Recitations are expected from Miss Boyd and an essay from Miss Hatch. The meeting should attract attendance from a large area.

PROF. MARTIN KELLOGG has been duly elected president of the University of California, thus ending a long-pending issue as to who should fill that important office. Professor Kellogg was the almost unanimous choice of the faculty of the institution, and this should be looked upon as high testimony of his fitness. He has been associated with the institution from its beginning—in fact he was a part of the teaching force of the earlier institution upon which the University was in part established. He will prove a most satisfactory officer, and we trust he will not hesitate about accepting the charge.

THE sale in New York of trotting stock from the Palo Alto farm began Tuesday. Forty-eight horses were sold for \$15,130, a rather low average of \$315.20 per head. The attendance was small and the bidding tame.

PACKERS and shippers of late apples are now having their busy season. The market shows occasional soft spots, but on the whole prices are very satisfactory.

From an Independent Standpoint.

The storm which followed the election of Mr. White at Sacramento was more furious than the storm which preceded it. It will be remembered that White's strength, as developed on the first ballot (taken Tuesday), was sixty votes, or just half the membership of the legislature—one less than the requisite majority. The opposition consisted of fifty-two Republicans bound by caucus agreement to vote for some man of their own party, and eight Populists under similar pledge to vote together for Thos. V. Cator. In the case of the Populists, the engagement to stand together had taken the form of a written agreement signed by each member of the caucus, and further strengthened by mutual promises personally given and accepted. And yet—in the face of this apparent deadlock—Mr. White received sixty-one votes on Wednesday's ballot and was declared elected. There were two traitors, Kerns, a Populist of Los Angeles county, who broke his pledge by voting for White; and McGowan, a Republican of San Francisco, who remained away during the hour for voting. Either Kern's vote or McGowan's absence would alone have given White the election, but it was the former that raised the tempest.

When Kerns, in response to the call of the secretary, answered "White!" there was a great sensation. "Bah! Bah! Bah!" shrieked Populist Bretz of Alameda, while the Democrats, to whom Kern's vote meant victory, roared in approval. What followed we quote from the report of an eye-witness:

Bretz, tall, pale and trembling, arose and addressed the Chair, "I wish to change my vote," he said "and to give my reasons. Whereas nearly every Farmers' Alliance and nearly every People's Party County Convention has sent up resolutions asking the Populists to stand together, and whereas Mr. Kerns—"

"A point of order," came from at least three Democrats; "the member has no right to criticize the vote of another."

"The point of order is well taken," ruled Lieutenant-Governor Reddick, who presided.

The Sergeant-at-Arms moved down near Kerns, as some of the Populists glared at him with fierce indignation.

"I'll not name any member," continued Bretz, two bright spots burning on his cheeks and his eyes dilated with excitement; "but inasmuch as a solid agreement was signed by the Populists to stand together, I charge that this party was wrenched from our ranks by the corrupt use of money, and that Marion Cannon was the negotiator."

"Liar!" shrieked Cannon from the rear of the chamber, and he was seen making his way toward Bretz, his eyes burning, his face pale and his teeth set.

W. D. English and others restrained him.

"I move that the words be taken down," shouted Mathews of Tehama.

"So ordered," said the president, calmly.

"I wish to say that this charge is a personal one and not authorized by me," said Vann, the Populist from Colusa. "He has been a close friend of Cannon, and after going over to that gentleman sat down and cried. No one knew just what to do or what to say."

Bretz's tremendous accusation had rattled the entire convention. The majority was angry. There was a desire to punish the daring Populist, but just how to do it was not plain.

The secretary did not get Bretz's exact words. When he read them they were far from correct, and Bretz, somewhat dismayed by the sensation he had caused, crawled just a little. "And we believe Marion Cannon was the negotiator," he corrected at first. Afterward he crept back one more notch and desired his words to stand, "We believe this was accomplished by the corrupt use of money, and believe that Marion Cannon was the negotiator."

"He said Marion Cannon was the negotiator," cried McElroy of Alameda.

"I did not," retorted Bretz, denying, like Peter, from fright. In the mean time motions were popping like corks at a banquet. A dozen men were talking at once.

Bretz jumped to his feet again. "The Democracy does not grasp the situation here," he said, vehemently. "You are on a slumbering volcano. I—"

"Point of order—point of order," came from half a dozen chairs, men swinging their arms and cracking their voices in the hope of catching the President's eye and ear.

"I've been pronounced a lunatic," shrieked Bretz, looking not unlike a violent specimen of one. But he was not permitted to go on, so he took his hat and left the room, after having cursed Kerns and muttered that his life was not worth the snapping of a finger.

Ostrom's motion that further proceedings cease was finally adopted in the midst of a confusion which prevented any one from knowing what he was voting upon, and the election of Stephen M. White as United States Senator was declared.

But a gloom had settled over all the place. The Lieutenant Governor had lost control of the body.

"I move that the words uttered be referred to the Assembly," said Mathews of Tehama.

"They're going to expel him," whispered a lobbyist.

But the president ruled the motion out of order, and Senator Ostrom rose to quiet the riot of angered feelings. He begged for mercy, and said that men were hardly responsible for words spoken in the heat of defeat. "I move that further proceedings under the taking down of the gentleman's words be dispensed with," he concluded.

"I second the motion," said Senator Noble Martin from the corner directly behind Bretz, "and I suggest that the gentleman be arraigned before the Lunacy Commission to see whether or not he should be sent to Stockton." This did not have a soothing effect on Bretz, and every one was uneasy, overheated and perturbed.

And thus was a Senator of the United States elected by the legislature of California.

In the evening following the events above narrated, the Populist assemblymen and the members of the Populist State and county committees, who were in Sacramento, held a meeting and adopted a series of resolutions in condemnation of Kerns and of Cannon. After reciting the general facts of the situation and setting forth the pledges

which Kerns gave to his fellow Populists, the statement continues:

WHEREAS, Said Kerns frequently declared his intention to keep his agreement with his party, and on the 18th day of January, 1893, at about 11 A. M., assured his conferees in the name of Christianity and conscience not to injure said party by voting against its candidate upon said day; and,

Whereas, Within a few moments thereafter Marion Cannon did whisper to said Kerns, and instantly thereafter said Kerns left the assembly chamber and met one John Gaffey, an open agent of the Democratic candidate for United States Senator, as authentically reported, and spent about two minutes with said Gaffey, and came back into the assembly chamber and within a few minutes thereafter said Kerns could not be got to keep his said promise, and did, without leaving said chamber, and upon the first ballot in joint assembly, without giving his party a living chance, vote for S. M. White, the Democratic candidate, thereby electing him and depriving the People's party of a possibility to elect its candidate; and,

Whereas, Said action of said Kerns was false and treasonable and an outrage upon the People's party, and humiliating, disgraceful and an infamous wrong to over a million of People's party voters of this nation, now struggling to enact measures which can only save the nation from terrible evils; and,

Whereas, In spite of all said resolutions, State, national, county and city, and in the face of and against the protest of the People's party of this State and nation, Marion Cannon, claiming to be a People's party man, Congressman-elect in this State, did do all in his power to defeat Thomas V. Cator, the People's party candidate, and did undertake to influence the various members of the People's party to be false to their party and to its resolutions; and

Whereas, In order that it may be known to all the world that we do defend the honor of the great mass of honest voters thus betrayed, and to the end that it may be known that Cannon and Kerns are no longer to be trusted as People's party men, be it

Resolved, That we do hereby denounce their action and recommend that they be spurned and cut off from fellowship in the party and denounced as traitors to the People's party in every part of the State and nation; and be it further

Resolved, That copies of this resolution be sent to James B. Weaver, Anna L. Diggs, the National Committee, and to our members in Congress. Signed in the presence of each voter.

CHARLES E. BARLOW,
A. BRETZ,
P. R. ADAMS,
MASSEY THOMAS JR.,
W. A. VANN,
C. F. BENNETT,
H. J. T. JACOBSEN,
Populist Assemblymen.

We, the undersigned, members of the State Central Committee of the People's party and of the People's party of the State of California, present in Sacramento and having been present at and during the occurrence of the circumstances above related, do hereby indorse the action and concur in the statements of the members of the legislature as above expressed and by them signed:

E. M. WARDELL, Chairman State Central Committee.
J. E. CAMP, Treasurer State Central Committee.
B. W. BATCHELDER, Chairman Los Angeles county.
E. D. COOKE, Santa Ana, Orange county.
E. M. PIERCE, San Jose.
H. D. BARBER, Chairman Glenn county.
BAENABY DOUGHERTY, San Francisco.
BURDETT CORNELL, Sumnerland.
A. W. THOMPSON, San Francisco.
JOHN S. DORE, Fresno.
CHARLES A. LEE, Fresno.
A. B. SANBORN, Sacramento.
THOMAS PORTEUS, Chairman Central Committee, Lake county.

And thus were Kerns of Los Angeles and Marion Cannon, its foremost leader and member-elect of Congress, read out of the People's party of California in so far as the gentlemen whose names appear above were able to do it.

When Assemblyman Bretz made the charge that Kerns had sold out, and that Marion Cannon had conducted the sale, he was very angry and excited to the highest degree; and no doubt he did not carefully measure the full meaning and force of his words. It probably did not occur to him that he would be called upon to prove what he said. But however this may be, a committee of seven members of the Assembly was on Thursday directed to examine into the charges. They summoned Bretz, Senator-elect White, John T. Gaffey the manager of White's campaign, Marion Cannon, Kerns and a dozen others, and as we write (on Tuesday) their investigation is still in progress. Bretz, when put to the test, broke down completely; he had no proof to offer, and could only reiterate that he believed that Kerns had sold his vote and that Cannon had been the negotiator. Senator-elect White swore that he had paid no money to Kerns or anybody else for support, and that he had not even paid the expenses of Cannon's trip to Sacramento. He regarded Cannon as his friend; as he did Kerns. He urged Kerns to be a candidate for the legislature and secured for him the Democratic indorsement. "I will say," he said, "that the People's party of Los Angeles county has favored my election; that E. M. Wardell, chairman of the county committee, has been here to advocate it, and that the party indorses everything that Mr. Cannon has done in my behalf. I am responsible for the integrity of Mr. Kerns and Mr. Cannon, and the man who makes assertions against their honor makes them against mine."

Mr. Cannon admitted that he was friendly to White because he (White) had assisted his candidacy for Congress. He would have preferred a Populist, but regarded that as out of the question. "I know of no money," he said, "being used by White corruptly in his effort to obtain the senatorship." He denied absolutely that he had in any corrupt way endeavored to secure Kerns' vote for White,

and said that it had been understood all along in Los Angeles county that Kerns would vote for White.

The testimony of Gaffey, White's manager, was that in his conversation with Kerns just prior to the ballot neither the senatorship nor Kern's vote was mentioned. He denied any knowledge of the corrupt use of money in White's interest.

Kerns testified that he knew of no money used to promote White's election; no effort had been made to corruptly influence his vote, that the senatorship was not mentioned in his conversation with Gaffey just prior to the election.

On Tuesday, as we write, the investigation is still in progress, but no testimony has been brought forward in proof of Bretz's charge; and the impression is general that he will be dismissed from the Assembly for having uttered a false and malicious libel.

In the course of Mr. Gaffey's testimony it was developed that one Chamberlain (an alleged lawyer who during the investigation was representing Bretz's interest) had offered to sell him four Populist votes. This made somewhat of a sensation; and Chamberlain explained that it was merely a ruse designed to test the methods of White's campaign. This excuse of course did him no credit and the Assembly at its next meeting barred him from the lobby—an act universally commended.

Mr. Bretz had just gotten thoroughly into hot water on account of his hot charge of corruption, when an exposure was made which utterly destroyed his own character for sincerity. This new sensation was the bringing forth of the following document, which is a copy of a pledge given by Bretz during the campaign last October to the Democratic manager of Alameda county.

ALAMEDA, CAL., 10—27—82.

To the Executive Committee of the Democratic Delegation of the Forty-Seventh Assembly District of Alameda County, Cal.—
MESSRS: I hereby pledge myself to your delegation that I will, if elected to the Assembly for this district, support the Democratic caucus nominee for the United States Senate in case it is not possible to elect the People's party nominee. This pledge is made and delivered with the understanding that it shall not be made public in no case except that I fail to keep it. It is also understood and agreed by both parties that it shall remain in possession of the Alameda Democratic club, and if I am not elected it is to be returned to me immediately after the election. And if I am elected it is to be returned to me as soon as I have voted for the Democratic nominee. Truly yours,

A. A. BRETZ.

Thus it appears that if not a traitor to his party in the exact sense that Kerns was, he at least is wanting in straight-forward character. In the face of this document, it is not to be denied that he is not a man worthy of respect or worthy of being trusted by his own party.

We have given to this matter the lion's share of our available space, in the belief that the readers of the RURAL PRESS would rather have an unbiased statement of the facts than a statement of opinions concerning them.

LATER.—Since the above was written the Legislative Committee appointed to investigate Bretz's charges have rendered their report to the Assembly, declaring the charges to be absolutely unsupported by evidence and recommending that Bretz be expelled from membership in the Assembly. The report is signed by five of the seven members of the Committee. As yet, action has not been taken upon this report, but the general belief is that Bretz will be summarily dismissed. In that event, a special election would have to be called to fill the vacancy.

A CORRESPONDENT to a San Francisco paper from Niles says that a new bird has been seen in the orchards this season helping the orchardists. It is a small, round-bodied bird, resembling the native canary somewhat in plumage and size, but with large, round eyes and an exceedingly long bill. It hugs the limbs closely, and strips off, one after the other, the scale, both old and young. It does not disturb the buds, which on some varieties of trees are beginning to swell. This is the second bird, a stranger, which has made its appearance in the orchards within two months, and both are insect-eaters.

A SAN DIEGO man is just back from the East with the somewhat unusual information that the reason eastern capitalists object to investment in California irrigation bonds is that its mortgage tax is low. This is probably the first case on record where any capitalist, or set of capitalists, in any part of the world has been found who objected to a low tax-rating of mortgages. Next thing, moneyed men will ask for a high assessment on stocks and bonds. They do so want to relieve the farmer of his present inequitable burden of heavy tax payments.

SENATOR OSTROM has introduced in the State legislature a joint resolution, authorizing Gov. Markham to call an irrigation congress, consisting of twenty delegates each from all States and Territories west of the Missouri river, to meet in California not later than Sept. 1, 1893. The last irrigation congress was held at Salt Lake. Inasmuch as California is the leading irrigation State, it is considered proper that a similar convention assemble here.

Gleanings.

THE corner stone to the proposed Anaheim sugar beet factory will be laid next month. The time to plow for beets is now.

THE good-road agitation has reached Ventura county. It should be carried into every locality in the State. Bad roads are a high tax.

SAN BERNARDINO COUNTY paid out during 1892 \$17,214 for inspection of fruit trees, and all taxpayers there agree that it was money well spent.

A SMALL discussion has arisen as to which produces the best fruit—Ontario or Riverside. A fair and impartial compromise would be that both raise the best.

CALIFORNIA will have five times as much space in the Horticultural Building at the World's Fair as any other State. That's somewhere near California's relative size horticulturally.

THE dollar rate on freights established by the Santa Fe has been canceled, and the rate will be restored to \$1.40 on the 25th. Dried fruit will be rushed forward in the meantime.

AS NEAR as may be at present ascertained, the annual consumption of oranges in the United States is about 5,500,000 boxes of, say 150 oranges each, or a total of 825,000,000 oranges.

THE Sonoma county supervisors have cut down the compensation of fruit-tree inspectors to \$1 per day, and have encountered a quantity of criticism by fruitgrowers and the public generally.

THE Times estimates that the number of trees to be planted in the Santa Maria valley this season at from 65,000 to 70,000. Fruit trees are now much cheaper than heretofore, being from 12 to 15 cents.

THE shipments of California canned fruits to England are growing rapidly. In 1890 they amounted to 60,000 cases; in 1891, to 180,000 cases, and this year they are expected to show a total of nearly 350,000 cases.

FIRE by the successful example of California. Chicago proposes to hold a great orange show at the big exposition. If the exhibits are as unique and striking as those to be seen to-day at the San Francisco Fair, they are certain to attract universal attention.

THE legislature is asked to divide Butte and create the new county of Bidwell. Of course the old county wants the legislature to enact prohibition against it, thus proving to Brother Bidwell that it is possible sometimes to have too much even of a good thing.

THE Pajaronian reports that the construction of the big drainage ditch has wrought commendable results in Pajaro valley. Much land has been reclaimed that was once chiefly valuable for duck ponds. The only ones that complain of the new order of things are the ducks.

COMMENCING January 25th, the Santa Fe will meet the Southern Pacific's cut rate of 50 cents on barley from California to Chicago. The Santa Fe will make the same rate to Chicago, St. Louis, Kansas City and Colorado common points. A better Eastern market for California barley is opening up.

A RESIDENT of Nevada City wagered \$10 that he could hit a chicken once in three shots, at a certain distance. He fired once, missed the chicken, and was arrested for shooting a pistol in the city limits. It was a put-up job, but the marksman has not up to date discovered where the laugh comes in.

THE dry weather in Lower California is becoming serious. Never before in January have cattle been unable to find feed on the valley lands. The animals are forced to the hills, where they browse on brush. The season is the driest in eighty years. Here is a chance for some ambitious rainmaker to do a real service.

THE Marysville Appeal urges the county to bond itself for good roads and bridges. Correct. It is the cheapest and easiest way to provide funds. Let the county bequeath to posterity good roads and make posterity help pay for them. Meanwhile the interest charged on the bonds is rarely burdensome or excessive.

AN effort is being made to induce the Southern Pacific Railroad Company to make a rate, during the World's Fair, from Chicago to California and return, equal to the reduced fare from this State to Chicago and return. The design is, of course, to attract visitors from the Fair to California. The railroad company is said to be favorable.

THE Los Angeles Express complains that lemongrowers down there do not give the "best attention to the curing of the fruit." If we are to judge from the quality of much of the California product, the Express is woefully mistaken. As a matter of fact, lemongrowers are now giving the best attention to the curing of the fruit.

THE Santa Rosa Republican is disposed to boast that "flowers bloom in California while people are freezing to death in the Mississippi valley." It is strange how people of the East will persist in running such desperate risks winter after winter, and live and die a green old age—some of them—without ever seeing the land of sunshine and flowers!

THE colored prizefighter, Peter Jackson, is announced to play the part of Uncle Tom in "Uncle Tom's Cabin." There will be little novelty in that. Now, if Mr. Jackson will only essay an original character, like Little Eva or Marks' mule, for which he is doubtless as fit as for Uncle Tom, his fame would deserve to mount to the skies in an undying blaze of glory.

TWO farmers near San Jose have had a desperate quarrel and have gone to law because one killed the others chickens, which were trespassing on his field, and tossed them back over his rival's fence. The chicken slayer does not seem to have used all his opportunities. Some people might not have been so considerate as to return them back over the fence or any other way, even after death.

THE Tubbs' Cordage Company, which has a monopoly of the California output, is endeavoring to show the Folsom Board of Prison Directors that the establishment of a State cordage factory at Folsom of 3,000,000 pounds annual capacity, will result in the shutting down of the Tubbs' works. The total consumption of the State, they say, is 7,000,000 pounds, while their capacity is 12,000,000.

A VALUED southern California paper rushes forward with the unimpeachable testimony of a tramp printer who has traveled extensively in nearly every State in the Union, that "Ontario is the prettiest town in the United States." Of course a good deal depends on the point of view. This particular peripatetic witness may have been moved to give his enthusiastic utterance by the splendid walking condition of Southern California residents in winter.

HORTICULTURAL Commissioner Berry, of Tulare county, recommends planting olive trees 25 feet apart, and to use trees two or three years old. He also thinks they should be planted early in the winter on the north and east sides of the foothills in that county. Mr. Berry thinks the olive will thrive without irrigation, if planted in the locations named and believes the demand for the products of the olive tree will outrun the supply for at least the next 30 years.

FOR the year just ended, California shipped nearly 10,500,000 gallons of wine to New York alone, an increase of something less than 1,000,000 gallons compared with the previous year. With the increase in the consumption of wine thus shown and the virtual cessation of wine-grape planting, better prices for grapes may be confidently looked for shortly. Another factor toward the improvement of the market for the vineyardist is the continual advance made in the quality of the wine product.

FOLLOWING is a list of members of the newly-organized San Jose Floral Society: Mrs. S. A. Barker, Mrs. D. C. Vestal, Mrs. S. L. Ingall, Mrs. J. H. Stark, Mrs. Mary Pilot, Mrs. R. B. Dunlop, Mrs. J. R. Bailey, Mr. and Mrs. William Beauchamp, Mr. and Mrs. H. A. Brainard, Mrs. D. A. Smith, Miss Minnie Ridley, Miss Lois Peckham, Mrs. S. W. Boring, Dr. Alida S. Avery, Mrs. Georgia McBride, Mrs. L. J. Watkins, I. A. Wilcox, A. K. Whitton, A. Block, Mrs. Annie Brown, Miss Adeline Boyle, Mrs. Carrie Stevens Walter, Mrs. Dr. Cochran, E. M. Ehrhorn, Mrs. M. S. Brown, Mrs. C. D.

Wright, Capt. Frank Dunn, Mrs. W. C. Kennedy, Mrs. G. A. Byron, Mrs. J. H. M. Townsend, Mrs. J. C. Black, Mrs. McKenzie, Miss Anderson, Eugene T. Sawyer, Prof. Emory Smith, Mrs. J. H. Russel, Mrs. O. L. Wheelock, and one or two others who have not yet signed.

THE Record-Union wants the catfish killed and the Marysville Democrat says ten tons of catfish were sold from one market in Sacramento last winter. The Oroville Register adds that if the quantity taken from the Feather river between Marysville and Oroville could be known, it would amount to hundreds of pounds daily. Poor families find them a cheap and palatable dish. A very happy compromise might be reached by striking out the "fish" and weeding out the numerous cats so bountifully cultivated in some spots of this fair land.

FRESNO county has paid out in the past two seasons \$305,236.15 in canning fruit. The division of expenditures is:

Fruit.....	\$ 117,121 19
Labor.....	57,349 04
Cases.....	9,719 11
Sugar, including freight.....	33,911 10
Cans, including freight.....	66,619 10
Labels, including freight.....	4,211 08
Expenses, freight, etc.....	16,334 29

Total.....\$ 305,236 15
Three hundred carloads were shipped East.

Information for Wine-Growers.

ST. HELENA, Jan. 14, 1893.

At a meeting of the Wine-Growers' Union of Napa county, held at St. Helena on January 7th, 1893, the committee appointed to prepare and mail to winegrowers in California a circular or notice stating the present condition of the wine market and the probable outlook for 1893 and 1894, beg leave to submit the following statistics as regards the amount of wine on hand in both city and country cellars before and after the vintage of 1892. These figures are substantially correct.

The following amount of wine includes that on hand previous to vintage of 1892, made during vintage 1892, and grand total of amount of wine on hand December 1st, 1892:

	Gallons.	Gallons.
Wine on hand before vintage of 1892.....	16,500,000	
Wine made vintage 1892.....	11,500,000	

Total wine on hand December 1st, 1892...	28,000,000
Our yearly export trade is about.....	12,000,000
Our yearly coast trade is about.....	6,500,000

Which deduct from total on hand December 1st, 1892, leaves.....	9,500,000
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Or only enough for six months' trade. Of course we will have the vintage of 1893 to draw on, but it is not yet on the vines and therefore hard to estimate, but in view of the ravages of phylloxera and the various other diseases common to vines, increasing age, frost, etc., a conservative estimate would be not more than the vintage of 1892, or.....

11,500,000

Making.....	21,000,000
For the trade of 1894, of which 11,500,000 gallons is green wine and not fit for consumption.....	

Taking for the yearly trade.....	18,500,000
And allowing nothing for increased demand, we would have left at the commencement of the vintage of 1894 only.....	2,500,000

But we believe our export trade is from 2,000,000 to 4,000,000 gallons more than these figures, as Bonfort's Wine and Spirit Circular gives the receipts for New York alone at 10,000,000 gallons in 1892, and certainly the rest of the country must use more than 2,000,000.

In view of the foregoing facts, why should we sell our wines at ruinously low prices, when by standing firm for a few months longer there is no reason why we should not obtain at the least 15 cents per gallon net, delivered at the nearest shipping point, for our 1892 wines, and at the least 20 cents and upward per gallon for older wines.

We would urge upon all winegrowers the importance and necessity of standing together to obtain a living price for our wines.

In conclusion we would say that, with the short crop of 1891 and the half crop of 1892, if now is not the time to hold for a living price for our wine, we have no prospects for the future but bankruptcy. Respectfully submitted,
COMMITTEE WINE-GROWERS' UNION OF NAPA COUNTY.

The Eel River Creamery.

Mr. C. E. Soear, of Waddington, Humboldt county, sends to the Western Watchman the following, as the showing for Eel river creamery, which he thinks will challenge any creamery in the State:

Since May 10th to December 22d. we bought 2,105,608 pounds of milk, for which we paid \$20,296.95, an average of 96½ cents per hundred.

Butter made from the said milk, 94,770 pounds; averaging 24¼ pounds of milk to one of butter.

Cash received for butter, \$24,260.47. Average net price received for butter, 25½ cents.

Profit on hogs, \$723.
Profit on skimmilk, or skimmilk sold, \$36.06.

Paid for wood for next year's use, and butter-boxes, \$1,364.30; and after paying all expenses of creamery we have a neat little sum of \$1,147.93 on hand; have declared a dividend of 20 cents on the dollar, and still have a small sum in the treasury for some improvements which we are now making, among which is a No. 1 scales, so that we can weigh our hogs in and out.

Further, we claim to have the richest test of milk, according to the Babcock tester, of which we have been able to learn. If any have a better showing we would be pleased to hear from them. We have as high as 55-10ths, and we have become satisfied that the Babcock tester is the only honest way of buying milk. Each one being gauged to just what he produces, it has a tendency to improve the stock, for there is a great difference in the milk-giving quality of cows, and also in the flow gained from different kinds of feed. A great deal can be learned on this one point among dairymen. If we change the feed, we find that it changes the milk immediately.

No Tax for Unbearing Fruit Trees.

Assemblyman Price, of Butte county, has introduced a resolution submitting a constitutional amendment to the people, which, if adopted, will remove the tax on unbearing fruit trees and vines, as well as upon growing crops. The full text of the resolution is as follows:

"Resolved, By the Assembly, the Senate concurring, that the Legislature of the State of California, at the 30th session, commencing January 2, 1893, two-thirds of all the members elected to each house of said legislature voting in favor thereof, hereby propose that section 1 of article XIII of the Constitution of the State of California be amended to read as follows:

"Section 1. All property in the State not exempt under the laws of the United States, shall be taxed in proportion to its value, to be ascertained as provided by law. The word property, as used in this article and section, is hereby declared to include moneys, credits, bonds, stocks, dues, franchises and all other matters and things, real, personal and mixed capable of private ownership, provided that growing crops, unbearing fruit trees, unbearing vines, property used exclusively for public schools, and such as may belong to the United States, this State, or to any county or municipal corporation within this State, shall be exempt from taxation. The legislature may provide, except in the case of credits secured by mortgage or trust deed, for a deduction from credits of debts due to bona fide residents of this State.

"Section 2. The proposed amendment shall be submitted to the people of said State at the next general election, said proposed amendment having been first, prior to said election, published one month in two newspapers in every county where newspapers are published, by order of the county clerk of the respective counties; said publication shall be in daily papers where daily papers are published in counties."

Amendments to the Wright Act.

The legislature is now considering amendments to the Wright Irrigation Act, and the irrigation committees of the two houses were to have met Thursday night for their consideration. A proposition has been advanced for the Governor to call an irrigation congress, of 20 delegates from each of the States and Territories west of the Missouri river.

What the friends of the Wright Act regard as a most important amendment is one providing that there shall be appointed by the Governor, and approved by the Senate, a State Irrigation Commission of three members, one of which should be an engineer. This commission should proceed to examine without delay all the districts in the State, so as to ascertain if they can secure a good water right, and if it is feasible to put such water on the lands of the district, and that the plans for putting on such water and distributing it are feasible and practicable, cost of the works, etc. If, upon such examination they find the plans practical they shall report the same to the Secretary of State, who shall have printed a steel plate bond in the sum of \$1000 each—this bond shall be uniform for all the districts, changing only the name of the district and other data connected with the various district bonds. When the Irrigation Commission reports to the Secretary of State that a given district is properly organized and its system of irrigation has been approved by the commission he shall issue to such district, bonds in blank for the use of such district, with a certificate thereon under seal of the State that this bond is issued by said district; that such district was organized under the laws of the State; that its organization and authorized issue of bonds have been confirmed by the court, and that the proposed system of irrigation has been examined and approved by the State Irrigation Commissioners. In order that the State may be reimbursed for any expenditures incurred under the provisions of this act it is also provided that each irrigation district shall annually pay into the State Treasury a sum equal to one dollar on each thousand dollars of authorized bonded indebtedness.

Drainage and Reclamation Convention.

A Drainage and Reclamation Convention, comprising delegates from various Sacramento valley counties, met at Sacramento last week. David Lubin, of that city, was chairman, and the session lasted several days. The purpose of the convention was to hear plans and propositions for the purpose of determining practical methods and providing ways and means for relief or the permanent reclamation of the overflowed land of the Sacramento valley, and for averting the danger threatened by the annual floods of the Sacramento river and tributaries.

The following resolutions were adopted:
WHEREAS, It appears from the report of the engineers to the convention:

First—That there exists an area of 805,000 acres of submerged lands in Sacramento valley, partially reclaimed by existing works constructed and maintained against adverse natural conditions under increasing burdens of cost by reason of the absence of a comprehensive system of reclamation embracing the entire area; second, that to make the construction of such complete and comprehensive system of reclamation thoroughly effective is possible at a cost per acre of less than the cost per acre of the partial reclamation already effected, and that the engineering data already exists for the planning of such a system;

Resolved, That it is the sense of this convention that a complete, comprehensive system of drainage and reclamation should be planned and constructed as an entirety.

Resolved, That it is the sense of this convention that this end should be secured from the legislature that is now in session.

The estimate of the engineers was that the expense of reclamation and other necessary work for confining the rivers in their proper channels would be \$8,000,000 to \$10,000,000, covering a period of five years.

A memorial is to be addressed to the legislature asking early legislation.

HORTICULTURE.

Year's Work of the California Fruit Union.

At the annual meeting of the California Fruit Union, Wednesday, January 18th, at Horticultural Hall, 220 Sutter street, the Secretary, L. W. Buck, presented on behalf of the trustees the following report of the work of the Union for 1892:

The retiring Board of Trustees are pleased to be able to make as satisfactory a report as they do to you, and we believe they are entitled to the friendly feeling, confidence and support of all fruitgrowers within the borders of our glorious and prosperous State.

We have received from stockholders as payment for stock the sum of \$15,533, and have paid back to stockholders and shippers, in the form of dividends, rebates and claims collected from transportation companies, more than \$95,000. While very few who originally subscribed for stock expected to ever receive any revenue from same, except a general and indirect benefit by having another outlet for their fruit opened to them, which they could avail themselves of by shipping in large or small quantities, and only paying freight at carload rates, there have now been declared six dividends of six per cent each, amounting to 36 per cent of all moneys paid-in for stock, as well as a much larger amount which has been paid the shippers in the shape of rebates and reclamations collected from transportation companies.

We may, therefore, claim with much satisfaction that the Union has been and is self-sustaining.

The shipments this year have generally been satisfactory, and while the fruit crop of California was not a large one, shipments have exceeded those of any previous year, and prices have been in most cases fairly good; hence we may safely say that the fruit crop of the State brought more money than any previous year. California fruit shipped East this year met less competition from domestic fruit than in any previous year, excepting 1890, since the organization of the California Fruit Union, owing to failure of the fruit crop in many parts of the eastern States.

Our books for the season just past show that we have shipped to Union agents 1694 cars, of which number 1041 were refrigerator cars, containing 12 tons or more per car, and 562 ventilated cars shipped by freight, leaving only 91 cars shipped by passenger train. This season there has been a larger number of cars shipped, or sold to be shipped, to parties not agents of the Union than in other years, and of which the Union has no record, which, if added to the number named above, would make an equivalent of over 2500 cars of ten tons each shipped by members of the Union.

The number of stockholders has increased by 21 new subscribers, there being now issued and fully paid up 14,565 shares.

The number of shippers increased from 453 last season to 544 for 1892, which certainly shows that the California Fruit Union is surely gaining in favor and confidence with the fruitgrowers of the State.

The shipments were made from some 38 different shipping points, as follows:

Vacaville, 320; Loomis, 5; Newcastle, 142; San Jose, 265; Winters, 119; Sacramento, 314; Placerville, 2; Rasin, 1; Butler, 5; Stockton, 3; Egger's Switch, 3; Los Palms, 4; Marysville, 15; Suisun, 61; Fresno, 42; Davisville, 20; Martinez, 8; Fowler, 33; Tulare, 57; San Lorenzo, 36; Florin, 44; Malaga, 39; Natoma, 52; Sonoma, 15; Wrights, 12; Pleasanton, 2; Hemme, 18; Armona, 2; Biggs, 9; Madera, 2; Hookston, 5; Gridley, 1; Acampo, 1; Hollister, 1; Selma, 1; Hanford, 2; Yuba City, 1; Penryn, 32; total number of carloads for the season, 1694.

The markets to which the above-named shipments were made were as follows:

Chicago, 715; New York, 365; Boston, 99; New Orleans, 62; Louisville, 7; Minneapolis, 156; St. Paul, 68; Omaha, 102; Kansas City, 28; St. Louis, 52; Philadelphia, 40; total, 1694.

The duplicate account of sales of shipments made thus far received show that 1,233,239 packages of fruit sold for \$1,908,219 12 gross, out of which were deducted \$700,409 04 for freight, \$143,323 14 for cartage, commission and storage: a total of 842,732 18, leaving \$1,065,486 94 as net money received by the shippers. There are quite a number of cars containing in part or all late pears, which have not been closed out and will add considerable to the gross figures given above. These figures do not give all freight charges on very much of this fruit, as there had already been paid local charges either before or after being loaded, and before reaching loading or common points of shipment; hence from the net money must be taken charges for local freight, boxing, packing, paper and loading expenses, which will reduce the net money received by the shipper considerably.

The gross sale per package in 1892 was \$1.54; the gross charges, 68 cents.

The average freight per package in 1891 was 55 cents, and in 1892 was 56 cents. In making these figures, each package is figured as a unit, regardless of size or weight. The reason for the increase in 1892 was largely owing to increased refrigerator charges from points outside of Sacramento.

The cherry shipments were not as heavy in 1892 as in 1891, but the results were generally very satisfactory. Bartlett pears generally arrived in good condition and sold well, owing to a light Eastern crop and consequently diminished competition. Plums of all kinds were light in California, and consequently only moderate shipments were made at very satisfactory prices. Peach shipments were very heavy and realized fair prices, except in few cases where local supply was heavy and markets overstocked; but those exceptions were of short duration, and as a rule we may say that owing to the light crop in the main peach-producing

sections East, the peach shipments were profitable. Apricots were shipped in considerable quantities from the earlier sections of the State and sold well.

Late pears, as far as sold, have done much better this year than last, owing to a light apple crop in many sections of the East.

Grape shipments were fairly heavy, but the general quality of grapes sold was not good, being small and inferior; still they sold fairly well, especially a few of the last cars shipped. The first car of fruit was shipped from Vacaville, May 20th, and the last from Wrights (Santa Cruz mountains), November 27th, making a shipping season of six months and seven days for 1892.

Under instructions given to the board at the last annual meeting, your president and secretary attended a meeting of the Transcontinental Railway Association, held at San Diego, where we made an effort to secure lower rates of freight, a schedule-time fruit train and a minimum weight of ten tons for all cars. We succeeded later in getting an assurance from the railway company here that, while it could not reduce the rate, it would put on a fast through freight train which would carry our fruit from Sacramento to Chicago and equivalent points in 120 hours, at a flat freight rate. This, in the early part of the season, was, with few exceptions, carried out; but, as the shipments increased in volume, delays came thick and fast, until the time from point of shipment to Chicago and equivalent points was generally eight or nine and sometimes as long as 10 or 12 days. The worst service being during the warmest part of the summer at a time when the supply of refrigerator cars was exhausted, or very light, shippers were forced to use ventilated cars to ship in, hence the fruit would not stand the time taken from point of shipment to selling point, and consequently some heavy losses were sustained by the shippers—in many cases the fruit not selling for nearly enough to pay freight charges, to say nothing about other expenses that are necessary to add to the fruit in the orchard.

We hope that you will take such measures as you deem best to try to induce transportation companies to give us a reliable fast-time schedule, for that is absolutely necessary to success, as well as a lower rate. From all indications at present, the crop in California promises to be a large one, and a large quantity must be moved East to relieve our local markets. I would also call your attention to the refrigerator-car service. We should make an effort to get a reduction in the charges that they exact from us, for while the number of such cars used has largely increased, and should enable the company to afford the service cheaper, they have advanced charges from many points in the State.

The financial condition is clearly shown by the annual balance-sheet made up to January 14th.

Out of the rebates sent the Union we have paid all expenses, such as telegraphing, telephoning, salaries, stationery and general office expenses, while a dividend of 6 per cent on all fully-paid stock was declared and a small sum was placed to the credit of the reserve fund and a rebate of one-third of 1 per cent was declared to members of the Union on the gross sales of their shipments. The amount paid as rebates and dividends reduces the net commissions made by shippers to about 6 to 10 per cent, leaving only about six-tenths of 1 per cent to cover all expenses of conducting the Union. Financially, the Union has certainly done well and will be appreciated, I think, by stockholders and shippers, who are the recipients of the moneys divided.

The Union was formed and is a cooperative organization, working for the interests of the fruitgrowers. Its plan of operations is such that all fruitgrowers or shippers can ship in large or small quantities at carload rates. The Union looks after all expenses, such as billing, telegraphing, and exercises a careful supervision of fruit en route, governed by accurate telegraphic information of the different markets, in regard to their wants and supplies, whereby one market may not be overstocked while others do not receive a reasonable supply. And again we have secured as our agents in the respective cities where we have agencies, the very best and most reliable men, from all of whom we require a good and satisfactory bond, which makes a safe guarantee that the shipper will receive all moneys due him for shipments, and which is received by him direct from the agent who sells the fruit, in the shape of a complete statement, accompanied by a check covering the net proceeds of each and every shipment made. And we further keep a record of all shipments made and returns received, which has often been of much service in tracing returns lost or miscarried. All information received by wire regarding sales is mailed to all parties interested at the earliest possible moment, thereby keeping them well posted. We would further advise the formation of local cooperative organizations, whereby a number of growers can work together and load cars at their nearest station, thus saving local freight and the rough handling and delay which fruit often gets when shipped to the larger loading points in small lots. These local organizations should then work with the California Fruit Union as a central organization.

In the debate which followed the reading of the report, it was stated that, as a rule, European shipments had not been satisfactory. It costs \$600 a car for refrigerator service to New York, but to Liverpool the cost is \$1400. The loss, however, had not fallen on the shipper, but upon the railroad and refrigerator company. Mr. Fergusson of the Kern County Land Company saw California pears sold in London at a shilling each, while French pears were selling at four pence. He asked why there was such a difference in the price and was told there was a like difference in the quality. There would be no great profit for us in shipping to London at \$800 a carload, but it would give us an outlet for our surplus and relieve our home market.

Mr. Block of Santa Clara was pleased to know that the railroads were so considerate as to share losses with the producers, and hoped they would continue in their good work. He did not wish them to lose money, but was glad to know that they were so willing to assist the farmers, and

suggested a vote of thanks to them, which suggestion was carried out.

L. W. Buck stated that all the fruit shipped East early in the season and up to the middle of July arrived in good condition and sold well. When fruit arrived in Chicago the fifth or sixth day after shipment, it always arrived in good shape; but when it was longer on the road it was bad. Some fruit was packed and shipped in bad condition, and he instanced a lot of blackberries which he had seen in Chicago that were moldy when opened. As the fruit is all sold by auction, there can be no favoritism shown, and if the shipper does not get good prices for his fruit, it is his own fault. Another point which was to be worked for was the making of ten tons a maximum carload. On the eastern roads 12 tons is the maximum, and when fruit is packed 12 or 15 tons to the car, it is not sufficiently ventilated and is liable to spoil.

A. Moger of Newcastle wished to explain about the blackberries. "I am a great hand to experiment," said he, "and I sent a shipment of raspberries through. These did so well that I next tried blackberries. They were packed in larger boxes and closer together, and were nine or ten days on the road."

Resolutions were adopted requesting more rapid train service and cheaper refrigerator cars.

The nominating committee reported a board of directors as follows: L. W. Buck, Vacaville; W. B. Parker, Vacaville; J. Z. Anderson, San Jose; A. Block, Santa Clara; H. W. Meek, Haywards; J. C. Boggs, Newcastle; Webster Treat, Davisville; R. C. Kells, Yuba City; and David Reese, Florin. On motion, Sec'y Lelong cast the ballot of the meeting for the whole ticket.

A short discussion followed as to the best method of packing fruit in ventilated cars, after which a vote of thanks was tendered to B. M. Lelong for his services and to the State Board of Horticulture for the use of its hall, and the meeting adjourned.

Taxing Fruit Trees.

Following is the address of the committee appointed at the recent meeting of the Southern California Pomological Society to secure reform in the matter of the taxation of growing orchards:

To the People and Press of California: At the November meeting of the Pomological Society of Southern California, the undersigned were appointed a committee to promote the adoption by the present legislature of such an amendment to the Constitution of the State as will confer upon the legislature the power to exempt fruit trees from taxation, permanently or for a term of years prior to full bearing, as in the discretion of the legislature might seem best.

In pursuance of that appointment, and in the performance of what we conceive to be an important duty, we deem it of consequence that we make a brief appeal to the press and people of the State to aid the society in promoting this object. It is believed that the horticulturists of the State are almost unanimous in favor of such action being taken this winter in order that on the earliest possible day an amendment to allow such exemption may be submitted to the people, and it is hoped and believed that a majority of the people engaged in other pursuits would favor such an amendment.

It seems to us but just that we should be placed on an equal footing with the other agriculturists of the State whose products, under the denomination in the Constitution of "growing crops," are exempt from taxation. It is not possible, in the brief space allowed to us in a paper of this kind, to present and urge the many reasons which occur to us, and which, we trust, will occur to a majority of the people, why we should also be protected and encouraged by an equal exemption. Certainly we may be allowed to say that we now take it that we are discriminated against, and that it would seem that we were to be permanently discriminated against if we should be denied the privilege of even obtaining an expression of public sentiment on the subject.

We think it is a fact not to be disputed that farm lands all over the State devoted to raising the products now exempted from taxation by the terms of the Constitution are, and have all along been, valued for purposes of taxation at greatly less rates than lands devoted to horticulture; and while we will not deny that after fruit trees get to profitable bearing, such lands are considerably more valuable than what are known as common farm lands, we conceive that their considerably enhanced value each succeeding year until the trees come into full bearing ought to be sufficient to insure that we will bear our share of taxation without being discriminated against for years before we even begin to obtain any reward for our expenditures and labor.

By the terms of the Constitution fruit trees are assessed separately from the land as improvements, and are taxes as such, but singularly enough for the purposes of taxation they are regarded as growing improvements. The effect is cumulative, unlike other improvements. We find at hand for convenient use a schedule of the rates of assessment of fruit trees, which obtain in this State, in the late proceedings of the State Horticultural Society, as furnished by its president.

Fruit trees—First years, \$15 per acre; second year, \$20; third, \$30; fourth, \$40; fifth, \$50.

Citrus trees—First year, \$50 per acre; second, \$75; third, \$100; fourth, \$125; fifth, \$150; sixth, \$200; seventh, \$225; eighth, \$250; ninth, \$275; tenth, \$300; eleventh, \$325; twelfth, \$350; thirteenth, \$378; fourteenth, \$400.

Vines—First year, \$15 per acre; second, \$20; third, \$35; fourth, \$40; fifth, \$50.

Thus it will be seen that our lands are taxed a great deal higher than lands devoted to 'growing crops'; our trees are each succeeding year taxed higher and higher, until, in the case of citrus trees, the fourteenth year, and vines until and including the fifth year, and when we meet with misadventure and our trees bear nothing at all, the increased

valuation goes relentlessly on. Without being so intended, this looks like a menace and penalty.

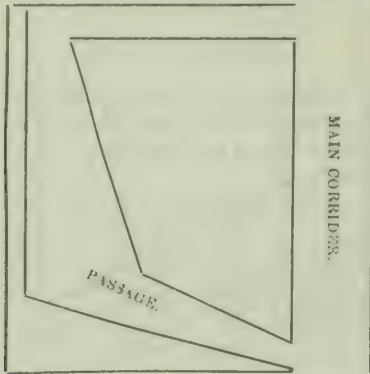
We therefore respectfully yet earnestly, in behalf of the Pomological society and by its authority, appeal to the press and to the people generally, to give us their hearty support in urging upon the legislature to afford us the relief we ask. Respectfully,

FRANKLIN BLADES,
W. H. HOLABIRD,
H. W. KRUCKEBERG,
M. B. CAMPBELL,
C. C. THOMPSON.

Sonoma at the Citrus Fair.

The general attractiveness and varied and interesting features of the northern citrus fair have been the means of filling the great pavilion with throngs of visitors day by day. The fair has now been in progress nearly 20 days, and the fruit exhibits have apparently lost none of their freshness and uniqueness, nor has their general acceptability been diminished by the continued scrutiny and criticism to which they have been subjected. The value of the fair—both in artistic features and in its instructiveness as to the capacities of northern California for citrus fruit culture—has been amply and finally demonstrated. The fair has paid for itself many times over, and in many ways.

The Sonoma county exhibit is now in position, and the RURAL PRESS is able this week to give a review of its most conspicuous features. The location of the display is under the main gallery, off to the right from the general entrance, between Sacramento and Humboldt counties. In dimensions it is about 60x25, and therefore occupies about 1500 square feet. The general arrangement of the exhibit is as follows:



Plan of Sonoma County Exhibit.

The variety of articles, and the character and quality of most of them, are not excelled by any other collection at the fair, not even excepting Sacramento's great showing and exceedingly wide range of products. One of the first things that strikes the eyes is a collection of the indigenous products of Sonoma county, among which may be mentioned the following:

Wild pears,	Wild Grapes,
" tomatoes,	" blackberries,
" grasses,	" red berries,
" herbs,	" raspberries,
" coffee,	" currants,
" peas,	" peppernuts,
" honey,	" manzanita berries,
" potatoes,	" pula (cattails),
" teazle,	" pampas grass,
" buckeyes,	" everlasting flower,
Acorns (20 varieties),	Oakballs,
Clover (15 varieties),	Woods,
	And many others.

The fair managers offer a premium for the best collection of indigenous products, and this has been entered into competition for the prize. The wild coffee is a singular product. It grows plentifully in Sonoma, and it is supposed to have been used by Indians for medicinal purposes. The shell and kernel are akin in appearance to the cultivated coffee. There is some hope that a new variety of domestic potato may be obtained from the wild esculent.

But the native products of Sonoma, though very numerous and interesting, are by no means the chief features of the show. A faint notion of the diversity of products of that well-known and prolific county may be obtained from the following incomplete enumeration of articles shown at the fair:

Grains (40 varieties),	Deciduous fruits,
Silk,	Dried "
Cotton,	Preserved "
Ramie,	Hops,
Quicksilver,	Meats,
Iron,	Dairy products,
Minerals,	Eggs,
Woods,	Flax,
Peanuts,	Vegetables,
Wines,	Jellies,
Mineral waters,	Jams,
Wild game,	Wool,
Walnuts,	Almonds,
Filberts,	Chestnuts,
Corn,	Birds,
Citrus fruits,	Etc., Etc.

It should be mentioned here that the display is under charge of Mrs. F. Purrington, of Green Valley, to whose individual effort is very largely due the presentation at the fair of this admirable collection. The grains, shown in sheaf, in sack, and in glass, were almost wholly raised on Mrs. Purrington's place, 12 miles from Santa Rosa, from seed secured last year at the State University. The design was to produce a number of samples for exhibition at the World's Fair, but lack of funds—no appropriation for that purpose has been made by Sonoma county—has caused a change of plans. The specimens of grains are,

without exception, creditable, many of them being more than usually fine.

A pumpkin weighing 310 pounds—Mrs. Purrington says she knows it weighed 310 pounds, because she had to pay freight on it to San Francisco by weight—was once a shining, gorgeous, prodigious part of the Sonoma exhibit. It seemed destined to go thundering down the ages as the most tremendous pumpkin grown since that momentous day when the much-troubled Peter—everybody knows his sad marital history—found a giant pumpkin that made a satisfactory abode for the wife he had not been able to keep otherwise, and insured his domestic peace forever and a day. It was a veritable Jumbo among pumpkins—a vegetable Colossus. But alas! all flesh is grass and pumpkins seem to have no higher destiny. On the very first night the yellow giant was placed in the pavilion it was attacked by vandal rats, who broke through the hard shell, ate the seeds and gnawed the very heart out of the helpless monster. The result was that the walls collapsed and the old-junk man filled his wagon with the wreck next day.

An American flag, made up wholly from silk cocoons, is an inviting feature. It is Sonoma county silk, and Mrs. Purrington is the producer. She has a number of silkworms on her farm, and about 700 mulberry trees, full-grown, raised for the purpose of feeding the larvæ and producing silk. The silk has been pronounced of first-class quality, but heretofore little has been done commercially for the reason that there has been no local market. But now there is a brand-new silk factory at Petaluma, and silk-growers in that vicinity need have no further trouble in selling.

A reproduction of the symbols of Flora, Pomona and Ceres, as found in Grange halls, is very interesting, not only to members of that Order, but to the public generally. The three characters are appropriately and artistically represented in flowers, in fruits and in grains.

Raisins of fine quality are a useful display.

On a section of madrone wood is painted a very pretty snow scene. The artist is a young lady relative of Mrs. Purrington. "I raised both the wood and the artist," said Mrs. Purrington, laughingly.

A coat, made from the skins of a fox, wildcat, coon and squirrel, shows that Sonoma's products extend from things raised from the earth to things that move upon it.

The range of nuts includes Spanish and domestic peanuts, almonds, filberts, walnuts, chestnuts, and others.

A taxidermy collection of Sonoma animals—pigeons, snipe, owl, quail, ring-tail cat, and so on, made by James Wilson, a boy, is much admired.

A model of the Purrington farm, with miniatures of the house, corncrib and other buildings, and with showings of various soils, grains, flowers and grasses, form an interesting feature.

A castor beanstalk, 14 feet high; a wild grapevine, 34 feet long, and a blackberry-vine, 20 feet long, are shown.

The display of jams and jellies is excellent and much varied.

Last, and not least, come the Sonoma oranges and lemons, grown near Cloverdale. Navels and Seedlings of excellent appearance and color are shown. A group of Navels came from a tree two years old. This exhibit amounts to a demonstration that Sonoma is in the citrus belt, and that such fruits can be grown there with profit.

On the whole, the Sonoma county collection is very complete and very tastefully and satisfactorily presented. It merits and receives the attention of many visitors at the fair.

MERCED COUNTY.

Merced county is represented at the fair by a display of cotton, fruits and grains in glass, and other things. The leading and most noticeable feature is a variety of native grasses. The exhibit as a whole is small, but altogether it is excellent.

THE VINEYARD.

Vineyards of Napa County.

E. C. Priber, commissioner for the Napa district, has made his report on the vineyards of that section to the Board of State Viticultural Commissioners. This report is summarized as follows:

The present report on the condition of the vineyards of Napa county was undertaken by the Board of State Viticultural Commissioners with a view of ascertaining what decrease in the acreage planted in vines in that county has been caused by the phylloxera in the past two years, as well as to give as much information as possible regarding the success of the various resistant stocks in different soils, etc., and other matters pertaining to viticulture in the county of interest to grapegrowers, winemakers and wine merchants.

In 1890, when the last census was made, Napa county reported 18,229 acres planted in vines. The present report shows 16,651½ acres. It will thus be seen that the decrease has been very considerable.

The phylloxera is reported to have reached a point about three miles above St. Helena, and it can be but a question of a short time until the Calistoga vineyards suffer as have those of the lower valley.

At present there are 507 vineyards reported in Napa county, and of these 244, or nearly half, report the existence of phylloxera. This will give an idea of what can be expected to occur to the vineyards of the entire valley within a few years. Wherever resistants have not been planted, the death of the vines appears only a question of a short time.

In the tables the acreage reported as infested by phylloxera is certainly misleading, as is also the reported acreage good for one more crop, the acreage that will be dug up for causes other than phylloxera, and probably the cooperage. It is difficult to secure correct information as to stocks of wine on hand.

The reports of wine stocks were given in confidence. The different cellars reported an aggregate of slightly over 5,000,000 gallons of wine in the valley. The stocks of two cellars in Napa had to be estimated, as well as the cooperage in the same, the owners refusing to supply such information.

The canvass was made by A. Warren Robinson of Napa, under direction of Commissioner E. C. Priber and the Executive Committee of the Board.

In tabulating the returns thus obtained, the county was divided into five districts: First, in and around Napa; second, farther up, from Yountville to Rutherford; third, in and about St. Helena; fourth, Chiles and Conn valleys; and fifth, in and about Calistoga.

The recapitulation of the total is as follows:

Total number of vineyards.....	507
Vineyards reporting phylloxera.....	244
Total acres in vines.....	16,651½
Acres in bearing.....	14,240½
Will replant this season.....	406½
Will be dug up for causes other than phylloxera.....	184
Infested by phylloxera.....	2,246
Same good for but one crop more.....	756

Planted to resistants, 2007¼ acres as follows:

Riparia.....	1,698¼
Lenoir.....	245¼
Rupestis.....	19
Californica.....	35
Estivalis.....	9

Planted to resistants (same as above) 2007¼ acres:

Grafted and in bearing.....	842¼
Grafted and not bearing.....	591
Not yet grafted.....	573¼
Crop, 1892, tons.....	27,083

Cooperage, 12,989,000 gallons:

Oak.....	3,662,500
Redwood.....	9,326,500

CEREAL CROPS.

Wheat Output for 1892.

The Agricultural Department at Washington makes the following estimate of the wheat output of the United States for 1892:

States and Territories	Wheat.		
	Acres.	Bushels.	Value.
Maine.....	4,500	75,000	76,653
New Hampshire.....	2,350	38,000	38,305
Vermont.....	8,750	151,000	144,480
Massachusetts.....			
Rhode Island.....			
Connecticut.....			
New York.....	518,837	8,465,000	7,144,385
New Jersey.....	124,950	1,787,000	1,483,032
Pennsylvania.....	1,324,063	19,331,000	15,658,369
Delaware.....	94,705	1,231,000	923,374
Maryland.....	529,684	6,992,000	5,173,953
Virginia.....	739,065	7,591,000	5,769,279
North Carolina.....	716,942	5,090,000	4,530,356
South Carolina.....	144,316	938,000	872,390
Georgia.....	216,820	1,474,000	1,326,938
Florida.....			
Alabama.....	45,600	306,000	284,134
Mississippi.....	3,650	25,000	22,338
Louisiana.....			
Texas.....	445,085	5,475,000	4,105,910
Arkansas.....	163,058	1,337,000	1,069,661
Tennessee.....	898,915	8,540,000	5,806,991
West Virginia.....	402,077	4,302,000	2,226,668
Kentucky.....	985,977	11,635,000	7,795,134
Ohio.....	2,795,733	38,022,000	25,854,939
Michigan.....	1,622,737	23,854,000	16,982,337
Indiana.....	2,713,292	39,885,000	25,526,651
Illinois.....	1,751,249	28,370,000	17,873,247
Wisconsin.....	766,429	8,814,000	5,464,639
Minnesota.....	3,552,626	41,210,000	25,138,382
Iowa.....	631,063	7,257,000	4,354,335
Missouri.....	1,986,686	24,834,000	14,403,474
Kansas.....	4,070,724	70,831,000	36,831,911
Nebraska.....	1,253,564	15,670,000	7,834,775
South Dakota.....	2,541,348	31,767,000	16,201,094
North Dakota.....	2,868,729	34,998,000	18,199,217
Montana.....	41,761	898,000	619,525
Wyoming.....	5,775	101,000	66,702
Colorado.....	131,082	2,504,000	1,452,126
New Mexico.....	37,331	515,000	412,134
Arizona.....	10,891	170,000	132,522
Utah.....	102,573	1,775,000	1,100,198
Nevada.....	6,101	117,000	87,854
Idaho.....	76,951	1,693,000	1,015,753
Washington.....	523,530	9,005,000	5,222,735
Oregon.....	622,850	9,779,000	6,258,397
California.....	3,012,057	39,157,000	26,626,584
Total.....	38,564,430	515,949,000	\$ 322,111,881

The Growth of the Wheat Plant.

STOCKTON, CAL.

TO THE EDITOR:—An interesting fact in agriculture, if it be a fact, came to my knowledge recently. It should be made known to all farmers, if you have not already published it.

From ample observation it is reported that *shrunk wheat*, when sown for seed, will produce a *better crop* than plump wheat. This is said to be the observation of R. Richards, Esq., a large farmer on the San Joaquin. Like many discoveries, this was made by accident.

Running short of good, plump wheat on one occasion, while seeding, he sowed some 50 acres with small, shrunk wheat that had been set aside for chicken-feed. He was surprised to note that those 50 acres turned out the best crop he had.

At first thought we can hardly imagine why this should be so, but the chief reason doubtless is, that either by

weight or measure the farmer will sow a certain number of bushels to the acre, and the shrunken wheat will give to the land more kernels to the acre than the good wheat; therefore, the growing grain will stand thicker and more stalks to yield heads.

Touching this subject of growing seeds, I was surprised to note, a year or two ago, that a prominent California scientist approvingly quoted the absurd doctrine that "the seed must die" before it can sprout and grow. Whoever will stop and analyze the question will see the impossibility of such a state of matters occurring. For a seed to die would be the end of it, so far as its being is concerned. To die means to decompose, to disintegrate, and the elements thereof to return to air, earth and water from whence they came. To die is to rot and become offensive to smell.

On the other hand, the germinating seed does not die, nor rot, nor disintegrate, nor become offensive to smell. It only softens to become sufficiently fluid or liquid to be absorbed, and the elements thereof rearrange themselves in the form of roots and stem. At an early time in this growth, if the roots and stem be weighed, says Dr. Draper,

thrive in a barn as well as elsewhere, and they multiply very rapidly under the conditions afforded by a barn or stable. Even during the winter the warmth of the stable will be sufficient for their propagation. The work of clearing a barn or stable of lice would discourage even the most industrious.—Farm and Fireside.

Chickens Hatched in January.

D. Edson Smith, of Santa Ana, gives the following advice: "Chickens hatched this month, if properly cared for, will make early layers next fall when eggs are commanding good prices. My laying hens are kept in a small enclosure the year round. It is the most satisfactory way to me. They have warm, tight houses, 12 to 15 in a house. The houses are thoroughly cleaned weekly, and thoroughly disinfected with dry wood ashes, filling every crevice with it. The occasional spraying of the inside with a hand pump, with carbolyzed whitewash, also aids in keeping everything sweet. For food I give them at night all they



"LEE" AND HIS MATE.

it will be found their weight will be the same as that of the original seed, minus the water absorbed.

To call this softening and redistribution of seed elements a death and disintegrating process, is a contradiction in terms. It is as fallacious and absurd as to call going to sleep a death process. A. S. HUDSON, M. D.

POULTRY YARD.

Dressing Poultry.

Nearly all markets require poultry to be picked dry and to be drawn. The former requirements secure better keeping, scalded poultry becoming discolored much more quickly than that which is picked dry. The latter requirement does not add to the keeping qualities, but secures the removal of the offal. Poultry that is to be killed for market should be kept without feeding for 12 to 24 hours to secure perfect emptiness of the crop. When the crop is entirely empty, it becomes unnecessary to open the fowl in front, and leaving the skin unbroken at the front of the breast causes the poultry to look better. But if there be any grain in the crop, the crop should be removed, as the grain will soon become sour and affect the flavor of the meat. In picking dry, the fowl should be killed by either decapitation, sticking a knife through the throat and severing the large veins and windpipe, or by cutting a slit across the roof of the mouth. As soon as the fowl is dead—and many pickers do not wait for this—the large feathers of the tail and wings should be pulled, and then the softer feathers plucked. The dressed fowl should be bung to cool off, and if then the head be not severed, it can be, and the skin of the neck drawn over the end and tied. Neatness in the dressing adds much to the salability of poultry. When one kills for his own use he will find the labor much less to scald the fowls, but when he kills for market he must consult the requirements of his market.—American Agriculturist.

POULTRY IN THE BARN.—The barn should not be used as a poultry-house. The farmer who will not provide a place for his hens is sure to have a filthy barn, as the hens will roost on the rafters, on the troughs, or wherever it is most convenient. It may be mentioned, also, that lice will

will eat of cut alfalfa hay two parts, bran three parts, mixed stiff with milk or a meat stew. For exercise I give them whole beets and cabbages, and King Philip's corn on the ear. I keep before them plenty of pure water, broken glass and brown green bone. The egg production is entirely satisfactory. The White Leghorns and Indian Games are my favorites."

Poultry Notes.

Overfeeding is false liberality. Underfeeding is expensive.

Dry, clean and light poultry houses are indispensable to success.

As a rule the hens with the largest combs will prove to be the best layers.

A small flock well attended pays better than a large flock poorly cared for.

Broad roosts, raised not over two feet from the floor, are the most comfortable and most sensible.

It is capacity for taking on flesh rapidly that makes a breed or a bird valuable for the market grower.

No vegetable makes better succulent food for the hens in winter than the beet when boiled or pulped in a root cutter.

Select only the very best of your birds to breed from, and select them for their laying qualities, rather than for their feathers and form.

There is no green food equal to chopped onions, both for the adult stock and young chicks. Onions are not only invigorating, but are excellent when the fowls are subject to colds.

Give soft feed to the poultry in the morning and whole grain at night. Scatter a little wheat or other grain in the scratching places to keep the fowls busy scratching through the day.

Wheat is, and will continue to be, one of the best foods for laying hens, as it contains the elements that stimulate egg production. It is best to feed moderately, owing to its fattening qualities, as fat hens soon forget how to lay.

POULTRY NEED ATTENTION.—Eggs and fowls form so large a portion of our foodstuffs, especially where fresh beef is not easily procured, that poultry should be as carefully provided for as other live stock.

"Lee" and His Mate.

The illustration on this page shows a pair of fine Plymouth Rocks belonging to Mr. Thomas Waite, of Perkins, Sacramento county, and exhibited at the recent poultry show at Petaluma. They are the fine cock Lee, and mate. Lee was imported by Mr. Waite, and is one of his prized possessions. The pair won first prize for the best pair of Plymouth Rocks at the last State Fair at Sacramento, and they were also two of four taking first premium in a pen. Lee and mate are a handsome pair and attracted much attention at Petaluma.

Mr. Waite, who is widely known as an intelligent and progressive breeder of thoroughbred poultry, is also a breeder of Berkshire hogs and standard horses.

SMALL TURKEYS.—Except during Thanksgiving and Christmas, the small turkeys are in more demand than are the large sizes, though there is a class of customers that prefers large birds. The greater number of sales, however, are of turkeys which weigh not over ten pounds each. Small families care but very little for extra large birds, as the cost is increased by the weight, and the small birds serve better. Others prefer to buy two small birds rather than a single large one. We mention this matter for the benefit of those who have late turkeys, and which were rather small for Christmas. Good prices will hold until the broilers begin to come in heavily, when turkeys will sell somewhat lower in price.—Farm and Fireside.

THE STOCK YARD.

Feed With a Generous Hand.

All through this chapter I have endeavored to convey the impression that the calf, the steer, and the cow are living machines for the concentration of hay, grain, and grasses into human food. The successful operation of these machines depends upon the manager and is controlled by inviolable laws. Often it would seem from appearances as though the stockman was hostile to his cattle, and regarded every pound of feed given them as so much material filched from the feed bin to his personal loss. The man who wrote in a letter that he had a wife, three children, and six cows to support, doubtless took just this view of the situation; had cruel fate thrust 10 or 20 cows upon him he would have broken down entirely under the burden. With some the greatest effort in conducting feeding operations seems to be the study of how to save a little feed and still keep the animals in existence.

The successful feeder works on exactly the opposite principle. He fully appreciates the fact that an animal in order to be profitable must be liberally fed. He understands that first of all it must have sufficient food to carry on the bodily functions and maintain life, and that no returns can come to the owner if only this amount of food is supplied, and that all increase in weight, fat, and all yield of milk come through the excess of food over the wants of the body. This leads him to breed and select animals with large consumptive power, a strong digestion, and to feed them up to their limit so long as they are useful. If our farmers only fully understood the first great law of stock-feeding and acted intelligently thereon, our stock interests would be revolutionized.

"The eye of the master fattens his cattle." I wish this legend could be written over the door of every feeding stable in the land, for it expresses a most important truth in concise form. If a man has no natural liking for the stock business it is really useless for him to attempt that vocation, for the art can only be acquired by students having a certain natural adaptation. If one has this love for the business, then by patience and study the details can be worked out. First comes a love of order and regularity, which are of prime importance at all times. Stock must be fed with great regularity and in the same order, day by day, and all possible violent changes in feeding and handling avoided. The feeder should move among his animals quietly and in a way to win their confidence, which is easily acquired and as easily lost. As he passes among them daily in his round of duties he should have a quick eye to scrutinize every member of the herd and detect any little irregularity or trouble. He avoids disasters or serious accidents by constantly studying the little comforts and individual wants of the animals under his care. He feeds with a liberal hand and none of his animals lie down hungry or discontented.

The successful management of live stock is dependent upon good judgment in handling the cattle. If one lack this, all his other qualifications count for but little. He may understand the theory of cattle-breeding and how to compound rations from a scientific standpoint; he may know the chemistry of the foods he handles and of the bodies of the animals to which they are fed; he may have the literature of the stock business at easy command, but if he lack sympathy for his animals and judgment in handling them all his knowledge is of no avail.—From Prof. Henry's contribution to "Special Report on Diseases of Cattle."

Care and Feed of Horses.

It is apparent to an indifferent observer, says a writer in *Farm Life*, that the general run of farm horses do not have that smooth and well-cared for look that the majority of the horses of the city possess; though the latter, on an average, do vastly more work in a year than the horses upon the farm. The secret of the matter is in the care and the feed. Farm horses invariably eat too much hay, which distends the stomach when taken in large quantities, prevents that organ from doing its full duty, but makes the horse dull and weak.

Many farmers have no regular ration for their horses,

but throw down a forkful of hay almost every time they enter the barn. As a result, many of these horses are eating hay from morning till night to the manifest disadvantage of the haymow and the manifest disadvantage also of the horses, whose bodies become distended, skin dry and coats rough, while the digestive organs are thrown out of gear, so that the animal's whole system becomes impaired. The farmer declares he cannot afford to feed such a ration as is fed to horses in city stables. Well, the value of the hay that is worse than wasted, when fed in the enormous quantities mentioned, if expended for grain, would make a vast difference in the condition and appearance of the horses, and would involve no extra expense whatever. This is a point that farmers ought to consider, for on it hinges a horse's efficiency in doing his work well.

A small ration of hay fed with regularity three times a day, and a suitable grain ration carefully incorporated with it, with water twice a day, and a thorough grooming, will make of a spiritless, rough-coated horse with distended body, in four cases out of five, a much more alert, a hand-somer and vastly more efficient animal. As to the amount of grain that shall help to make up a ration, that must depend on circumstances, the ability of the owner to provide the grain, or perhaps better, his inclination to provide the grain, and also the work which the horse is called upon to do. The thing of chief importance is to get the farmers to discard a part of the hay ration and substitute for this discarded hay at least its value in the more condensed nutrition of grain.

Horse Notes.

The draft horse must increase in popularity as a most profitable and substantial branch of agriculture. So long as the cities and factories continue to grow, so long will the demand for good draft horses continue and good prices be maintained.

A great reform is needed in the care and keeping of farm teams. We should care and feed better. Galls on horses get worse on the farm than on the road. If their breasts and shoulders are well-washed with cold water, to which is added a little alum, they will rarely become galled, but once formed are hard to cure. I have used alcohol and camphor with success.—B. J. Hall, Dutchess county, N. Y.

When a healthy horse is enjoying perfect rest his pulse beats at the rate of 40 times per minute; that of an ox, 52 times, while in sheep and hogs the average cardiac pulsations are 76 per minute. As a rule, arterial pulsations may be felt wherever an artery crosses a bone, or is otherwise forced outward too near the surface. In horses the pulse-beats are usually examined on the chord which crosses over the bone of the lower jaw, just in front of the large, rounded "hinge curve."

William Ralston of Saratoga, N. Y., is trying to breed white horses. He has quite a large stable of white broodmares and some horses, but so far his efforts have been quite discouraging and unsatisfactory. Pure white horses are rare and quite valuable on account of their color. They are in demand for ladies and children, and a span composed of a pure white and a jet-black horse are considered quite stylish. Mr. Ralston has found that his white mares drop colts of any color, and that white colts are quite as apt to come from dark-colored parents as from white ones.

Pure-bred stock, if not of the "fancy" strains, is becoming cheap enough so that the farmer has but little excuse for breeding from grades, if he wished a justification for saying that he "could not afford" to get better stock. Now he cannot afford to use an animal that is not of a standard pure breed for any purpose. The horses used upon clay roads or the prairie roads, where there are neither rocks nor stones, could easily get along without ever being shod, if they were used carefully at first, and their feet well taken care of. But we doubt if they could do as well upon the rocky hills of New England, though some exceptionally tough hoofs may be able to endure it if only given short drives at a slow speed.

SWINE YARD.

Hogs in Humboldt County.

LARIBEE, CAL.

TO THE EDITOR:—At length the the doors of the "Stock Yards" south of San Francisco are thrown open, and by the first of the new year they will be ready for business in the various departments.

This is an institution that should prove of great benefit to this county, and among other things it should furnish a market for Humboldt hogs.

The freight per steamer should not be so great as to eat up all the profits, especially when the business assumes sufficient volume to warrant a stock boat to run into Eureka and take an entire load of live stock for the San Francisco market.

No matter what line of action is carried out to cut up the large ranges, where there are grain or other kinds of farming, fruit, irrigating tame grasses, or what, it is hard to take any course where hogs cannot be raised with more profit than any other kind of stock.

A hog is a hog the world over, and with a small amount of feed they can be kept tame, and when there is any amount of acorns, they will fatten readily without being fed anything but swill to keep them gentle.

At present there are a great many hogs fattened on the dairies, also at the creameries on the Eel river and the bottom around Arcata. These dairymen come back into the interior and buy up stock hogs, and the price during the past season was five cents on foot. They will give them all the milk they can drink, and after fattening their hogs, they

will sell them for the same per pound as they gave, their profit being in gain in weight.

With a fair and assured price for hogs, the porker should put farming in the foothills on a paying basis.

Why would it not pay to buy a "Header" to cut your wheat and feed it to them during this winter, and what hogs you wanted to fatten before the rains set in? Let the hogs into the grain and they make a very good threshing machine themselves.

Hogs do very well on green feed, and it is an open question if it is not as profitable to feed alfalfa to hogs as to any other stock. And some have tried to cook the cured alfalfa-hay for their hogs during the winter months, and in every case that came to my notice they were satisfied with the experiment.

With the attention that the dairymen are giving to hogs, and the general disposition of ranchers generally to keep more hogs, and as more pastures are being fenced to inclose, I think the number of hogs in the county will be largely increased the next few years.

ED ROBERTSON.

Take Care of the Hog.

Milk makes the mother.

At farrowing a young sow is best let alone.

Sprinkling carbolic acid through the bedding will maintain health.

It is the half-starved pig that is an everlasting creeper and climber.

The pigs partake more of the dispositions of the sow than of the boar.

Keep the boar thrifty by supplying plenty of exercise and a variety of food.

Keep the boar confined from the start if you want to keep him under control.

Animals selected for breeding should be cared for so as to keep thrifty.

The sluggishness caused by the excess of fat in young pigs is often the parent of many ills.

The hog thrives best with a variety in his food, while it will also help to maintain better health.

Never try to increase the coarseness in any herd by using a coarse boar; let it come through the dam.

It is what may be termed shiftless feeding that carries a lot of pigs through the winter on one kind of feed.

The hog breeds and increases so rapidly that they are the best stock for the farmer who is cramped for capital.

One decided advantage in giving the sows good care is that a less number is required to secure a certain number of pigs.

Overfeeding the sow too soon after farrowing, while she is in a feverish condition, often causes considerable loss among the pigs.

Almost any animal can be overfed by keeping on short rations for some time and then suddenly giving them all that they will eat.

It used to be considered that with a hog all that he had to do was to eat and sleep, but now the health, too, must be looked after.

It is too bad to see a thrifty lot of pigs stunted in their growth on account of stinginess on the part of their owner as regards feed.

A hog will thrive on a greater quantity of food than any other farm animal, yet he needs a variety in order to keep in the best condition.

In order to afford a good opportunity for exercise the boar should always have a yard connected with his quarters, where he can have a full range.

The hog is very readily controlled in the formation of habits if proper care is taken at the start; for this reason he should have his feed at regular hours.

Hogs are proverbially greedy when brought to hunger by long intervals between feeding, but if hogs are given all that they will eat up clean at each meal, there is but little, if any, danger of overfeeding.—Live Stock Indicator.

AGE TO MARKET HOGS.—Says a writer in the *American Agriculturist*: "The many practical experiments in pig-feeding prove that the most profitable age at which to market a hog is nine or ten months, at which age it can be made to weigh 250 to 300 pounds; and feeding to make this weight at this age is the most profitable. This feeding makes a steady, regular gain, moderately accelerated during six or eight weeks at the close. A common mistake is to make too abrupt a change in food that inaugurates the fattening process. This is in large part due to the previous feeding being too scant; the pigs being on a slow growth when they should grow fast."

PREMIUMS FOR BERKSHIRE EXHIBITS.—The American Berkshire Association has paid special premiums, ten volumes of the American Berkshire Record, valued at \$10, for best sow and pigs exhibited at State Fairs in 1892, to I. J. Williams & Son, Muncie, Ind., V. B. Howey, Topeka, Kans., F. A. Scott, Huntsville, Mo., Wills A. Seward, Budds Lake, N. J., and Terrell & Harris, Terrell, Texas. When it is considered that these premiums have been paid by the American Berkshire Association, notwithstanding that all of the conditions of the offer were not complied with, this association must be given credit for being liberal with its patrons.

ONE THING THAT GOES TO WASTE.—"One secret of the Chicago packers' great fortunes is simple," said a resident of that city. "They don't waste anything. The meat, the entrails, everything is made use of but the squeal. They can't catch that, so it is wasted."—Cincinnati Times-Star.

THE State Labor Commissioner recommends the establishment by the State of free employment offices in all cities of over 25,000 inhabitants.

THE DAIRY.

Feeding the Heifer for Milk.

The first year of the dairy cow is the most critical of all her life. Immature, because not more than half-grown, she has had to give life to her calf, she is now called upon to give milk for her owner, and within a few months she will again have to furnish life and sustenance for her second calf. So she has nearly a constant three fold demand upon her energies, and unless the utmost skill is taken, the usefulness of the coming cow will be injured by careless and ignorant methods of feeding and care. This young heifer should receive, not only a great abundance of food, but that which is succulent and easily digested, and the greatest care should be taken to develop the mammary gland—that is, her food should be so regulated that it would not only sustain her and produce material for the growth of herself and the embryo calf, but there should be a surplus result of the food consumed. The milk and butter product is the result of this surplus. We want to so breed and feed calves for the dairy that they will make cows that will put this surplus feed into the milkpail, and nowhere else.

I wish I knew how to better emphasize the need of a more scientific treatment of our two-year-old heifers. If all of them could be fed right for one or two generations, the average product per cow of our dairies could be easily raised 20 per cent. As soon as the animal digests and assimilates more than it wants for its daily sustenance, and all healthy animals can digest more than is needed for their daily wants, it seeks to do something with it. Now it is the province of the breeder to direct this surplus energy into specialized channels, as may be desired, and creating a tendency to receive this surplus and store it in the form of growth, milk, beef or reserve energy, appears to stimulate the power of the animal to increase the amount of surplus assimilated food, and so the animal may be induced to go on and increase its production until it has reached the limit or end of the law of its being. The changes and variations desired often come slowly, but each additional generation may add something valuable of surplus directed in the channel best suited to minister to the wants of mankind.—PROF. I. P. ROBERTS.

How to Care for Churns.

The *American Cultivator* has the following:

The coming in of the separators is not likely to entirely do away with the old-fashioned wooden churns, and we will give the following rules for caring for them, as given by a former maker of gilt-edged butter:

First, before using, carefully wipe out the inside of the churn and all paddles and other apparatus to be used in manipulating the butter with a cloth made damp with water only slightly warm. Then thoroughly scald every part with water at boiling heat or near it. If there is any smell of must or sourness, add a little soda to the water. Before this water gets cool enough to bear the hand in comfortably, turn it off and at once put in cold water, as cold as can be drawn from the well or spring, which may be drawn off very soon, the object being merely to cool the exterior surface. But the larger the amount of cream and butter to be handled, the more thorough the cooling should be. After the churning, wash out thoroughly with cold water, then add scalding water, with perhaps a little soda, but never allow this water to grow cold enough in the churn to allow putting the hand in it. Give a sun bath whenever the sun is bright, for a short time, and do not allow it to stand covered so as to exclude pure air. This is applicable to butter-workers and to all wooden apparatus used in butter-making. The one who gave us these rules probably knew nothing about bacteria, but knew how to make good butter, 52 weeks in a year, if furnished with good cream, and how to keep the dairy-room and dairy apparatus perfectly sweet and clean.

Senator Ragsdale's Imitation Butter Bill.

The following anti-oleomargarine bill is before the State legislature for its consideration, having been introduced by State Senator Ragsdale of Sonoma:

SECTION 1. Whoever, by himself or his agent, shall sell, expose for sale, or have in his possession with intent to sell, any article or compound made in imitation of butter, or as a substitute for butter, and not wholly made from milk or cream, and that is of any other color than pink, shall, for every package that he or they sell or expose for sale, forfeit and pay a fine of fifty dollars; and for a second, and each subsequent offense, a fine of one hundred dollars, to be recovered with costs in any court of this State of competent jurisdiction; and any sum so recovered and paid shall go one-half to the complainant and one-half to the county where the offense was committed.

SEC. 2. The complainant in any action brought under section one of this Act, or the health officers of any city or town, may cause specimens of suspected butter to be analyzed or otherwise satisfactorily tested as to color and compounds; and a certificate of the analysis, sworn to by the analyzer, shall be admitted in evidence in all prosecutions under this Act. The expense of such analysis or test, not exceeding twenty dollars in any one case, may be included in the costs of prosecutions in all cases prosecuted under this Act.

SEC. 3. For the purpose of this Act, the term butter shall be understood to mean the product usually known by that name, and which is manufactured exclusively from milk or cream, or both, with salt, and with or without coloring matter.

SEC. 4. This Act shall take effect and be in force from and after its passage.

BUTTER AND CHEESE.—Home production of dairy products has increased largely in southern California during the past five years. This section is eminently adapted to the dairy business. The chief dairying districts of southern California are in the Santa Maria valley, Santa Barbara county, and the Los Nietos valley, Los Angeles county. A condensed-milk factory is in operation at Bunea Park, in Orange county. There is much money to be made in the dairy business by those who understand it and have suffi-

cient means to establish themselves and introduce their product on the market. Good butter averages from 35 to 45 cents a pound. What has been said of butter applies equally as well to cheese. There are several cheese factories in southern California, and room for more. The above is from a very interesting book issued recently on "Southern California."

Both Bills the Same.

The anti-oleomargarine bill introduced in the State Senate by Senator McGowan of Humboldt county seems to be identical, word for word, in its main provisions, with that heretofore introduced by Senator McAllister of Marin and Contra Costa, already published in the RURAL PRESS. About the only noticeable difference, so far as the RURAL PRESS is able to discover, is that one appropriates \$10,000 for the maintenance of the proposed State Dairy Bureau, while the other (McGowan's) gives \$12,000. The two statesmen ought to get together and unite in support of one measure.

SHEEP AND WOOL.

Wool and The Tariff.

Free Wool and Protected Woolens Would Be Unjust Discrimination.

The following letter, although nominally a personal communication, contains matter of the greatest interest and importance to wool producers all over the country. The writer, Mr. John Minto of Oregon, is a widely known sheep importer and breeder, whose writings on questions relative to the sheep and wool interest have often appeared in these columns:

SALEM, OR., Jan. 10, 1893.

A. M. Kelsay, Esq., Antelope, Or.—DEAR SIR: I thank you for your very excellent letter of November 29, relative to the live-stock interests of east Oregon, and I would have given you my "opinion of the effect of the Presidential election and the course of the Democrats in the use of their victory," if I could have known whether their course is to be on lines of "free trade" or "tariff reform"—the Chicago platform or Mr. Cleveland's letter of acceptance. He is undoubtedly a man of remarkable power of will, and if he can so exercise that will in shaping legislation as "not to injure any American industry," the result may not be as bad as protectionists now apprehend.

To my mind the election was carried by the aristocracy of labor—the leaders of the labor unions—and I much fear they and their followers cannot be convinced of the mistake they have made by any agency except much bitter experience, as the rank and file of the Homestead strikers have got by following a comparatively few of the best paid wage men in the world into disastrous strike and riot. I have no doubt the most and best of these leaders in the Homestead calamity now know themselves to have been wrong. I have a little doubt that Senators Palmer and Voorhees also know themselves wrong in becoming, as they did, the champions of a bad cause, by (upon insufficient information) encouraging working men in unlawful and disorderly assertion of unjust demands.

So I consider the position of the Democratic leaders, in their present position relative to the voting element, that has given them the victory in favor of a trade policy which is expected to give labor goods at cheapest of foreign prices and wages higher than is paid in any other country, have before them a task beyond administrative power.

It is, I believe, the general desire of the Republican leaders that the Democrats adopt the "tariff-for-revenue-only" or free trade policy, under conviction that the next Presidential election will reinstate the Republicans in power by a tidal wave as surprising as the late election was. I confess I cannot indorse that sentiment, and therefore hope Mr. Cleveland will pursue a conservative course of tariff reform in such manner as to stop before irretrievable injury is done to such important industries as those of wool production and wool manufactures, for I fully believe the American people will not give permanent protection to manufacturers and deny it to the producer of material.

I therefore think that woolgrowers ought to act with the least delay possible, and point out to the men who are shortly to have this interest in their power, for well or ill, that their chosen leader, whose proposition to place wool on the free list in his message of December, 1887, did not base his logic on existing conditions of sheep-husbandry in the United States as a whole.

You will remember, in that message the President assumed that most of the sheepowners kept flocks of 25 to 50 (average 37) head, and reasoned that allowing 10 or 12 cents per pound protective duty to enhance the price of a six-pound fleece at the utmost from 60 to 72 cents, and that when such farmer paid for the cloth annually necessary for his family, he would, necessarily, pay back to the merchant all he received by enhanced price on his wool crop. I say nothing here as to the fact that events have proved, since the writing of that seemingly unanswerable message, that the tariff might be raised (as it was by the McKinley law) and yet wool and woolen goods slightly decline in price as a result of the cheap wool and woolens of foreign production paying the enhanced tariff duties to get into the American market. All that the McKinley law has done is to give the American producer the preference in his home market, and so has encouraged new enterprises in manufacture which has increased the consumption of wool beyond the ability of the American woolgrower to supply, and to encourage him also to make better and more permanent preparations to increase that supply. This is the condition which your letter implies has been arrested in your vicinity by the doubt of what the next administration will do, and this doubt is hanging like a dark cloud over more than

one-half of wool production of the country, affecting men whose all of labor and capital is involved in sheep-husbandry. I have been making a rough estimate of the size of the flocks in the States west of the Mississippi (Texas included) and I find reason to believe that more than one-half of the sheep in the United States are kept, not in flocks of 25 and 50, as President Cleveland assumed, but in flocks of 1000 and upward—not under conditions where the few sheep kept are a small addition to the investment in mixed farming, as is the case in New York, where the measure of benefit by the duty on wool is hardly worth the calculation of the farmer, but under conditions which involve all the means of the grower.

Your own county of Wasco, I consider a good illustration of the difference between the sheepowner, who keeps a few to glean a small farm devoted to mixed husbandry, and the woolgrower, whose all is in his flock and land to support them.

The inspector of Wasco county reports 46 ownerships for an aggregate of 176,012 sheep, or an average of 3824 to each flock. There are only four flocks in the county numbering below 1000, while there are six above 5000, three 9000, and one 10,000. The assessment rolls for 1891 show 929,240 of sheep kept under the pending system in eastern Oregon and 231,498 in western Oregon, where (except in Douglas, Jackson and Curry counties) sheep are kept as contributory to an economical farm management. Marion county assessment rolls show 589 owners of 25,266 sheep, an average of 48 to each owner.

Now, as Mr. Cleveland in his letter of acceptance says, it is not intended to injure any American industry, and as it is generally understood that he favors equality before the law, and in order to reform our present laws will himself assist in the formation of a democratic substitute for the McKinley law, I submit the question to you, whether it is not advisable for woolgrowers who have their all invested in sheep-husbandry to take measures to fully inform the democratic leaders as to the true status of that interest as a national interest which needs and ought to be protected for the patriotic reasons given by General Jackson in his letter to Mr. Coleman, namely, as securing a true national independence of other nations in case of war and adding greatly to the general welfare at all times by furnishing a diversity of industries.

It ought not to be difficult to convince any man having any regard for justice in the enactment of laws, that such a law as the Springer bill, proposing to admit wool free, while giving 40 per cent protection to the capital and labor in manufactures of wool, is an unjust discrimination against this capital and labor, the former of which is exposed to such risks that it is not insurable like a woolen mill, and the labor of which is performed under hardships of exposure to the inclemencies of winter storms and summer heats never felt by the laborer inside of the walls of factories.

It would be a powerful object lesson to the democratic leaders if they could be exposed a few days to the ordinary shepherd's life during, say, a Texas norther, a Wyoming blizzard, or even a northeast wind on the Crook county desert in Oregon.

As that is a lesson they are not likely to learn, no time should be lost by those interested in showing that Mr. Cleveland's argument for his original proposition to admit wool free was not based upon a full understanding of the wool-producing industry; and that, if carried out in practice, it will depopulate the arid districts of the United States, containing 300,000,000 acres, from which horse-breeding and cattle-raising are readily receding in favor of sheep-husbandry, as the most suitable line of animal industry for these lands.

As the region is so extensive and its inhabitants so scattered as to make it impossible to secure their protests as a body, those who can associate together for action ought to do so.

I think the best way for the woolgrowers of eastern Oregon would be promptly to hold local meetings and pass resolutions protesting against any course that would destroy their business and the investments made therein, and ask the legislature now in session to give effect to such remonstrance by memorial to congress. Yours respectfully,

JOHN MINTO.

RURAL IMPROVEMENT.

Specifications for Road Contracts.

The appended specifications relative to road work by contract under the new law have been adopted by the Santa Barbara Board of County Supervisors, and may serve as a model for other counties where conditions are the same. Fault is found with the new law in that it does not allow bids to be advertised, opened or awarded, except at regular meetings. It is designed in Santa Barbara to make a separate contract per year for each public road. The specifications are as follows:

In the matter of letting contracts for maintaining and keeping in repair the several public roads in Santa Barbara county.

The Board of Supervisors of the county of Santa Barbara, State of California, adopt the following specifications to wit:

1. To establish a grade with sufficient round to carry off all surface water and allow none to stand thereon.
2. Keep ruts filled in, the same to be filled as soon as any portion of the road is in need thereof, and as soon as the same is dry enough to scrape and fill as aforesaid, and at all times as aforesaid to keep the roadway smooth.
3. To fill chuck holes with clay-heavy soil, or gravel only, the same to be determined and approved by the road commissioners of said supervisor district.
4. With the exception of the bridges spanning the Santa Ynez river and those in Gaviota Pass, to keep all bridges and culverts in good repair and renew them when destroyed through neglect or carelessness of the contractor; the material therefor to be furnished by the county, to be delivered in Santa Barbara, Lompoc, Los Alamos, Los Olivos, Santa Maria and Carpinteria. To keep them clear from obstructions and in good repair, and destroy or cause to be destroyed, in the months of July and August of each year, all thistles, Mexican

cockleburrs, or cockleburrs of any kind, and all noxious weeds growing on any portion of the public highways or public roads in their respective districts. To cause banks to be graded, bridges and causeways to be made where necessary, keep the same in good repair, and renew them when destroyed.

5. To keep the ditches on each side of the road open and free from obstructions, and of sufficient depth and grade to carry and drain the said roads of water.

6. To keep the culverts open and also the natural and established channels for carrying off the water in low places; where culverts are necessary the contractor to put in culverts and to grade up the road that water will not stand thereon, the material therefor to be furnished by the county, delivered at the several places above named.

It was decided to call for bids per year for keeping said roads in repair for one year, two years, three years and four years, the board reserving the right to let the contract for one, two, three or four years, and to reject any and all bids; said bids to be opened by this board April 4, 1893, said notice to contain the descriptions of roads furnished by the respective supervisors for the roads in their several districts.

THE APIARY.

Beekeepers at Los Angeles.

The second annual meeting of the California State Beekeepers' Association is to be held at Los Angeles, Tuesday and Wednesday, February 7th and February 8th, at the Chamber of Commerce. There are many points of mutual interest for the beekeepers to act upon at this session. Beekeepers think they are entitled to connection and patronage of the State University, and that the attention of the State legislature shall be called to the magnitude of the industry and to its claims for aid. Reliable statistics are wanted, and the proceedings of the State Association should be published. The cordial support of beekeepers is essential to attain these objects.

Beekeepers and manufacturers are especially requested to bring samples of hives, supers, smokers, extractors, and anything that will benefit and instruct the fraternity. The railroads will make their usual reduction, and all wishing to avail themselves of low rates should at once address the secretary, J. H. Martin, Redlands, for rebate certificates. Beekeepers who have apiaries for sale or rent, or who wish to hire men, and those desiring such positions, will do well to attend this convention.

The programme is as follows:

President's address.

Topics for discussion:

- (a) "Can we develop new and better methods for the sale of our honey?".....J. H. MARTIN.
- (b) "Chemical composition of honey and its adulteration with glucose and cane sugar.".....GEO. W. BRODBECK.
- (c) "Reminiscences of California beekeeping.".....R. WILKIN.
- (d) "How shall we make our short honey seasons profitable?".....M. H. MENDELSON.
- (e) "Economy in beekeeping.".....T. F. ARUNDALL.

Question-box.

The evening session will close with a general social buzz, including vocal and instrumental music.

- (f) "Birds and insects that are injurious to bees and fruit.".....H. E. WILDER.
 - (g) "Bees vs. Fruit.".....R. TOUCHTON.
 - (h) "Rise and progress of California beekeeping, and the aid it should receive from the State University.".....W. A. PRYAL.
- Question-box.
- Election of officers.
- (i) "Honey plants of southern California.".....L. T. ROWLEY.
 - (j) "San Francisco honey markets.".....WM. STYAN.

METEOROLOGICAL.

The Weather for February.

The local weather bureau gives the following data relative to the months of February for 21 years:

Mean or normal temperature, 51.9°.

The warmest February was that of 1886, with an average of 55.8°.

The coldest February was that of 1887, with an average of 47.0°.

The highest temperature during any February was 76° on the 22d, 1888.

The lowest temperature during any February was 33° on the 5th, 1887.

Average date on which last "killing" frost occurred (in spring), March 8th.

Average precipitation for the month, 3.71 inches.

Average number of days with .01 of an inch or more, 10.

The greatest monthly precipitation was 12.52 inches in 1878.

The least monthly precipitation was 0.24 inches in 1886.

The greatest amount of precipitation recorded in any 24 consecutive hours was 3.60 inches on the 4th and 5th, 1887.

The greatest amount of snowfall recorded in 24 consecutive hours (record extending to winter of 1884-5 only) was 3.7 inches on Feb. 5, 1887.

The highest velocity of the wind during any February was southwest 48 miles on the 22d, 1891.

THE largest logging contract ever let in Washington was signed at Tacoma this week between the Tacoma Mill Co., Allen C. Mason for the Shelton and Southwestern Railroad Co. and Frank Williamson. The latter is to cut and the railroad is to haul 200,000,000 feet of fir timber off the mill company's timber lands in Mason county, Washington. The logs will be sawed here and a large part of the lumber shipped to San Francisco, where the mill owns a large yard. The steel has been ordered to extend the railroad farther into the timber belt. It will require five years to execute the contract. The freight on the contract will amount to \$250,000.

THE salmon cannery at Chilcat, one of the largest canneries in Alaska, has been destroyed by fire.

THE HOME CIRCLE.

The Pumpkin Pye.

The bards of the Hudson may sing of the melon,
Its smooth, j-ty seeds and its ripe, ruddy core,
And the feast of the reaper with ecstasy dwell on,
Reclining at noon on the cool, breezy shore;
For me the rich soil of New England produces
An offering more dear to the taste than the eye,
The bright yellow pumpkin, how mellow its juices,
When temper'd with ginger and bak'd into pye.

Let others with dainties their appetite pamper,
And gaze with delight on the splendors of plate,
Be stunned with a bustle, and bid pages scamper—
Such pleasures as these I resign to the great;
But give me the feast when no knives and forks
clatter,

Where each to the neat cherry table draws nigh,
And carves for himself from the broad earthen plat-
ter
A slice of the sweet, yellow, smooth, pumpkin pye.

There are those who delight in the fig and the raisin,
In quaffing the milk from the cocoanut's shell;
Some the olive and pomegranate lavish their praise
on,

The orange's glow and the pineapple's smell;
I leave them the products of both of the Indies,
And all the rich fruits of a tropical sky;
Their exquisite juices and flavors and tinges,
And ask no dessert save the sweet pumpkin pye.

Then hail to the muse of the pumpkin and onion!
The Frenchman may laugh and the Englishman
sneer

At the land of the Bible, the psalm book, and Bun-
yan,

Still, still to my bosom her green hills are dear;
Her daughters are pure as her bright crystal foun-
tains,

And Hymen, if ever thy blessing I try,
O! give me the girl of my own native mountains,
Who knows how to temper the sweet pumpkin pye.

—Boston Sentinel (1818).

When My Ship Comes In.

Away in the sea, oh, I wonder where,
Somewhere, somewhere in the waters blue,
Where the winds are soft and the skies are fair,
In a mystic country no man ever knew,
My ship rides safe in a dreamy calm;
Perhaps by an isle where the lotus grows,
Perhaps by an isle of the spreading palm,
Perhaps—who knows? Ah, yes, who knows?
But her cargo is safe where'er she be,
And her crew will tire of the lazy life,
And her prow will cut a course through the sea
Some day, I know, like a gleaming knife,
But, oh, as I patiently sit and wait,
It seems so long to me, so long
She lingers outside the harbor gate,
And her sailors list to the mermaid's song.
But ships come in, and I'll yet see her
In time that is long or time that is short;
Although, forsooth, she seems to prefer
The sunny isles to the grimy port.

—CARL SMITH, in Harper's Weekly.

All Because I Forgot.

THIS is how it happened:
Father and mother had gone
to grandma Smithson's to
stay over night. When they
left, their last words were
"Mary, take good care of the
children." I am Mary, and though Hattie is
two years older it was always I who received
the last word of admonition. It seemed
enough for Hattie to simply look pretty; no-
body expected anything else of her. She
would smile and shake her curls and say she
could not bear responsibility; she had no time
for it. But what she did all the day long no
one ever knew; it was enough that she made
sunshine wherever she went.

But I was different. I was not pretty; I
was not bright, and I am afraid I was not
always good-natured. The boys used to say
that I could not take a joke like Hattie; but
I have sometimes thought I might have
done so had I received the same kind of jokes
Hattie did. Many a night I would turn my
face to the wall, after she had fallen asleep,
and cry softly to myself because I was not
like her. But I have learned since then
that it is best we are not all alike. If father
or mother told me to remember anything, I
usually remembered; if Hattie was told, she
was sure to forget. But she would be so
sweetly penitent that she was always forgiven.
And so it was that as we bade them good-
by, father patted Hattie's curls and called
her his gay little sunshine, and mother
turned to me with the warning about the
children. Oh, how my heart ached for the
bright, pet name and the caressing hand on
my head, even if my hair did not curl. I
was simply dark-haired Mary. I rejoiced
in Hattie's beauty as much as anyone, but I
could not see why, when there was so much
beauty in the world, I could not have had a
little, too.

Besides Hattie and I, there were the twins,
Fred and Frank. I used to wonder if they
were capable of doing so much mischief at
six, what they would be at twelve and I
trembled at the thought. The hot, weary

tramps I have taken over fields and mead-
ows in search of those two boys and the
number of times I have rescued them from
what seemed imminent peril it is impossible
to remember. But I must tell about the
time I did not remember and what it
cost me.

We stood on the front porch, watching
father and mother drive away, until they dis-
appeared at the turn in the road. Then the
boys started for the barn at a full run, with
many warning words, all unheeded, ringing
in their ears, while Hattie and I took the
books which father had given us the day be-
fore, and made ourselves comfortable for a
long day's reading. Hattie swung herself in
the hammock, while I wandered off to my
favorite seat in the gnarled old apple tree at
the farther end of the orchard. I climbed up
where the twisted branches made the most
delightful seat I ever sat in, and with my feet
swinging over the little brook that washed
its roots and gave it life, I opened my book
and commenced to read "The Old-fashioned
Girl." I think the reason father selected
this one for me was because he thought the
title suited me; but he little imagined the
absorbing pleasure I would find in it. Is it
any wonder that I forgot everything—moth-
er's warning, the mischief-loving boys, the
old apple tree and the rippling brook—every-
thing save Tom and Fannie and dear old-
fashioned Polly?

The sun mounted higher and higher, and
the shadows began to lean toward the east,
and still I read on. As I heard the long
whistle of the afternoon train at the curve a
mile away, I looked up from my book with
dreamy eyes, and far across the sloping
meadow down to the railroad track, winding
its serpentine way through the valley. I
started, and my wondering gaze was fixed
with horror, as I saw two tiny forms sitting
on the white sand between the glittering
rails. Instantly my book was forgotten and
thrown from me. I sprang from the tree,
bounded over the brook, and started as fast
as I could run down the meadow. I raised
one wild cry for help—I had no breath to
spare for more—and hardly thought that
would be heard. It seemed to me that I
scarcely moved as I heard the train ap-
proaching nearer and nearer, and saw those
two babies, all unconscious of danger, sitting
there, absorbed in digging in the white sand
and piling it in heaps beside them. I
thought of the horrible home-coming of
father and mother if I should be too late,
and on I flew. There was a high fence and
a steep embankment to climb before I could
reach them, and as the train came in sight I
tried to call to them; but my voice was only
a husky pant. It came fearfully near before
they were aware of its presence, and they
jumped up only to become spellbound with
fright. I sprang forward and seized them,
but as I did so my foot caught fast under the
rail, and I only had time to throw them from
me when the train rushed by.

I knew nothing of what happened after
that, but they told me all about it long after-
ward. Hattie, lying in her hammock, heard
my cry for help, and running out to see what
was the matter saw me flying over the fields.
She called John, the hired man, and as they
ran after me, they saw me seize the boys
and fall as the train went by. When they
reached us, Fred and Frank were screaming
lustily, while I was lying apparently dead
beside the track minus one foot. I was
carried home and John mounted the fastest
horse in the barn and rode with all his might
to bring father and mother home, only stop-
ping on the way to call the doctor. I did
not recover consciousness until after the
doctor had dressed my limb. When I
opened my eyes there were father and mother
bending over me, with Hattie and the boys
standing beside them. Mother kissed me
again and again, and father took me in his
arms and said through his tears: "My
precious child, I thank God that he has
given me such a brave little daughter." I
did not mind the pain after that, for those
words kept ringing in my ears night and
day, and they were all so good to me that I
forgot entirely that I was not pretty like
Hattie.

And this is how I lost my foot; but I have
hardly missed it, for I have had three pairs
of feet at my disposal ever since, and it re-
quires a great deal of ingenuity for me to
keep them all occupied. Now that the boys
are grown, there is no more anxiety in re-
gard to their mischief-loving propensities,
for their first thought is their lame sister
and how to make life easier for her. When
our father and mother left us on their long
journey, never to return, they did not say,
"Mary, take good care of the boys," but
"Fred and Frank, take good care of Mary."
And as I see what an incentive it is for them
to do what is right, I feel repaid a thousand-
fold for all the suffering. But I am always
thankful for one thing, and that is that it was
not my beautiful sister Hattie.—The Interior.

Pomegranates—Dyspeptic's Delight.

SANTA ANA, ORANGE CO.

TO THE EDITOR:—Some of my family
think they have made a discovery of what
Dr. Felix Oswald would call "one of the
remedies of nature." Pomegranates are
good for dyspepsia—will cure it. The dis-
covery came oddly. For a long time we
had cultivated pomegranates for ornament,
considering the fruit merely pretty to look
at or to give artist friends for "studies." As
for eating the fruit, that was a joke, done
for the say so—"its associations are so his-
toric, so classic and esthetic, you know." But
suddenly one of the family, who had
periodical "spells" with his stomach, but
whose "fad" is never to doctor but to follow
his instincts as to what will be good for him
during his "spells," suddenly, I say, he
took to eating pomegranates—"eating them
seriously," we said. He would fill a soup-
plate with the beautiful, jewel-like seeds, sit
down with a spoon and dine. It seemed so
funny to us. We compared it with Oscar
Wilde's affectation of sitting down at a table,
smelling of a lily with a languid air, and
then leaving with the remark, "I have
dined." But when we found the object of
our laughter regularly cured of his "spells,"
we began to think there "was something in
it." Now we know there is. We cherish
our pomegranates carefully, picking them at
the proper time and laying them away. If
not cracked, they will keep almost indefi-
nitely. Our sideboard always contains a
plate of them. Every one, dyspepsia-ridden,
eats a few of the seeds after dinner. They
invariably help—"set up"—the refractory
stomach.

We read that cooling drinks are made of
this fruit in hot climates; that in Mexico and
South America its juice is distilled to make
a kind of spirit called *aguardiente*; that the
rind of the fruit and bark of roots contain
tannin, sometimes used for tanning the finest
morocco leather; that the bark of the root is
also used as a medicine for worms; but we
have never heard that the pulp of the seeds
within their leathery rind was ever thought
of use except to quench thirst. In the
countries such as Afghanistan and the
regions around the Caspian and Mediter-
ranean, where the pomegranate grows wild,
the refreshing acid of the pulpy seeds must
be very welcome. Those who have tasted
them under "brazen skies" do not wonder
that the poetry of the East refers to the
pomegranate so lovingly. Over and over
again, in Canticles, does the singer speak of
going into the garden to see "if the
pomegranates have budded," of orchards of
pomegranates, and of giving "his beloved
to drink of the juice of his pomegranates." So
much was the pomegranate cherished that
from the earliest times the Jewish high-
priests had embroidered upon the hem of
their robes and upon their ephods "pome-
granates of blue and of purple and of
scarlet."

Did they consider the fruit medicinal as
well as refreshing and beautiful?

As to the eating of the fruit, I know a
man who heard it was nice, and, taking a
large, red-cheeked pomegranate, bit into it
to eat it as though it were an apple. He
says it tasted like tar and other nasty things;
never says "pomegranate" without making
up a face, and calls the fruit all sorts of bad
names ever since.

The fact is, the fruit we see hanging on
the tree so brilliantly shaded in reds and
yellows is but an enlarged calyx-tube,
which, growing so curiously, forms a tough,
moisture-tight case most suitable for holding
and preserving the juicy pulp surrounding
the many seeds within. But their leathery
rind, as well as the thin membrane separ-
ating each section of seeds, is to be care-
fully rejected when eating the fruit.

The daintiest way of serving is to put the
seeds in crisp lettuce-leaves—a couple of
tablespoons to a leaf—laying the leaf in
some small, fancy dish with a small silver
spoon by it. Pass as a last course. Noth-
ing can be prettier to the eye or more whole-
some for the stomach.

Let me conscientiously add one word.
The juice of the pomegranate stains almost
indelibly.

By the way, those who have talked in the
PRESS about "daisies" and "pine sticks"
for indigestion may think there is nothing
in the idea that pomegranates are good for
dyspepsia. However, *we know*.

AUGUSTA E. TOWNER.

HELP IN THE HOUSE.—In families where
there are many individuals who do not aid
in the housework, and in all families where
there are little children, the wife and mother
should have "help," if it can be had. If
the expense can be saved from dress, dress
more plainly by all means. "Is the life

more than meat, and the body than
raiment?" If it can be saved from cigars,
tobacco or the "occasional glass," or from
clubs, secret societies and theaters, let the
man by all means save it there, and scorn
to feed needless indulgences with his wife's
flesh and blood; and if it can be saved out of
a bank account, save it from that, and instead
of treasure locked up in a vault, have a
beaming, smiling, hopeful treasure of woman-
hood at the fireside—all of which a wife
"tired to death" cannot be, though she has
the affection of Ruth and the devotion of a
Hannah.

A Young Lady's Rules.

The following rules of conduct fell out of
the pocket-book of a young lady, and an un-
scrupulous newspaper reporter picked them
up, says the Paducah Standard:

1. I don't let a man smoke when he
walks or drives with me. If he knows no
better than to do it, I promptly tell him
what I think of it.

2. I don't give my photograph to men. I
used to occasionally, but I am wiser now.
I should hate by and by to know that my
face might be hanging up in Tom, Dick or
Harry's room.

3. I don't let a man take hold of my arm
when he walks with me. If he does, I tell
him I prefer him to give me his arm.

4. I don't go out with a man friend just
because he asks me. I like it better if he
asks another lady to go too—his sister, for
instance.

5. I don't let any man "see me home"
from church. If he hasn't gumption enough
to take me there and sit through the services
with me, he may stay away altogether.

6. I don't let a man friend give me pre-
sents, unless it is something of a trifling cost,
like fruit or flowers. And I always gage a
man by his taste in this respect.

7. I don't encourage any young man who
is not perfectly polite and agreeable to my
mother. Whoever calls upon me sees a
good deal of her.

8. I don't allow a caller to stay later than
ten o'clock. If he does not go at that time,
I politely tell him my custom.

Statistics of Statesmen.

In the House of Representatives the man
with the longest name is Archibald Hender-
son Arrington Williams, of North Carolina.

The heaviest man is John W. Rife, of
Pennsylvania. A special chair is provided
for his use.

The handsomest man is Allen Cathcart
Durborrow, Jr., of Illinois.

The homeliest man is William F. Parrett,
of Indiana.

The oldest man is Edward Scull, of Penn-
sylvania. He was born in 1818.

The youngest man is Joseph W. Bailey,
of Texas. He was born October 6, 1863.

The best dressed man is Henry H. Bing-
ham, of Pennsylvania.

The wittiest man is Thomas Brackett
Reed, of Maine.

The tallest man is Newton Martin Curtis,
of New York. His height is six feet six
inches.

The shortest man is John R. Fellows, of
New York.

The thinnest man is James D. Richard-
son, of Tennessee.

The richest man is John L. Mitchell, of
Wisconsin. His wealth is estimated at from
\$25,000,000 to \$35,000,000.

The best story-teller is John M. Allen, of
Mississippi.—Washington Post.

Words to the Wise.

Politeness is too cheap to be scarce.

We could all be great men if we could be
measured by the great things we intend to
do to-morrow.

Only so far as a man is happily married
to himself is he fit for married life and fam-
ily life generally.

Marriage is the comfort of the considerate
and prudent, but the torment of the in-
considerate and self-willed.

The poor too often turn away unheard
from hearts that shut against them with a
sound that will be heard in heaven.

In marriage, if you possess anything very
good, it makes you eager to get everything
else good of the same sort.

Marriage is the metempsychosis of wo-
men; it turns them into different creatures
from what they were before.

It is error that dwarfs the intellect, nar-
row the range of thought, poisons the moral
feelings, and corrupts the life.

The man who spends his life in "getting
even" for real or supposed injuries is a tor-
ment to himself and generally a bore to his
friends.

Early Postal Charges.

Before the use of postage stamps various sums were paid for the delivery of letters. The amounts were regulated by the distance and were collected on the delivery of the letter.

In the early part of this century the postage on a single sheet of paper was eight cents, and on every 40 miles the rate was increased, so that over 500 miles a single sheet was 25 cents. But after a time these rates were gradually reduced, until 1845 a letter weighing not over half an ounce was five cents under 300 miles, and over that distance, ten cents.

Sir Rowland Hill who was at the head of the postoffice department of England at this time, introduced the use of postage stamps in 1840, and also lessened the charge for postage. In 1847 the United States adopted the use of the postage stamp, the lowest-priced one being five cents.

But railways and steamboats have now taken the place of the old-fashioned mail coaches and post boys; and with the more rapid sending of the mails, the cheaper rates of postage, and the growing population of the country, gradual changes and improvements took place in the postoffice system. And here we are, in 1892, receiving our letters from the Pacific coast in six days—also from England in the same time; and a few days or hours will place us in direct communication with our friends and correspondents in almost every part of the country.

TRULY A HELPMATE.—"Did I win anything on the election?" said F. W. Warren, and there was haughty scorn in his voice. "I always win on the election. This time I won a 60-dollar overcoat, a new suit of clothes, a hundred imported cigars, a meerschau pipe and a basket of wine. In it? Very extensively, my friend. I'm a regular dyed-in-the-wool winner-picker. I spot 'em every time. I never bet money, but in the past 12 years I've won over \$5000 worth of comforts of life from one person. Who? My wife. She's got election-betting down to a science. When an election comes on she makes out a list of the things she wants, and a woman's wants are not few, I beg you to remember. She bets with some outsider on the Democratic nominee, then duplicates these bets with me on the Republican nominee. Get onto her scheme? If she loses on the outside she wins at home and quits even. If she wins on the outside and loses at home she gets her togs, pays her losses, and has the bill sent to me. She has a great head for business, has that woman, but if I don't succeed in heading her off pretty soon the sheriff will close me out and I'll have to compromise for about 15 cents on the dollar."—St. Louis Globe-Democrat.

About Biblical Authors.

If you are getting lazy, watch James.
If your faith is below par, read Paul.
If you are impatient, sit down quietly and have a talk with Job.

If you are just a little strong-headed, go and see Moses.

If you are getting weak-kneed, take a look at Elijah.

If there is no song in your heart, listen to David.

If you are getting sordid, spend a while with Isaiah.

If you feel chilly, get the beloved Disciple to put his arms around you.

If you are losing sight of the future, climb up to Revelation and get a glimpse of the promised land.

IN A PASTORAL COUNTRY.—Isabel had spent the most of her five years on a cattle ranch, and while at her grandfather's home in the city, she was taken to Sunday-school for the first time.

The teacher told the story of Lot's wife, and Isabel listened very attentively. The teacher ended the story by saying, "For all I know, the pillar of salt may be there now."

"Say, was that a cattle country?" asked Isabel.

"Yes, I think so," replied the teacher.

"Well, let me tell you," with an air of superior knowledge, "those cattle would have licked her up long ago."—Life.

SHE KNEW.—A new instance, borrowed from *Tid Bits*, of the danger incident to leading questions: The minister's wife was laboring with a delinquent member of the village industrial school.

"Eliza Jane," she said, "I am sorry to hear from your teacher that you are not diligent at your needlework. Don't you know who it is that finds work for idle hands to do?"

"Yes'm," answered Eliza Jane, anxious to propitiate; "yes'm, you do."

HOW TO GO TO SLEEP.—"If you have never done so, watch yourself go to sleep," said a Delsarte priestess, "and you will be amazed to see how tense your position is. Your knees are drawn and bended, your back is curved, the arms are held more or less tightly to the body, and the fingers are folded; the eyelids are held shut, not allowed to droop over the eyes, the neck is strained, and the head seems to touch the pillows only at the temples. The points of contact with the bed are really at temples, shoulders, hips, knees and ankles. Now look at a child sleeping. Every muscle is relaxed, every joint is inert, and prone on the touch; his little frame finds rest at every point. The features are undone, so to speak, the nose widens, the mouth droops, the eyelids close easily, and with every line of expression obliterated he finds utter and complete repose. The abandon makes him fall out of bed sometimes, such an inert body has he become. You may imitate him even to that degree if necessary. Begin at your toes to relax, loosen all your joints and muscles, unbend your fingers, shake your wrists loose, take the curve and strain out of your neck, go all to pieces, in fact, and see how the day's fatigue seems to slip off from you, and the gentle mantle of rest and oblivion enfolds you like a garment."

MODERN UTENSILS IN THE KITCHEN.—There is no reason, for instance, why any woman should be lifting about the old, unmerciful iron kettles weighing some part of a ton, when she can have those of agate-iron ware, to be moved easily by the feeblest arm. As an immediate practical resource, it is not much for a man to bring in an armful of wood or a pail of water. Have a good woodbox or coalbox, and a kindling-box, by your stove, and let your husband or the hired man make it his business to keep them full. It is only good exercise for strong muscles, but desolation and sometimes death for weak ones. Wherever heavy muscular strain is involved, man should contrive, somehow, to make it his work—and woman should contrive to have him.

PUTTING AN EGG IN A BOTTLE.—An egg in a bottle is a great curiosity, and will be a wonderful surprise till the secret of its accomplishment is learned. To do this, soak an egg in strong vinegar. In process of time the shell will soften, and yet will resist considerable pressure, so it may extended lengthwise, and inserted in a moderately wide-mouthed bottle. Wash it by pouring cold water upon it, and it will soon resume its former shape and hardness.

DOMESTIC ECONOMY.

ORANGE JELLY.—Put the rind of two deep-colored oranges, the peel of two lemons, two ounces of isinglass and a large lump of sugar into a quart of water. Let them boil until the isinglass is well dissolved, then strain the juice of ten oranges and two lemons. When mixed, strain through a napkin, put into molds and set on ice or in a cold place.

CORNSTARCH PUDDING.—One quart of milk, three tablespoonfuls of cornstarch, four eggs; beat the yolks, add a few spoonfuls of the milk and the starch. Put the milk on in double kettle over the fire; when hot stir in the eggs and starch, sweeten to the taste, stir well and cook three minutes, pour out in a deep dish; when partly cool flavor with vanilla, spread currant-jelly over the top; beat the whites to a stiff froth, sweeten with fine sugar and pour over the whole.

EGGNOG FOR INVALIDS.—Separate two eggs, beat the yolks with two tablespoonfuls of granulated sugar until light, then add one pint of new milk, mix thoroughly, pour into a pitcher, and pour this backward and forward from one pitcher to another until light and thoroughly mixed. Add four tablespoonfuls of brandy. Beat the whites of the eggs to a stiff froth, stir them into the other mixture, pour again backward and forward from one pitcher to the other three or four times. Strain this into a glass, dust on top with grated nutmeg and serve.

SWEET ORANGE PRESERVES.—Take 12 oranges, cut them into quarters, then cut each quarter into two, squeeze out the juice into a bowl. Pick out the seeds, put the pieces into a kettle of cold water, boil precisely as directed for marmalade. Change the water eight times, to remove the bitter taste, boil in the last water until tender, strain off the water and put in the juice of six more oranges. Boil gently 20 minutes, measure, add one even cupful of sugar to one cupful of the fruit, mix well, boil until the pulp begins to look clear. Set off until the next day. Pour off the syrup, boil a few minutes and return to the fruit.

YOUNG FOLKS' COLUMN.

The Raggedy Man.

O, The Raggedy Man! He works fer Pa;
An' he's the goodest man ever you saw!
He comes to our house every day,
An' waters the horses an' feeds 'em hay;
An' he opens the shed—an' we all ist laugh
When he drives out our little old wobble-ly calf;
An' nen—ef our hired girl says he can—
He milks the cow fer 'Lizabuth Ann.
Ain't he a awful good raggedy man?
Raggedy! Raggedy! Raggedy Man!

W'y, The Raggedy Man—he's ist so good
He splits the kindlin' an' chops the wood;
An' nen he spades in our garden, too,
An' does most things 'at boys can't do.
He clumbed clean up in our big tree
An' shooked a' apple down fer me—
An' nother'n', too, fer 'Lizabuth Ann—
An' nother'n', too, fer The Raggedy Man.
Ain't he a awful kind Raggedy Man?
Raggedy! Raggedy! Raggedy Man!

An' The Raggedy Man, he knows most rhymes
An' tells 'em, ef I be good, sometimes;
Knows 'bout Giants, an' 'Griffins, an' 'Elves,
An' The Squidgicum-Squees 'at swallers themselves!
An' write by the pump in our pasture-lot,
He showed me the hole 'at the Wunks is got,
'At lives 'way deep in the ground, an' can
Turn into me, er 'Lizabuth Ann!
Ain't he a funny old Raggedy Man!
Raggedy! Raggedy! Raggedy Man!

The Raggedy Man—one time when he
Was makin' a little bow-'n'-orry fer me,
Says "When you're big like your Pa is
Air you go' to keep a fine store like his—
An' be a rich merchant—an wear fine clothes?—
Er what air you go to be, goodness knows!"
An' nen he laughed at 'Lizabuth Ann.
An' I says "'M go' to be a Raggedy Man!—
I'm ist go' to be a nice Raggedy Man!"
Raggedy! Raggedy! Raggedy Man!

—James Whitcomb Riley.

Railroad Signals.

SAY, what is the danger signal?" asked Hal, who was beginning to consider these railroad signals almost as important and well worth knowing as those in which he drilled his foot-ball team.

"Red for danger, green for caution and white for safety: flags by day and lanterns at night," replied the railroad uncle, adding: "I am sure you must have noticed men at road-crossings waving white flags to show that the track was clear, as your train rushed by?"

"Of course I have," answered Hal.

"Or the watchmen on sharp curves and bridges, waving green flags, as much as to say: 'You may go ahead, but you must do so with caution?'"

"I don't remember seeing them," said Hal; "but I'll look out for the green flags the very next time I go in the cars."

"A red flag or a red light is imperative," continued Mr. Holden, "and means 'sound the call for brakes and stop at once.' There are other danger and cautionary signals I think you will be especially interested in," added his uncle; "torpedoes and fuseses, for instance. A torpedo upon the rail is one of the most used and most reliable of all the danger signals."

"But I shouldn't think it would be loud enough," objected Hal. "Why don't you use something louder—say, cannon-crackers?"

"Oh, you are thinking of the little paper-wrapped torpedoes such as children play with; but they are not the kind I mean. A railroad torpedo is a round tin box, just about the size of a silver dollar, filled with percussion powder. Attached to it are little leaden strips that can be bent under the edges of the rail, so as to hold the torpedo firmly in position on top of it. In this position, when a locomotive wheel strikes it with the force of a sledge-hammer, it explodes with a report fully as loud as a cannon-cracker, that can be plainly heard above all other sounds of the train. It is a warning sufficient to arouse the engineman and to render him keenly alert."

"If a train meets with any accident or obstruction that bids fair to cause a delay of more than a few seconds, the engineman sounds five short whistle blasts (— — — — —). On hearing this signal the rear brakeman must immediately run back a quarter of mile or so, and place a torpedo on one of the rails that his train has just passed over. Then, going back about two hundred yards farther, he places two more torpedoes, a rail's-length apart. He then returns to the first torpedo, and with his red flag in hand stands there until the recall signal is sounded from his own train. On hearing this he picks up and takes with him the single torpedo, but leaves the other two where they are."

These two torpedoes thus form a cautionary signal; and, translated by the next following engineman, mean, 'The train ahead of you has met with a delay. Move cau-

tiously, and keep a sharp lookout.' The single torpedo is an imperative warning to apply the air-brakes, 'shut off' and reverse!—in other words, 'stop at once, for there is danger immediately ahead.'

"If a train is delayed at night, the rear brakeman sometimes leaves another bit of fireworks behind him when called in. It is a 'fusee,' which is a paper cone containing enough red fire, inextinguishable by the wind or rain, to burn exactly five minutes, which is the shortest length of time allowed between two running trains. The engineman of the following train must stop when he comes to a fusee, and not move ahead again until it is burned out; though he can calculate from its condition just about how far ahead the next train is."—St. Nicholas.

HOW DUTCH BOYS PLAY TAG.—Did you ever hear of a country where the boys play tag in their stocking-feet? No? Well, there is such a country. We can imagine some thoughtful little boy thinking what a hard time the mothers must have darning. If you ever go to Amsterdam, Holland, and walk through an open place or one of the small parks, you will often see a heap of wooden shoes, and a little distance off a lot of children having a merry game of tag. You see, wooden shoes are not made for running, but the pavements are very clean and smooth, and the stockings are home knit and have double soles, so it is not as hard on the mothers as one would at first suppose. You may not think it would be pleasant to wear wooden shoes, or that their use makes graceful walkers, but still we do not believe many of you would object to being able to take off your shoes and make boats of them, as many little children in Holland do. Canals run everywhere through that country, and it is no unusual thing to see the little girls, after they have scrubbed the sidewalks as clean as they can, which is their duty every morning, sit down on the edge of the walk, tie a string to their shoes, and float them in the canal which runs next to the sidewalk.

"HE DIED LEARNING."—Wandering about the cemetery at Mentone, a recent visitor found a headstone on which was written, "Here lies John Richard Green, historian of the English people. He died learning." What a rebuke these words are to those who are young and strong, but who do not use their abundance of life to learn the lessons of truth and beauty that God put into the world to learn! We talk of finishing our education; but as we may learn valuable lessons from every person and thing, education should not cease until death. Until death, do we say? No, not even then, for death itself will be a successful teacher, and will usher us into a world where we shall learn in an instant more than we could in this world in a thousand years.

IRISH VERACITY.—The Irish are so proverbially truthful that there is veracity to be found even in their lying, as the following will amply prove:

In an Irish daily there recently appeared this advertisement: "Wanted—A gentleman to undertake the sale of a patent medicine; the advertiser guarantees that it will be profitable to the undertaker."



A cream of tartar baking powder. Highest of all in leavening strength.—*Latest U. S. Government Food Report.*
ROYAL BAKING POWDER CO., 106 Wall St., N. Y.

AGRICULTURAL NOTES.

CALIFORNIA.

Butte.

The fruit acreage planted in Butte during 1892 was 2738 acres. Los Angeles planted 8223 acres, Fresno county 6572 acres, and San Bernardino 4424 acres. It will thus be seen that Butte ranks fourth.

Oroville Register: The festive jackrabbit is doing more damage than his hide is worth, and it is exceedingly annoying to those who have young orchards planted in the foothills. John Watkins, of Wyandotte, recently found some long-eared and long-legged ones eating his young orange trees, so he put out some pieces of apple covered with strychnine, and in two days' time found over 20 dead jacks. Since then he has obtained 10 or 12 more. A number of orchardists in the hills have spoken to us about the number of these animals, and all of the growers of fruit would like to see the county offer a bounty upon rabbit scalps.

Oroville Register: Mr. Kirk, the owner of the Turner place on Feather river, is having the oaks taken out preparatory to planting the whole ranch, embracing some 300 acres, to fruit trees. The varieties of fruit we have not learned. This will make one continuous orchard from the orchard of George Thresher to the Gridley bridge across Feather river. Above the bridge there is almost a continuous orchard up to Thermalito, the land of Reyman & Evans being the only tract left unplanted except a hundred acres owned by Dave Biggs. This will give about 4000 acres of fruit along the west side of Feather river in this county. On the east side of the river there are about 1300 acres, making in all some 5300 acres.

Briggs Argus: F. F. Hammon, of Rio Bonito, John E. Kirk of Illinois, and Mr. Jacobs, a capitalist and orchardist of Oakland, visited the Briggs orchard across the Feather river, five miles northeast of town, a few days ago. This orchard is one of the oldest in the county, and, while many trees have died since 1860, there are a great many yet living which have made considerable growth and are still very productive. In passing through the orchard, a dead tree attracted their attention. This, a peach tree, we are informed, died last summer. An ax was procured and the tree was felled. A crosscut saw was brought into use, and a cut two inches in length and measuring 23 inches in diameter was sawed off from the body of the peach tree. This cut will be forwarded to the World's Fair.

Fresno.

Expositor: J. M. Hahn, famous in this county as the man who hauled 7000 pounds of dynamite to Pine Ridge at one load, has left Fresno, perhaps forever. On this morning's train he took his departure for Oregon, where he intends to make his future home raising cattle among the Modoc lava-beds.

Humboldt.

Blue Lake Advocate: There's little danger of a fellow mortal freezing to death in the Bald Mountain section. Foster Evans, who came down from that vicinity Saturday, January 14th, imparts the information that at 1:30 p. m. of that day the thermometer at the Bald Mountain store indicated 91 degrees in the shade.

Araca Union: Mr. Johansen, living on the southern border of Arcata, has a fine bearing orchard. Among his fruit trees are some quinces, that are very prolific. The gentleman informs us that he gathered a good crop of quinces in October, and on the 17th of January he gathered another fair crop, the fruit measuring from 6 to 1½ inches in circumference.

Inyo.

Independent: H. S. Eoloe recently left some fine specimens of sugar beets at this office. Some seed sent from Washington were planted May 21st in two 57-foot rows, and produced 257 pounds of beets. This was on very slightly manured sagebrush ground, no alkali visible. Can any one furnish specimens from alkali soil? An analysis will be obtained of specimens submitted.

Kern.

Echo: A bill has been introduced in the legislature to repeal the coyote bounty, and it will probably pass. The coyote bounty law has been one of the few laws that is of real practical value to the farmer, and it is a shame that it should be repealed just as its good effect begins to be noticeable. The Board of Agriculture drew \$17,079.35 for printing alone during the year, but an economical spasm seizes our legislative Solons if anybody says coyote. Young lamb, roast pig or spring chicken will be luxuries which only legislators may enjoy.

Lake.

Clear Lake Press: Sheriff Boggs, last week, sold one of the largest beehives Lake county has produced for some time. It weighed 1930 pounds on foot, and we can truthfully attest as to its good qualities, for we have tried it and know whereof we speak.

Lower Lake Bulletin: The farmers of this part of the county are tilling a large acreage this year, and should be encouraged by our home marketmen by paying partly in cash for their products and yearly labor, as the farmer is the one upon whom the merchant, printer, bl. cksmith, and, in fact, every one in business depends.

Lassen.

Lassen Advocate: I. N. Jones is now preparing land at his place on Weatherlow street, some 25 or 30 acres in all, for the starting of a hop plantation. So far as we are informed, this is the pioneer effort in hop culture on anything like a sufficient scale to determine the question of profit in Lassen county.

Los Angeles.

Lancaster Gazette: There now have arrived 7500 prune trees and 30,000 almond trees for the Manzana colonies and 21,000 fruit trees for the Fairmont Company.

The orange crop in what is known as the Covina district will but fall short of 40,000 boxes this year. This will make a pretty good showing for a district which has but few trees more than six years old.

Pasadena Star: What to do with orange culls was lately discussed by a *Star* correspondent. The *Citrograph* recommends marmalade-making, and calls for a big factory at that place. This seems to be the best use that has yet been found for them.

Pomona Progress: A gentleman tells us that about 120 acres have been planted to prunes, apricots and peaches in Pomona since January 1st, and that new orchards are going in at the rate of seven acres a day at present. Orange and lemon-planting will begin about the middle of February.

Pasadena Star: The number of valuable horses in this city has increased rapidly of late. Among those now being kept and trained here is Col. G. G. Green's colt Victor, which he bought of Senator Rose when the animal was three weeks old, paying \$5000 for him. He now values the colt at \$35,000. He brought a trainer out from the East to handle him, and next summer he will take him East, probably to enter him for a number of trotting events.

Senator Jones is the owner of a three-fourths interest in the San Vicente and Boca de Santa Monica ranches, on which the town of Santa Monica and the Pacific branch Home for Disabled Volunteer Soldiers is located. The land it is understood will be immediately divided into small fruit farms and placed on the market, and the purchase of the controlling interest in the bank is understood to be for the purpose of assisting in carrying out this enterprise.

Mendocino.

Ukiah Democrat: Wm. Roberts, who came here recently from Arizona, has purchased 500 head of cattle in that Territory and will bring them up to the Gillapies ranch, a few miles south of Ukiah, to fatten them for the market. The cattle are expected here in a few days, having been loaded on the cars in Arizona the early part of this week.

Merced.

Merced Express: There are some great sheep ranges in Merced county. C. C. Smith has many thousands of acres on the plains, and a fine mountain range in Tuolumne county. L. U. Shippee, of Stockton, owns a large tract in Merced and Mariposa foothills and has a locked-in range that he cannot get sheep to in the Sierras. There are probably 2500 sheep in the wandering flocks of Portuguese who rent land for fall and winter pasture. At the West Side foothills of Merced, Bascos own considerable range, but not nearly enough for the sheep they possess. Mitchell, Jameson and others own large flocks and ranges. Miller & Lux own a third and annually purchase a third of all the sheep raised in Merced county. Merced sheep were sold off close last year, and the big prospective lamb crop of this season will about all go to market before the pasture dries out.

Napa.

Napa Journal: E. Biggs, the contractor, went up into his hay loft Wednesday evening to pitch down some feed for his horses. It was quite dark in the barn at the time, and in sticking the pitchfork into what he thought was a part of a bale of hay, lifted up a man. The man was very drunk and it is supposed he had crawled up into the loft to sleep off his debauch. Mr. Biggs helped the fellow down stairs and as soon as they reached the ground the latter walked away, much to the relief of Mr. Biggs, who at first feared he had run the fork through the man's body.

Orange.

Anaheim Gazette: The Horticultural Commissioners petitioned the Board of Supervisors, requesting them to furnish six large and 26 small tents for fumigation. The number of tents on hand were inadequate to do the work of fumigation before the propagating season, and it was urgently necessary that fumigation be done as soon as possible. The petition was first referred to the district attorney, who said the supervisors had the right to furnish the tents and pay for them out of the general fund. However, the economical board refused to act upon this advice and declined to accede to the commissioners' request. Supervisor Yoch was the only member of the board whose vote was recorded as in favor of ridding the orchards of the county from scale.

Placer.

Argus: An old-fashioned "hare hunt," with gun and hounds, took place on Saturday last near the Bosse place, about five miles west of Auburn. The party brought in a total of 70 hares, each individual scalping the number set opposite his name: H. M. Cartright, the oldest man in the party, 17; James Cartright, 12; E. Cartright, 3; Henry Skinner, 13; Charles Willeford, 4; James Morahan, 9; Bert Hurlbert, 7; John Hutchinson, 3; J. A. Hutchinson, 2.

Sacramento.

Record-Union: Sneak-thieves seem to be quite active in raiding the gardens of residents who have bearing orange trees. Four of them entered the yard of John Stevens, on "the Ridge," at half past eleven o'clock night before last, and they may thank their stars that Mr. Stevens' son fired rather high instead of at them, as he is a dead shot. If they repeat their visit they may not expect to be dealt with so leniently.

San Bernardino.

Riverside Press: The dried fruit rates to eastern points, which the Santa Fe cut from \$1.40

to \$1 per hundred, will be restored to the old rate on January 25, as the Southern Pacific did not meet the cut. Now is the time to send dried fruit east.

Ontario Record: Conant & Miller have handled about eight tons of olives—nearly three tons from Cucamonga and the balance from Ontario. They have nearly 200 gallons of oil to bottle, and it is of the very finest quality. They are preparing now to experiment in making orange vinegar from culls.

Rialto Orange Belt: We saw a novelty the other day in setting out an orchard. To save time the owner put out his trees by plowing a double furrow through his land for each row of trees, leaving the breaking up of the wild land between the rows to a future day when he had nothing else to do. The trees were doing finely, and they were well protected, as the wild growth furnished an excellent windbreak for the young trees.

San Diego.

Perris New Era: It is stated that 1000 acres of lemons are to be planted out by the company owning the Chula Vista ranch. This will be the largest lemon orchard in the world.

Otay Press: An unusual number of those quiet little birds known as sparrows have been flocking to this region of late, doubtless driven here by the southern drouth. The bold little visitors are seen in every direction, and as they find short picking here, will enter the open door in search of food.

San Luis Obispo.

Tribune: Mr. E. Miles, of Guadalupe, called Monday. He is a potato-raiser. This season he raised 4000 sacks from 30 acres of land, for which he gets \$1 per sack. Two years ago he measured one acre and weighed the potatoes dug therefrom, and they went a little over 16 tons.

In the rear of the Union hotel, says the *Arroyo Grande Herald*, can now be seen a bunch of fresh grapes, hanging on a vine, that is as fine as any ever plucked in September. The vine runs over a trellised walk and a sack has been thrown over the lattice-work, which is the only protection the grapes have received from the winter storms.

Santa Barbara.

Lompoc Record: There is a prospect of having the famous Santa Rosa ranch colonized by dairymen the coming fall. Mr. Cooper begins to realize that there is little or no profit in his broad acres, leased for common grazing. The Santa Rosa can be made to yield \$20,000 in rents per annum, inside of two years, if devoted to dairy purposes. Much of the Santa Rosa is the choicest grain land in southern California. There is also ample farming land to go with each dairy-tract for root, corn and hay purposes. Both wood and water are also abundant.

Santa Clara.

Sprinkling of public roads is proving the cheapest as well as the best way to keep roads in good repair. In the Santa Clara valley a stretch of nine miles costs that county but \$75 per week for watering. The new system is much talked of in the lower end of this county where water is easy of access.

Gilroy Advocate: Considerable tree-planting is in progress at the orchards, north Gilroy. Wm. C. Stroud, commission merchant of San Francisco, owner of 30 acres of the orchard land, is having 1500 more prune trees planted this year. Last year 2280 trees were set out for him by Mr. H. S. Murray, with the loss of but one tree. Mr. Murray is adding 1000 prune trees to his own place this year. Mr. Norton, 1000 trees—prunes, peaches and pears, and Messrs. Smith, Palmer, Wilder, Villinger and Mrs. Farrer are also increasing their orchard acreage. The northern suburbs of Gilroy give promise of an extensive fruit-range.

Sonoma.

Republican: Ex-Deputy Sheriff Logan Toombs writes the *Republican* a very entertaining account of the slaughter of a 450-pound bear by himself, N. Criley, Henry Seawell and Robert Mason, a few ago, near the middle fork of the Gualala river. Mr. Toombs saved eight gallons of oil from his bearship's carcass and then did not get all of it.

Sonoma Index-Tribune: Saturday we rode over the Sonoma meadow-lands on the Senator Jones ranch. The young grain is making a remarkable growth and almost the entire 2000 acres are one vast carpet of green. Here and there are spots in low places, which to the casual observer would appear to have missed, but upon close inspection it was found that even in those places the grain had commenced to come up. It is no exaggeration to state that there is no grainfield in California to-day that gives better promise of an enormous yield than these 2000 acres.

Stanislaus.

Modesto Herald: Stanislaus landowners should note that olives will do well in this section of the State, and that the demand for pickled olives and olive-oil is five times greater than California can supply.

Times: Henry Hall, of East Lynne, came near being shot with a stray Winchester ball while he was plowing recently. A careless hunter had fired at some game with a 38-caliber rifle and did not notice Mr. Hall, who was in range.

Tulare.

It is estimated by good authority that Tulare county has 10,264 acres of bearing raisin vines and 5178 acres of bearing orchard trees.

Tulare Times: Beef cattle and pork hogs are worth 54 cents per pound on foot, and hogs are likely to bring a higher price before spring, so say cattle buyers.

Visalia Delta: Major C. J. Berry has finished

planting 40 acres of prunes for the Togni brothers on their land near the property of the Visalia Fruit and Land Company.

Hanford Journal: The band of fine, fat steers belonging to J. J. Cortner was purchased by J. M. Daggs, proprietor of the California market. Mr. Daggs paid six cents per pound for the cattle on foot.

Visalia Delta: An old gentleman called at this office and suggested that hunters should not shoot yellow hammers, or "wake-ups," as they are the fruitgrowers' friends, eating insects, ants, etc., that infest growing trees.

Tulare Exchange: Over 12 carloads of fruit trees have been received at this point during the past week, which are to be set out in this part of the country. This quantity of trees will set out about 1800 acres of orchard, and when we consider the past and future shipments and the large quantities supplied orchardists by our local nurseries, some idea can be formed as to the large increase of orchards in this portion of Tulare county.

Hanford Journal: The San Jose scale is more prevalent in the orchards of the Lucerne valley than at any former period and all orchards should be sprayed at once. Horace Thomas, State Horticultural Commissioner, indorses Brown's insect exterminator as the best tree wash, which is fortunate, as a Fresno party has a patent on the lime, sulphur and salt wash which has been heretofore used. It is claimed by the inventor of Brown's wash that it is just as good and just as cheap.

Ventura.

Hanford Sentinel: G. S. Myers, who has charge of Heald's Business College ranch south of Hanford, informs us that they sent 38 head of colts, from one to four years of age, to Gilroy last week, and sold the lot at an average price of \$100 per head. That is a decent paying figure, and at that rate breeders can do pretty well.

Ventura Unit: Messrs. Bennett & Taylor, who have been drilling a well for Rev. A. G. Daniels, struck a fine body of water when down only 75 feet, which rises to four feet of the surface. As a pump-well only was desired, drilling has been stopped.

P. L. Byers, of Santa Paula, informs the *Chronicle* of that place that he has had considerable experience with the codlin moth. He says in 1891 he picked up all his apples infected and destroyed them. Then in February, 1892, he scraped the rough bark off the trees. In June he went over the trees and found about a dozen in which the moth was at work. These he destroyed. The result was he had a fine crop of apples in '92.

Ventura Free Press: We heard a gentleman, who is in a position to know, state recently that the beans are now most all in the hands of buyers. Considerable activity has been felt for the past three weeks. Twenty cars were received at the wharf in this place on Saturday from Montalvo and Saticoy. The steamer Lackme loaded 12,428 sacks, or about 420 tons, and the Coos Bay took on 20 tons for San Francisco.

Yuba.

Marysville Appeal: The men employed at the slaughter-house of the Valley Meat Co. killed the largest hog ever seen in these parts yesterday afternoon. The monster porker weighed 702 pounds on foot and was as large as an ordinary steer. C. C. Slattery said that it was the largest that he had ever seen, and he has been in that business over 30 years. The animal was raised on Geo. Walton's place.

Marysville Appeal: Almost every part of Yuba county now wants roads and bridges. They are not only wanted, but in most cases are actually needed. What is the matter now with having a full and comprehensive survey made on which estimates can be obtained, and, if not entirely too expensive, have a thorough, well drained and well-graveled system of highways. The surveys and estimates for the roads and drains would not cost more than \$3000 at the outside. The time for patching and repairing is at an end.

OREGON.

While the two little daughters of Alonzo Leach, who lives near Crawfordville, Or., were out riding horseback last week, the horse was frightened by the screaming of a cougar and threw the children off, breaking a leg of the younger girl. The elder girl picked her sister up in her arms and carried her to the house.

WASHINGTON.

A vegetable curiosity has been left in the office of the *Wenatchee*, Wash., *Advance*. It consists of a network of large potatoes, grown one upon another, the whole aggregating eight pounds.

A white wolf, weighing, perhaps, 150 pounds, walked deliberately the full length of the main street in Plaza, a new town near Spangle, Wash., unmolested, and passed up the gulch into the hills.

But little is being done at present by the promoters of the great irrigation enterprise in Walla Walla valley, Washington, by which 20,000 acres of arid lands are to be reclaimed. As soon as spring opens, however, the work will probably be pushed ahead as fast as possible. Water is to be taken at a point a mile and a half above the two branches of the Walla Walla river.

One of the future great resources on the lower Sound country in Washington will be fruit-raising. The soil and climate of Jefferson and Clallam counties and of the islands which lie directly tributary to Port Townsend, are particularly adapted, it is claimed, to all kinds of small and orchard fruit-raising. Every season witnesses more ground cleared and orchards planted.

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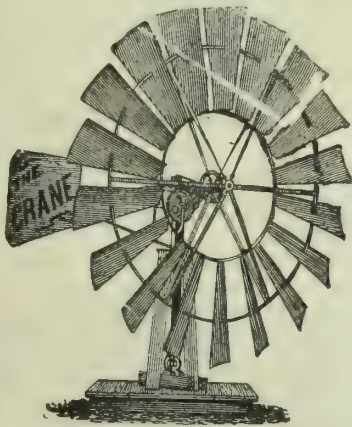
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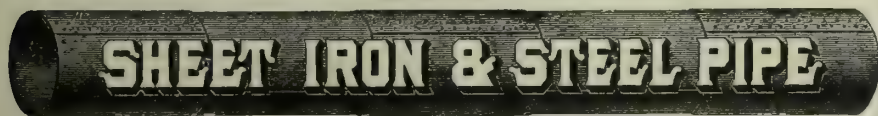
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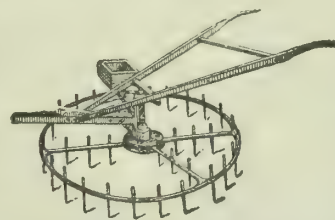
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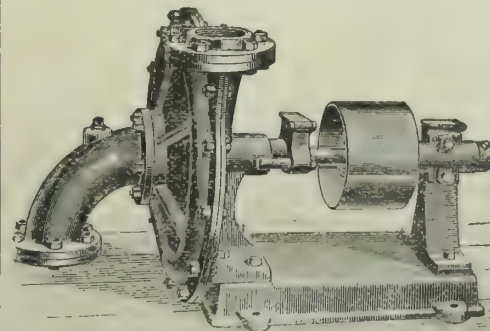
It has half-inch steel teeth, and is made to rotate either way by simply changing the cast-iron weight from one side to the other. The Harrow weighs 170 lbs., and can be taken down and packed closely for shipment.



The Jackson Vineyard Harrow rotates either way, at the will of the driver, and by driving the slow side next to the vine or tree there is no danger of hurting it, as the Harrow will roll gently around the tree or vine.

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PATRONS OF HUSBANDRY.

The Morals of Business.

An Eastern journal recently remarked, that however strenuously we may deny that Bellamy's paradox would be any improvement upon the business methods of the world, it is certainly only a willful blindness which refuses to see that the world shelters many grave faults and threatening tendencies under its present methods and laws. It cannot be disputed that business with too many is only a species of warfare in which anything is allowable which succeeds. The conventional rules of trade are those with which abstract right and equity have very little to do. The morals of business naturally spring from and represent the average sense of justice among business men. If we take the general average, as it now stands, we may reasonably assume that it would represent a fair standard of business morality. But there are bodies of business men in every large commercial center whose morality in this respect would fall far below the general average. Let us look at this matter for a moment.

Experience has shown that there are ever lurking dangers in large accumulations of wealth, and that these dangers increase with the aggregation of wealth in large communities. The standard of honor and rectitude in business is always higher in small than in large communities. The same distinction may also be made between small and large holders of property. The rapid accumulation of wealth in most cases means swift deterioration of business rectitude in the individual. An aggregation of such individuals tends almost uniformly toward corruption in such a business community. When men once begin to lose their respect for business rectitude the decline is easy and rapid.

An absence of a personal sense of honor is the besetting weakness of trade. When men lose their pride in that direction, they leave no stone unturned to make the most they can out of their business transactions. The manufacturer and merchant will flood the market with shoddy. The railroad company will put upon the market all the bonds it will bear, without any reference to the cost of the road, and fix such rates of traffic as will bring the highest possible interest on the fictitious cost. In business which will not admit of such modes of unfair gain, combines or trusts are formed to control prices in the many ways known to such methods.

No right-thinking man will admit that such things are either right or honorable. Some will shrug their shoulders and say: "It is all wrong, but we can't help it"; but there are others, and their number, happily, is constantly increasing, who do not hesitate to say that such things are no better than highway robbery under forms of law, and we will make the effort to see that it shall be somebody's business to correct such abuses.

One of our city evening papers, a few days since, in speaking of the wealth of the United States, which is now greater than that of Great Britain, said: "It has no parallel in the history of the world, and it presents problems for solution never before met with in the annals of the race. Mammonism is sapping the morals of the country. It is doing more to take the spinal column out of men than anything else. When important legislation against Mormonism was pending in Washington, we are told that certain New York merchants telegraphed to Congress: 'New York sold \$13,000,000 worth of goods to Utah last year. Hands off!'"

The command of Mammon was obeyed; hands were taken off, and no further attempt was made to establish a matter of needed moral reform because it would interfere with the trade of New York millionaires in that Territory!

The same journal further truthfully says: "Mammonism promotes materialism and materialism is death to moral character. It destroys all loftiness of motives, eliminates heroism from human life, and makes men of the earth earthy, until they come to feel that nothing is real, nothing worth having, which they cannot hold in their hands."

Such is the tendency of the times. But men of all classes can be honest in their dealings with their fellow-men, and business of all kinds can be conducted on a fairly high moral basis. But to reach such a result men must be educated up to a higher standard of business morality. In such education we cannot reach the millionaire; but we can reach the man with the ballot, and by the use of that weapon he may stand on an equality with his more wealthy and exacting neighbor. The man with the ballot must, therefore, be educated not only on lines of morality, but also to consider it his bounden duty to employ his right of citizenship in devising and enacting laws which will render it impossible for the moneyed

few to oppress the great majority by means of unequal and unjust trade regulations and practices.

Many think the iniquitous ways of trade and the unjust manipulations of large business operations are too mysterious to be reached and corrected by law. But such is not the fact. Business, like politics, is a matter of evolution. Both grow out of the needs and minds of men, and there is no hidden or mysterious power connected with such growth that may not be brought under perfect control, in a free Government like this, and made to work for the benefit of all. The signs of the times point most unmistakably to the fact that this truth has already taken deep root in the minds of the people, and that men will soon be found in the halls of our legislatures, both national and State, who will see to it that the business of the country shall be placed and kept upon a higher level than has heretofore existed, and that both those who are already in it, or who may hereafter enter the marts of commerce do not again degenerate into dens of thieves.

A Live Grange Meeting.

LODI, Jan. 15, 1893.

TO THE EDITOR:—A special meeting of San Joaquin County Pomona Grange, held in Woodbridge Jan. 12, 1893, was one of the best meetings we have held for a year. The interest and zeal manifested by all were of a very remarkable character, and not only by the members, but by those not members of the Order, it being the day published and set apart for the discussion of the "Initiative" or "Referendum," similar to Switzerland, as far as practicable. An open meeting being held, a great many persons not members of the Order were present. I think in a few years more the system will be engrafted into our Constitution in this State, if not adopted at the present session, as petitions are being circulated now throughout the State for the amendment.

This Grange unanimously opposed the bill, now in the legislature, pensioning school teachers. They, with the same consistency, ought to pension farmers and housewives.

Also, the meeting passed a resolution urging upon the legislature the necessity and justice of some law by which the people of the State of California may legally collect all of the delinquent back taxes due from the several railroads of the State, that the burdens of Government may be more equally distributed.

Also, selected a committee to ascertain the par value of lands that are assessed by county assessors and the State Board of Equalization, as compared with the value of the mortgage thereupon, and also directed the legislative committee to ascertain what changes are necessary to be made in the Constitution and statutes thereunder whereby county and State assessments may be made biennially, instead of annually, the better to economize and reduce the rate of taxation.

They also passed a resolution commending Senator D. A. Ostrom for his honesty of purpose, determined effort and untiring zeal in behalf of the consumers of grain bags in this State, in opposing the confirmation of Mr. "Daniel Hayes" as State Prison Director, and that the farmers should have a representative or two on the Board of Prison Directors.

A special meeting of this Grange will be held in Lodi hall on Thursday, February 2d, commencing at 10 A. M.; open meeting in the afternoon during the discussion of "Proper Representation."

J. D. HUFFMAN, Secretary.

San Jose Grange—It Still Lives.

SAN JOSE, Jan. 20, 1893.

TO THE EDITOR:—The resolution, a notice of which was given some weeks ago, to sever its connection with the State Grange and consequently the Order, came up for discussion the 14th inst. before the San Jose Grange.

Speakers in the affirmative of the question gave many and some convincing reasons showing that a large number of subordinate Granges had outgrown the State Grange in progressiveness and usefulness. That the chief factors in the success of subordinate Granges are the social and educational, which do not come from the State or National Granges. That the State and National Granges were cumbered with dead branches which should be removed before the full objects of the founders of the Order could be attained. That the subordinate Granges are supposed to draw their inspiration from the State and National Granges; hence the necessity of having at the head of our Order men of enlarged ideas and force of character, men qualified by nature as leaders, not followers filled with aphorisms and trite sayings of the goody-goody, namby-pamby stripe, who are afraid of their own convictions, should they have any. What is wanted is progressive men with progressive measures, who can vitalize the living and revitalize the dormant Granges into greater activity. Conservatism may have its usefulness in some walks of life, but its value as a Grange element has long ceased to exist.

Conservatism advises us to keep our eye on men, measures and votes in the halls of legislation, thinking possibly that the eye at long-range distances has a restraining power over corrupt legislation. What would a party, who came to loot your premises, care whether you kept your eye on him or not, so long as you kept your hands off?

The National Grange came in for its share of criticism on what it termed the important matter of appropriating a thousand dollars, out of funds contributed by subordinate Granges, to open a "Grange headquarters at Chicago during the World's Fair, for the reception, instruction and entertainment of its members." The propriety of this appropriation is readily seen when we know that farmers prefer going from 200 to 2000 miles to get "instruction" in the Order rather than to receive "instruction" any week in every month in the year close at their homes. Nevertheless, it was designated as a sort of a junketing establishment. All Grangers will of

course be reconciled when it is known that the further consideration of building a "Grange Temple" was postponed another year on account of this "important" action.

Other speakers took a more roseate view of the situation. They referred eloquently and withal truly to the past achievements of the Grange, which have been told and retold so many times I will not repeat them. From the standpoint of the conservative, they possibly had the best of the argument.

The best of good-feeling was manifested throughout the discussion. A vote was taken and San Jose Grange unanimously resolved to remain in the Order.

AMOS ADAMS.

A Fine Meeting at Elk Grove.

SACRAMENTO, Jan. 23, 1893.

TO THE EDITOR:—Despite the heavy fog, which was cold enough to thoroughly chill the ardor of all but the most enthusiastic of Patrons, a large number was in attendance to witness the installation ceremonies of Elk Grove Grange January 21st. Neighboring Granges were well represented.

After the banquet, P. M. of Florin Grange, Bro. D. Reese, assisted by W. M. Greer of Sacramento Grange, installed the officers, who severally responded with words of promise and of hope and encouragement for the coming year. Interspersed throughout the meeting were appropriate musical exercises.

Bro. Caples, W. Lecturer, said that the Grange was instituted to fill a want in country society; that while agriculturists were moral and law-abiding, they labored under the disadvantage of isolation and were not prepared to discharge the functions of citizens thoroughly for lack of opportunities that city dwellers possess. Hence the Grange, which was intended to benefit not only themselves but all mankind; throughout all its teachings breathes a spirit of tolerance and broadmindedness that excites the admiration of all.

Bro. E. Greer spoke of the benefit to be derived from association with the Grange, and urged the young people to become identified with it for the liberal opportunities it afforded them for practical education.

Rev. C. S. Haswell, while not a member of the Order, thought highly of it, and related in a humorous vein the defense made by an Illinois matron, who, when the Grange was assailed, said that she and her husband felt that they were better individuals, better members of society, because of their connection with the Grange. They felt a more manly and womanly dignity because of that association, and she felt that the Grange was organized upon a high plane, and its members were thereby elevated and educated, and she could not calmly listen to utterances of disparagement.

Sister H. S. Jones, while regretting that Elk Grove Grange had recently suffered a severe loss from fire, hoped that the Grange would make an effort to contribute to the Ceres Temple Fund. She also urged Patrons to support their official organ, setting forth the wisdom of doing so, not only because the Order needs a medium of communication, but because of the need of an independent, fearless advocate of interests which are of great importance to the farmer, and this she believed the RURAL PRESS to be.

After a Grange song, W. M. Selmeyer dismissed the audience, so that all might reach their homes before nightfall. As we sped swiftly homeward, we numbered another day passed in happy companionship within the Grange.

The Grange Field.

IN MEMORIAM.—March Grange, No. 280, at its last meeting adopted a series of resolutions in memory of Sister Myers, who died Jan. 1st. She was a pioneer in Grange work and highly respected in the community.

A REMINDER.—Mrs. Hattie S. Jones, chairman S. G. Com. of W. W., writes:

"The resolutions and petitions sent to subordinate Granges are coming in fast, but there are several Granges still unheard from. If members are not in accord with the ideas embodied, substitute something better and bring it to public notice. We wish to hear from every Grange. Sister A. M. Williams, lecturer of Sacramento Grange, assisted by Sister W. W. Greer, have collected \$25 from members of their Grange for the Temple of Ceres fund. Which Grange will report next?"

INSTALLATION AT TWO ROCK.—A letter from Mr. C. Nisson, treasurer of Two Rock Grange, states that the new officers were installed on Jan. 7th, and that on the same day a class was initiated in the third and fourth degrees. The attendance was large, and there was the usual installation banquet. J. C. Purvine was the installing officer, The Master (R. L. Denman, reelected) made a most happy little speech upon taking the chair, and insisted that each officer, as he assumed his duties, should follow his example. As may be imagined, this made a lively and interesting meeting.

NEW HOPE.—Lecturer J. D. Huffman writes as follows:

"I installed the officers of New Hope Grange Jan. 7th, and conferred the third and fourth degrees upon a class jointly, and a good time generally, and they have started out with good prospects of success in Grange work the coming year; and believe we shall have a good report at the State Grange this year from that Grange."

"February 2d—I go to West San Joaquin Grange, to install their officers. They have a public installation. The Grange meets in the evening, and a good time generally. All Patrons know what that means."

NORTH BUTTE GRANGE.—State Deputy B. F. Frisbie writes, Jan. 17th, from Yuba City, that North Yuba Grange installed its new officers on the 14th inst; also, on the same date, conferred the third and fourth degrees upon a class of seven. There was the usual feast, in which all participated, including fifteen fraternal visitors from Yuba City and one from March. Every seat in the hall was occupied and even standing room was at a premium. Mr. Frisbie was the installing officer. Each officer as he was installed made a few remarks, promised faithfully to perform the duties appertaining to his

office and to attend each and every meeting during the year. Mr. Frisbie was assisted by Sister Jennie Hedges of North Butte Grange. After installation there was a Grange love feast. Every visitor from Yuba City Grange made a few remarks for the good of the Grange, and at four o'clock the company was dismissed and turned loose in the Grange hall for a good social visit before repairing to their several homes.

STOCKTON GRANGE.—Mr. P. C. Noyes, of Stockton Grange, writes as follows:

"This Grange was organized Aug. 12, 1873, with 30 charter members; therefore our twentieth birthday will occur next August. To-day there are with us some of the original members who have had the good of the Order at heart, and have steadily upheld its principles from year to year, despite all discouragements. In addition to the charter members present, are those who joined soon after the Grange was organized."

"These charter and early members are to our Grange what the father and mother are in the home. While in years they are not senior to some of the new members, yet their knowledge and experience in Grange matters and their sincerity and devotion to the cause, make them parents indeed."

"There have been times when the membership has been larger than now, for, like all Granges, many joined from various selfish motives—some for mere amusement, some for greed of gain, and others because it was something new. Many have withdrawn on account of removal to other homes, others because they did not get suddenly rich therefrom, and a few because they wearied of it; but now we have about 100 members, staunch and true, and harmony and good-will prevail."

"By special invitation, our officers are installed to-day by Bro. C. W. Norton of Lodi. Bro. Alling has been our worthy master for the past year, and a very worthy master has he been, and if Bro. N., who is installed to-day, prove as efficient, we shall be well satisfied. A so-called "basket-lunch," but in reality a feast, followed installation, which was enjoyed with the usual Grange zest."

"As our Order meets every Saturday, we have an opportunity to discuss many of the current questions of the day, and usually feel that our meetings are not in vain. At our last session we received a communication from Capt. Merry, requesting us, as a Grange, to urge on our representatives in Congress the speedy construction of the Nicaragua canal."

"We, as a body, feel encouraged that the leading men of both great political parties agreed in their opinions, that the Nicaragua canal is a national necessity, and we have perfect confidence in the integrity and ability of our statesmen, that they will throw around it such safeguards as will protect the rights and interests of the United States. We regard it as the true solution of the freight problem for the Pacific coast. We rejoice in the prosperity of the Grange, both State and National, and are proud of belonging to an organization that is respected in the nation, and whose steady, conservative position commands attention whenever it makes any demands."

The Secretary's Column.

By A. T. DEWNEY, Secretary State Grange of California.

W. L. WHITAKER has been elected and installed in place of Mrs. Anna Whitaker, who declined to fill the secretary's chair for the ensuing year in Bennett Valley Grange.

BRO. G. D. HINDS writes that Selma Grange installed officers Jan. 7th; the meeting was a pleasant one. Enthusiasm was manifested with the determination to build up the Grange.

An advance copy of the National Grange proceedings for 1892 has been received. California's quota for distribution among the subordinate Granges is coming on the fast-freight line.

S. S. GLADNEY, secretary, states that J. Flerose, P. M., recently installed the officers of Roseville Grange. Two applications for membership were received. Hopes of a good report of progress at the next S. G. are entertained.

THE SIXTH DEGREE certificates have been received from the National Grange, signed by the masters of the National and State Granges and secretary of the S. G., and forwarded during this week to members in California, in care of the secretary of their subordinate Granges. If any fail to receive his or her certificate, please address us immediately.

SATURDAY, Jan. 28th, Washington Grange will install officers. N. Dill, W. M., writes: "The young ladies are going to favor the Grange with a programme consisting of music, recitations, etc. The regular Harvest Feast will be given and a good social time, as usual, is expected. The Grange starts out in 1893 under favorable circumstances with the prediction of a successful year."

THE INITIATIVE.—Over two years ago the S. G. of Cal. placed itself on record in favor of the passage of a bill for the "Initiative or Referendum," i. e., the privilege of voting upon questions proposed for legislation. Leading representatives of the People's party are making active efforts to urge the passage of such a bill at this session of the legislature. The bill will certainly have the hearty support of most Patrons, and we hope its passage will be secured.

PILOT HILL.—At a regular meeting of Pilot Hill Grange, No. 1, P. of H., held on December 31, 1892, the following officers were elected to serve for the ensuing year: C. S. Rogers, M.; S. Lovejoy, O.; N. Wentworth, L.; Bert Dobbas, S.; Mrs. N. Wentworth, A. S.; John Bishop, C.; J. P. Bayley, T.; A. J. Bayley, Sec.; Mary Jones, G. K.; Mrs. C. G. Lovejoy, Ceres; Mrs. Elizabeth Bayley, P.; Miss Maud Lovejoy, F.; Mrs. Amanda Dobbas, L. A. S.; John Bishop, Trustee. Date of installation, Jan. 28, 1893.

SEBASTOPOL.—M. Litchfield, Sec'y, writes, Jan. 8th, that Fanny Lawton, P. M., duly installed the officers of the Grange on the 7th. Bro. L. adds: "Our Grange wishes me to say that we have a good set of officers and start off on the new year with the prospects of a pleasant and profitable term; also that our Grange will assist Petaluma Grange in entertaining, to the best of our ability, in musical con-

tributions, etc., if the Executive Committee will kindly favor us by locating the next session of the State Grange at Petaluma."

BEGIN AT ONCE.—Nearly all Granges in California have reported the election of their leaders for 1893. Now let the new work begin and see how many young members—say from 14 to 21—can be mustered in during February. How many middle-aged and adults during February and March. Do not wait for a more convenient season to start recruiting in your jurisdiction. From October to May is the best season in most localities in California for effective Grange work. Take up some important object to be accomplished in your Grange jurisdiction and work for it. Accomplish something new and good, and your Grange will soon be more popular and increase accordingly.

LEGISLATIVE COMMITTEE.—Hon. Thos. McConnell, chairman of this committee, writes on Jan. 21st as follows: "I have spent this week in Sacramento looking after the re-assessment bill and other matters of Grange interest. It looks now as though favorable action could be had on this bill, which so deeply concerns the taxpayers of California. The mutual fire insurance bill has been introduced by Senator McGowan and we hope it will have favorable action by the legislature. I think you had better address all communications for the committee to care of Judge J. H. McKune, Sacramento. I expect to meet the balance of the committee on the 24th in Sacramento. We invite all information that will assist us in our work."

INSTALLATION OF OFFICERS.

Gratifying information has come to this office from time to time regarding the services of installation of officers in subordinate Granges as follows: Jan. 7th—Waterloo Grange, by P. M. Overhiser, Tulare Grange, by A. P. Merritt; Merced Grange, by Past Masters Elliott and Atwater. Jan. 14th—Magnolia (during the day) and Grass Valley (in the evening), by S. J. Alderman, deputy lecturer.

FOR THE NICARAGUA CANAL.

STOCKTON, Jan. 16 1893.

To A. T. Dewey, Sec. S. G. of Cal.—At a regular meeting of Stockton Grange, No. 70, P. of H., held January 7th, the following memorial was passed:

MEMORIAL TO CONGRESS

To the Congress of the United States in Senate and House of Representatives assembled, at Washington, D. C.:

Your memorialists, the Stockton Grange, P. of H., San Joaquin Co., Cal., respectfully represent to your honorable body: That in our view, the construction of the Nicaragua Canal would be of greater importance and benefit to our nation, than any other enterprise ever undertaken in the history of the United States.

And while we conceive that its advantages to the whole Union can scarcely be overestimated, to us on the Pacific coast it seems a matter of vital importance.

So vast is the extent of our Republic, reaching across a continent, with thousands of miles intervening between us and the thickly-populated East, wherein centers the wealth and power of the nation, with more than 12,000 miles of dangerous ocean for our ships of war or commerce to traverse between our Atlantic and Pacific coasts, it seems to your memorialists too evident for discussion, that for a speedy and cheap interchange of commodities in times of peace, and for our help and protection when insult and danger threaten from foreign powers, that the construction of the canal is a national necessity.

By this great enterprise of opening a pathway of commerce and naval communication through the midst of a great continent, 8000 miles of ocean, and a tempestuous and dangerous cape in far southern seas are avoided. It connects and harmonizes more closely the interests, and tends to secure the unity and safety of our widely-extended Republic. Indeed, it is one of those great historic enterprises that mark an epoch in the world's history.

Therefore, your memorialists respectfully pray your honorable body to take such action as will insure the speedy construction of the Nicaragua Canal, under the control of the United States Government, with such conservative provisions as will secure our citizens against high tolls, or discrimination. And your memorialists will ever pray.—F. J. WOODWARD, M. T. NOYES, A. H. ASHLEY, Committee, N. T. ROOT, Sec'y.

TO THE CALIFORNIA LEGISLATURE.

At a regular meeting of Stockton Grange, Jan. 14, 1893, the following was passed:

To the Legislature of the State of California, in Senate and Assembly, assembled at Sacramento, Cal.:

WHEREAS: The construction of the Nicaragua Canal is a matter of the greatest importance to our nation, and especially to our Pacific coast, and should be constructed as soon as possible, under the control of the United States Government, with such conservative provisions as shall secure our citizens against high tolls or discrimination; therefore, Resolved, By the Stockton Grange, Patrons of Husbandry of San Joaquin Co., State of California, that the Legislature of the State of California be respectfully and earnestly requested to express by appropriate resolutions, forwarded to the Congress of the United States, the earnest desire of the people of the State of Cal. for the speedy construction of the Nicaragua Canal in accordance with the above conditions.

Resolved, That a copy of the above resolutions be forwarded by our secretary to the Hon. B. F. Langford in the Senate and to the Hon. J. L. Hutson in the Assembly at Sacramento, Cal.—F. J. WOODWARD, M. T. NOYES, A. H. ASHLEY, Committee, N. T. ROOT, Sec'y.

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OFFICE OF THE GRANGERS' BANK OF CALIFORNIA

SAN FRANCISCO, January 11th, 1893.
To the Stockholders of the Grangers' Bank of California:
DIVIDEND NO. 18.

You are hereby notified that at a meeting of the Board of Directors of the GRANGERS' BANK OF CALIFORNIA, held on the 10th instant, a Dividend of Six and one-half (6½) per cent, equal to \$5.20 per share on the Stock upon which 8 installments have been paid, and \$6.50 per share upon the stock paid up in full, has been declared payable February the 9th, 1893.

A. D. LOGAN, President.
FRANK McMULLEN, Secretary.

OFFICE OF THE GRANGERS' BANK OF CALIFORNIA

SAN FRANCISCO, Jan. 11, 1893.
To the Stockholders of the Grangers' Bank of California:
NINTH ASSESSMENT.

You are hereby notified that at a meeting of the Board of Directors of the GRANGERS' BANK OF CALIFORNIA, held on the 10th inst., an assessment of 10 per cent (\$10 per share) was levied upon the Capital Stock of said Bank, payable immediately, in U. S. Gold Coin, to the Cashier, at the office of the Bank, N. W. corner California and Battery streets, San Francisco. Any stock upon which this assessment shall remain unpaid on the Ninth day of February, 1893, will be delinquent, and advertised for sale, at public auction, and, unless payment is made before, will be sold on the 9th day of March, 1893, to pay said assessment, advertising and expenses of sale.

A. D. LOGAN, President.
FRANK McMULLEN, Secretary.

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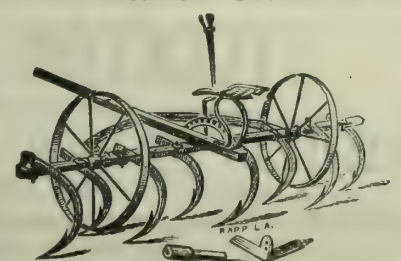
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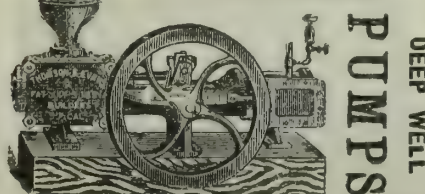
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Proper Use of Milk for Children.

"Milk is so especially adapted for children's needs by beneficent nature that every effort should be made to induce it to assimilate in those cases where it does not seem to agree naturally," said the family doctor. "I have never yet found a child who could not be made to drink milk with advantage, and in case of wasting diseases it is invaluable, often saving a patient's life. How important it is, therefore that the right way of administering milk to those with whom it apparently does not agree should be tested while the children are well and able to bear the experiment. There are many ways in which it may be made to assimilate. The simplest way is to add a couple of teaspoonfuls of lime water to each glass of milk. If this does not succeed, make the child sip it slowly, eating bits of raw cracker meanwhile. This I have found an excellent way. Another is to heat the milk exceptionally hot—not boil it, as that gives a disagreeable taste. This is the best way yet for delicate people, and although a child may not like it at first, it will soon grow fond of it. Bribe children to take it if necessary, but do not force them.

"If all other methods fail, cooked milk, in the shape of gruels, etc., may be resorted to, but the plain milk is the best. Of course there are digesters, such as preparations of pepsin and other medicines that may be given afterward to assist digestion, but I always prefer to let the stomach do its own work, if possible. It is very apt to turn lazy if assisted too much, and refuse to act independently."

Health Hints.

Raw egg for a cut.
Hot water for sprains.
Hot lemonade for colds.
Turpentine for lockjaw.
Hot milk as a stimulant.
Salt water for falling hair.
Raw oysters for hoarseness.
Tar on sugar for weak lungs.
Quicklime in water for poison.
Sugar moistened with vinegar for hic-cough.
Milk puddings and stewed fruit for bilious dyspepsia.

HOW TO BOIL EGGS.—An experienced cook says that the right way to boil eggs is not to boil them at all. First put the eggs into a wire basket with a tall handle; that saves the time and vexation of fishing them out with a spoon when cooked. Then set the rest of the eggs in a kettle or other vessel with cold water enough to cover the eggs—not hot water or warm water, but cold water. Set the vessel over a brick fire. Do not let the water boil, only just "come to a boil," and at that particular time—not before or later—the eggs will be cooked as they should be. Remove the basket of eggs by the tall edge handle, spread a napkin over a deep dish, lay in the eggs and fold the four corners of the napkin over them and serve. If these directions are followed exactly, the eggs, when broken, will roll into the cups like balls of soft jelly, nothing adhering to the shell, the entire egg thoroughly cooked and delicate, and tender through and through.—Pittsburg Dispatch.

ALUMINIUM HORSESHOES.—Russia has tried an experiment with aluminium shoes for cavalry horses, which will, no doubt, prove especially interesting to the owner of Nancy Hanks and other flyers. A few horses in the Finland dragoons were shod with one aluminium shoe and three iron shoes each, the former being on the fore foot in some cases and on the hind foot in others. The experiments lasted six weeks, and showed that the aluminium shoes lasted longer and preserved the foot better than the iron ones. No aluminium shoes broke, and they were used over again for reshoeing the horses. Moreover, they were worked over hard and very stony ground. The most important fact of all is that aluminium horseshoes are only one-third to one-fourth the weight of iron shoes.

TIME TABLE FOR 1893.—Here is a time table for 1893:—Lent begins February 15 and ends with Easter Sunday, April 2; Washington's birthday, February 22, is on Wednesday; inauguration of the President, Saturday, March 4; St. Patrick's day, March 17, Friday; Fourth of July, Tuesday; Labor day, Monday, September 4; Christmas, December 25, Monday. It will be seen that Mr. Cleveland will have a chance to rest Sunday, March 5, and then to begin bright and early Monday morning to "set things to rights."

Carson Valley Ranchers and Millmen.

The *Appeal* says the long and needless war between the Carson Valley ranchers and the Carson river men stands in a fair way of being settled. The proposed basis of compromise is as follows:

The Mill Company and the ranchers are to enter into a stipulation that the mills take a decree for 6,000 inches of water from September 15 each year to June 15 of the following year, and for 5,000 inches from June 15 to July 15 of each year, the ranchers to have all the balance of the water flowing in the river, and from July 15 to September 15 of each year the ranchers to have all of the water flowing naturally in the river, the water to be measured at Cradlebaugh's bridge in a box or gate to be constructed under the joint supervision of the ranchers and millmen. It is understood that 6,000 inches is about the quantity of water that will fill the Mexican ditch at Empire. The ranchers are to have sufficient water for domestic purposes and for watering stock at all seasons of the year without regard to the quantity in the river.

It is believed the mill companies will accept the compromise.

THE first paper of which mention is made was manufactured from papyrus in Alexandria, and was used by the nations living upon the shores of the Mediterranean. The art of making paper from fibrous matter reduced to a pulp in water is supposed to have been discovered by the Chinese about 1800 years ago. The Saracens, it is thought, acquired the art of making cotton paper about the year 704. The oldest manuscript written upon paper of this kind is in the Bodleian collection of the British Museum, and bears date 1409. In 1085, paper was made of rags instead of raw cotton. A specimen of linen paper is found bearing date 1100. In 1390, a papermill was established at Nuremberg by Ulman Stromer, operated by two rollers which set 18 stampers in motion. The first papermill in America was established by Wm. Rittinghousen and Wm. Bradford, on a small stream called Paper Mill Run, near Philadelphia; the second in 1710, at Germantown, Pa. In 1729 a papermill was built upon Chester creek, Pa. The first papermill in Massachusetts was built at Milton in 1730. At the beginning of the Revolution there were three small mills in Massachusetts and one in Rhode Island. Now, large quantities of paper are made in this country and exported to England, Ireland, Australia, Mexico and the West Indies.

RENAN'S ALLEGORY.—The beautiful allegory, of which so pathetic a use was made by M. Renan in his "Recollections of My Youth," is thus translated, the translation being written by C. B. Pitman, and revised by Madame Renan: "One of the most popular legends in Brittany is that relating to an imaginary town called Is, which is supposed to have been swallowed up by the sea at some unknown time. There are several places along the coast which are pointed out as the site of this imaginary city, and the fisherman have many strange tales to tell of it. According to them the tips of the spires of the churches may be seen in the hollows of the waves when the sea is rough, while during a calm the music of their bells, ringing out the hymn appropriate to the day, rises above the waters. I often fancy that I have at the bottom of my heart the city of Is, with its bells calling to prayer a recalcitrant congregation. At times I halt to listen to these gentle vibrations, which seem as if they came from immeasurable depths, like voices from another world. Since old age began to steal over me I have loved, more especially during the repose which summer brings with it, to gather up those distant echoes of a vanished Atlantis."

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Stock, together with horses, wagons and implements,
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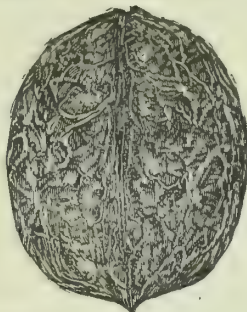
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Fruit is round, of medium size, VERY HIGHLY COLORED, flesh firm and sweet.

THIS PEACH HAS BEEN SUCCESSFULLY SHIPPED EAST FOR FIVE YEARS and
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capital. J. J. H. GREGORY & SON, Marblehead, Mass.

Seeds, Plants, Etc., Continued on Page 91.

Agricultural Wealth.

The Government officials in the agricultural Department at Washington, says the *San Francisco Bulletin*, endeavored to inform the public from time to time, not only as to the quantities, but also as to the values on the farms of the products produced. They have recently figured out these values with respect to the leading products for 1892. The averages compare as follows with those for 1891:

	1891.	1892.
Wheat, per bush.....	85.3c	62.4
Corn.....	42.2	39.3
Oats.....	32.2	31.6
Potatoes.....	37.1	67.3
Cotton, # lb.....	7.3	8.4
Rye, # bush.....	77.4	54.8
Barley.....	54.0	47.2
Tobacco, # lb.....	7.5	—
Hay, # ton.....	\$8.39	\$8.49

This is the lowest valuation for wheat ever reported. The average for 1891 was 83.9c, for 1890 it was 84c against 70.6c for 1889, and 92.6c in 1888. Corn was 5c lower in 1889 than this year. The same is true of oats. Potatoes are 10c lower than in 1890, but higher than in other years. Rye is 9c better than in 1889, and barley 5c better. Cotton is 1c better than in 1891 and up to the average of the previous three years.

Applying the average to some of the crops produced this year we have the following aggregate values as compared with last year:

	1891.	1892.
Wheat value.....	\$521,000,000	\$322,000,000
Corn.....	867,000,000	650,000,000
Oats.....	239,000,000	208,000,000

Total.....\$1,627,000,000 \$1,180,000,000

The difference in the average price of cotton is equal to \$5.50 per bale. Calling the crop this year 7,000,000 bales, the value is \$294,000,000, against \$328,000,000 last year, a difference of \$34,000,000. This large falling off in agricultural wealth this year, due in part to lower prices and in part to decreased yield, accounts for the lessened ability of the farming population to spend money either in the form of general trading or for investment purposes. With such a large difference in the money ability of this large class of buyers and investors, it is no wonder that currency should fail to show up as plentifully in rural districts as last year. But it is not altogether fair to compare the returns along this line with last year, because the agricultural products in the United States in 1891 were unusually bountiful and generally the prices were good.

The area under wheat was 38,554,430 acres and the yield 515,945,000 bushels, or over 500,000,000 bushels of 60 lbs each. The average per acre was 13.4 bushels. The price was 2c per bushel lower than in 1884, the year of lowest prices in the current century. The area under corn was 70,626,658 acres, yielding 1,628,464,000 bushels, or 23.1 bushels per acre. This crop has been exceeded seven times in the last decade, while the average per acre has been exceeded six times in the same interval. The acreage in oats was 27,063,835 acres, and the yield 661,035,000 bushels, or 24.4 bushels to the acre. The farm value of these three crops is estimated at \$447,000,000 less than in 1891. The effect of these decreased resources will be spread over the twelve months ending June 30, 1893. The fact that the revenues from these sources for 1891 were unusually large makes the comparison with that year less serious than under other circumstances.

Crop Conditions the World Over.

The *Liverpool Corn Trade News* of December 20th gives the following summary of crop conditions in the world:

UNITED STATES—Acreage, 26,500,000 (winter crop). The winter crop presents a fairly satisfactory appearance. The latest official estimate of the condition being 87.4 against 85.3 a year ago, and 98.4 in December, 1890. Acreage likely to be reduced.

CANADA—Acreage, 960,000 (Ontario winter crop). Fair prospects. Acreage likely to be reduced.

FRANCE—Acreage, 17,300,000. Growers in general express themselves satisfied with the condition of the growing crop, but more seasonable weather is desirable in order to check vegetation and kill off the grubs, which are already doing considerable damage in some districts.

RUSSIA—Acreage, 6,500,000 (winter crop). The crop has gone into winter quarters in exceptionally good form, after starting rather badly, particularly in the southwestern districts.

INDIA—Acreage, 26,000,000. Crop reported as doing fairly well; no complaints, nor any reason for congratulation.

ITALY—Acreage 11,000,000. Official advices are to the effect that the condition is highly unsatisfactory.

AUSTRIA-HUNGARY—Acreage, 10,000,000. Milder weather after a great snow fall. Crops at present in normal condition.

GERMANY—Acreage, 6,000,000. Snow disappeared; crop reports satisfactory, excepting in Saxony, where drought interfered with the sowing.

SPAIN—Acreage, 6,000,000. Condition of the crop is thoroughly satisfactory.

AUSTRALASIA—Acreage, 3,500,000. Fine crop in South Australia and Victoria, but damaged at harvest time by storms. New Zealand good prospects, area curtailed.

ARGENTINE—Acreage, 3,500,000. Wheat harvest in full swing in the earlier provinces. Conditions excellent.

CHILI—Acreage, 2,000,000. Good prospects for wheat, but a drought caused a failure of the barley crop. Wheat crop described as a month late.

ROUMANIA—Acreage, 4,000,000. The winter crop well protected by snow. Area reported as very curtailed in parts.

BULGARIA—Acreage, 1,800,000. Crop prospects normal.

ALGERIA—Acreage, 3,000,000. The wheat crop was seriously jeopardized by drought, but timely rains have relieved the situation somewhat. Further reports anxiously expected.

UNITED KINGDOM—Acreage, 2,000,000. Agricultural work is, as a whole, well advanced, but the area promises to show a further falling off.

Summing up the crop reports in a few words, we would say that prospects are above an average on a curtailed acreage, and that the present mild weather is abnormal and unfavorable.

Wide or Narrow Tires.

Our readers will be interested in the following from Clem Studebaker, of Studebaker Bros. Manufacturing Co. He says: "There can be no doubt that the general adoption of wide tires would work less harm to poor roads than would narrow tires. Broad tires for wagons, of any width that would be practical, would not, in my opinion make good roads. They will simply have less tendency to cut up poor roads than would the narrow tire. The harm to wagon-roads commonly occurs when the surface is saturated with rain and the roadbed is soft and yielding. At such times loaded vehicles fitted with wheels with narrow tires cut out ruts in the roadway more or less deep, according to the length of the wet spell and the frequency of the passage of such vehicles. When, however, the roadbed is solid and care is taken to promptly fill up inequalities which may be created by reason of the wear and tear of the surface, in such event narrow tires, to all intents and purposes, are no disadvantage to the roadbed, while they are unquestionably of greater advantage to the vehicle. Narrow tires tend to lighten draft in drawing loads over smooth roads and over soft roads. Over surfaces that are sandy or yielding in their nature the wide-tire wagons give the best results. The wide-tire wagons are accordingly better for general field use. We have, by the aid of a dynamometer, made a series of exhaustive experiments with the wide and narrow-tire wagons, and the result of these experiments justifies the statement contained in the foregoing.

"The supply of timber for felloes for wide-tire wagons is less abundant than that which is suitable for narrow tires. On this account wide-tire wagons are more expensive than those which have the usual tire, and in case of a greatly increased demand for them, the timber supply of this nature already being somewhat scarce, the tendency will be to still higher prices for wide-tire wagons."

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Take the Santa Fe route. You will find it to your interest to call on or address the undersigned before purchasing tickets. No other line crossing the continent can offer you a trip combining equal comfort and pleasure. The only line running Pullman palace and tourist sleeping cars through to Chicago on the same train every day without change. Personally conducted excursions through to Boston leave every Tuesday. W. A. BISSELL, 650 Market Street, Chronicle Building, San Francisco.

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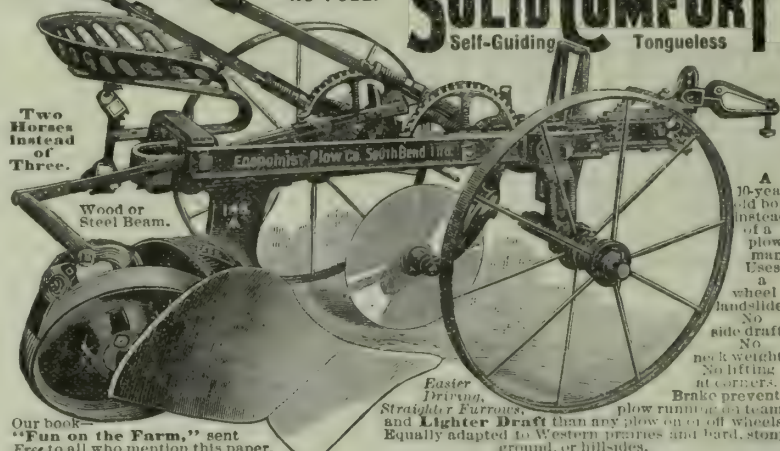
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NO BETTER PROOF.



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"Mrs. John Gemmill, of this place, was thrown from a wagon, sustaining a most serious injury to her spine, and was
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unable to walk. Her daughter providentially procured two bottles of
ST. JACOBS OIL,
which Mrs. Gemmill used. Before the second bottle was exhausted, she was able to walk about, and has been
COMPLETELY CURED."
Very truly,
M. THOMPSON, POSTMASTER.

THE "WONDER ON WHEELS."
NO POLE.

ECONOMIST PLOW CO., So. Bend, Ind., or Stanton, Thomson & Co., Sacramento.
Special prices and time for trial given on first orders from points where we have no agents.

FOR \$19.00

We can send you one of our
SPECIALTY SINGLE BUGGY HARNESS,

Which is the result of years of figuring to make the best harness ever known for the money. It is made from oak stock, hand stitched and finished by skillful mechanics, handsome full nickel or Davis hard rubber trimmings.

Just the Harness for an Elegant Turnout.

They sell here for \$25.00, and harness not as good is often sold for \$35.00 in retail shops. If harness is not as represented, money will be refunded.

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110 McAllister St., San Francisco.

Collar and Hames, instead of Breast Collar, \$2.00 extra.

Please state if you want single strap Harness, or folded style Harness, with traces double throughout.

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FOR SALE.

Near Saratoga.....Santa Clara County.
THE BEST AND CHEAPEST FRUIT LAND IN THE STATE.

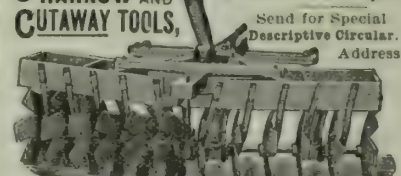
40 Acres—a splendid place.....\$75.00 per acre
40 Acres—15 acres in prunes.....85.00 "
120 Acres—one half cleared, all good soil.....30.00 "
20 Acres—all in fruit, mostly prunes, 15 acres full bearing.....225.00 "
15 Acres—Good house and barn, 10 acres full bearing trees; price.....\$5,000.00
Apply at once.

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FARMERS who have
CUTAWAY HARROW AND
CUTAWAY TOOLS, increased crops.

CUTAWAY HARROW CO., HIGGANUM, CONN.
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ALLISON, NEFF & CO.,
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General Agents for Northern California.

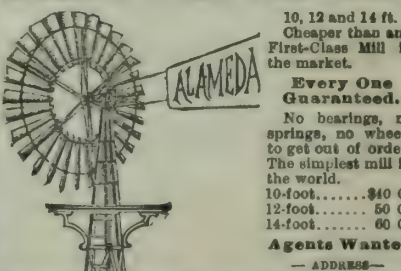
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ALAMEDA STEEL WIND MILL.



10, 12 and 14 ft.
Cheaper than any First-Class Mill in the market.

No bearings, no springs, no wheels to get out of order. The simplest mill in the world.
10-foot.....\$40.00
12-foot.....50.00
14-foot.....60.00
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RUPTURE FILES and all Rectal Diseases POSITIVELY CURED, in from 30 to 60 days, WITHOUT OPERATION OR DETENTION FROM BUSINESS. ALSO ALL NERVOUS, SKIN, BLOOD, PRIVATE AND CHRONIC DISEASES OF BOTH SEXES. STRUCTURAL AND UMBILICAL TROUBLES CURED. No charge unless cure is effected. Consultation free. Call or address for pamphlet. DR. PORTERFIELD & LOSEY, 888 Market St. San Francisco, Cal.

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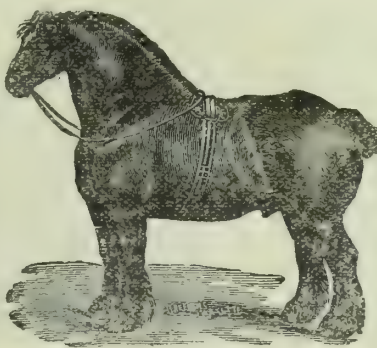
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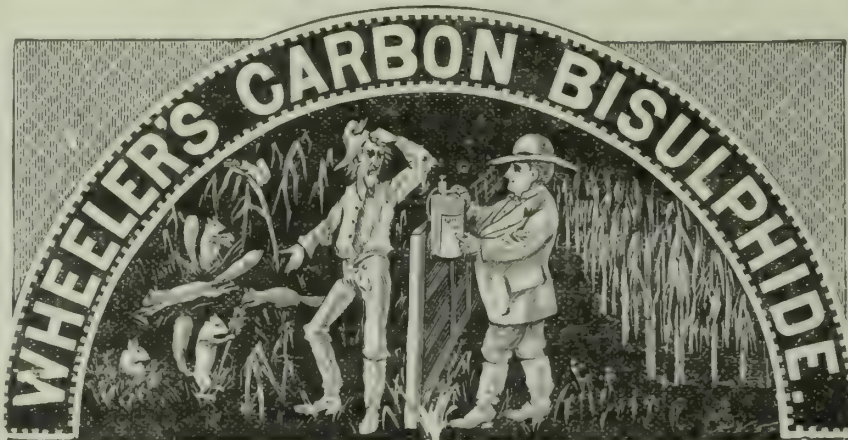
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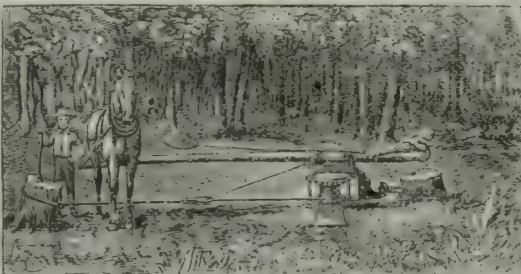
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S. H. MARKET REPORT

Market Review.

SAN FRANCISCO, Jan. 25, 1893.

The cold weather of the past week has had a somewhat depressing effect upon the demand for fresh fruits. The produce market generally has been without notable changes. Stiffness and a continued upward tendency mark provisions. Dried fruits are in decidedly good tone, and prices have an advancing tendency. Wheat and barley are dull, and there is a fair demand for oats. Summarized, the foregoing are the chief features for the week of the San Francisco markets.

Cereals.

The visible supply of wheat in the United States has recently experienced increases that have been less from week to week, and it may be expected that from now on the stocks will be at nearly a standstill. There is no little encouragement to be found in the fact that the already vast supplies of wheat are likely to be increased no more during the present season, or, if augmented, not appreciably. The bottom, it would appear, has been reached at last. The effect has been manifest in the small advance of prices beginning about the new year, and continued slowly but without material interruptions to this time. It is true, however, that the market has shown weaker developments during the past week than for several weeks preceding. But it is perfectly plain that the conditions are now better than for some time, and it is evident also that these improved conditions have been discounted by purchasers at home and abroad. During the week, wheat has shown more softness at Chicago than elsewhere, due largely to local speculation and unusual efforts on the part of bears.

For the month of January there have been 14 vessels cleared with wheat for Europe against 18 last year. Tonnage figures are beginning to approach those of a year ago, and there is less difference between the respective totals of idle tonnage now than two months ago. It is true that several of these vessels are loading on owners' account, but nevertheless the local situation will be relieved by this method, as well as by regular charters.

Flour, usually so ready to advance when there is improvement in the wheat quotations, remains in the same conditions and at the old figures. The reason is found in the war between mills in and out of the "combine." These latter number three—the Starr mills, the Crown mills, and the Union mills at Stockton, with a total combined capacity of about 125,000 barrels per month. They are turning out perhaps as much flour at present as the "combine" mills with a larger capacity, but these have closed down a number of mills and are producing flour from those only which can be operated more economically than others. There are signs that the war will not last much longer. Anti-combine mills say they have not received the support they deserve from the public for fighting the organization of a trust, and they think they would be justified if they consulted their own interests, declared a truce, and cooperated with the "combine."

It was expected that, with a reduction of overland rates on barley, and the extension of market for the California product, decided improvement in prices would follow. Anticipation, however, has not been fully realized. Cold weather has interrupted local consumption, and export demand is weak. Higher prices prevail for choice feed, but there is not much demand.

Milling oats have a firmer tone, with small receipts and fair demand. Black are active.

There is an oversupply of rye.

Fruits.

Prices and demand for fresh fruits range low with the thermometer. There has been for a week poor demand for oranges, but it may be expected to improve with milder weather. Seedlings are scarce. California lemons have not been coming in of late, and there has been an advance of prices. Quotations are now \$3.00 per box against \$2.00 to \$3.50 a week since. Extra choice bring as high as \$4.50. The quality of lemons has a wide range, and prices are generally based on their appearance. Choice Sicily are in fair demand, but they do not bring much better prices than fine lots of California. Apples are plentiful though extra choice sell readily as high as \$1.75 per box. Good apples go off at \$1.25. Dealers do not expect much change in conditions for the present. There is no demand for pears, the quality of which is poor.

Dried Fruits.

The dried fruit market is in excellent condition. A better feeling is prevalent everywhere. The situation is thus fairly summed up by a local party: "The dried fruit market presents no special features for the past week, with the exception of a firmer feeling all along the line. This is especially noticeable for evaporated apples, which are held very firmly. It is estimated that there are not to exceed 10,000 boxes on this coast, which is much less than the amounts usually held at this season of the year.

"The crop in Oregon and Washington was a failure this year, and they are now drawing their supplies from this market, while a year ago they were shipping large quantities for sale here. The markets East have advanced rapidly within the past two weeks, until now they are from one to two cents higher than prices prevailing on this coast. Consequently there can be none shipped westward.

"Peaches are steady at last quotations, and the small amount of stock now remaining will all be cleaned out at full figures.

"Quotations on apricots are nominal, as there are but light supplies and no more for sale in carlots for eastern shipment.

"Prunes are held with remarkable firmness, owing to the light supplies and active inquiry for these goods from the East during the past week. Imported have advanced in New York and much more attention has been given to California.

"Pitted plums, sun-dried apples and miscellaneous dried fruits are in light supply and quotations are unchanged.

"The past week was one of remarkable activity in raisins, and it is believed by those in the trade that the stock now remaining on this coast is much less than generally estimated."

Porter Bros. express their confidence in continued

firmness of the market throughout the whole range of dried fruits.

Poultry.

Poultry is somewhat weaker to-day than at the first of the week. Three carloads are expected from the East, and dealers are anxious to get rid of stocks. The demand is fair. Geese have advanced slightly. Game is generally lower. Mallard ducks are higher.

Provisions.

Hams and bacon are higher than ever, and there is a prospect of even further advances. The shortage in Eastern markets has experienced no change. Advanced prices seem to be altogether due to natural causes, and in no sense to speculation. As a matter of fact, there is practically no speculation in Chicago, purchases being devoted largely to actual consumption. In California, neither hogs nor bacon are being offered freely, for two reasons: Holders do not want to sell when there is such a fair prospect of further advances, and the supply is small, anyway. The shortage in the East is unprecedented and so, for that matter, are prices. The expectation is, that present conditions will rule for three or four months, for the very good reason that there are no stocks in the whole country sufficient to satisfy the great demand.

Vegetables.

Receipts of potatoes have been free, but, notwithstanding, the market has remained steady. River Reds have advanced. Sweetens are stiff.

There is a good shipping demand for beans, with light receipts. Quotations are not materially changed, but the market generally is firmer.

New vegetables are scarce, and some of the varieties are temporarily absent from the market. There is an oversupply of peas, and asparagus brings a fancy figure for choice. There is much of poor quality for almost any price.

Onions are higher.

Butter, Eggs and Cheese.

California ranch eggs suffer in competition with Eastern cold storage. Milder weather is likely to bring about a change in these conditions. Quotations for ranch eggs are at present nominal.

Butter holds up only fairly well. Receipts are liberal. Dealers predict a fall in prices with the end of the cold snap.

Extra good cheese brings satisfactory prices. The demand is good.

Live Stock.

Responding to advanced quotations in the provision market, hogs are up. Choice beef is in good demand, and mutton sells well.

Miscellaneous.

There are no new features in wool. Stocks are small and quotations unchanged.

The demand for bran is small. Hay is weak.

Nuts sell fairly well. There is no change in quotations.

Offerings of corn are large, and the market is not strong.

Local Tonnage Statistics.

The following is a summary of the engaged and disengaged tonnage here and on the way to this and neighboring ports yesterday morning:

	1893.	1892.
Chartered for grain.....	49,244	51,158
Miscellaneous charters.....	13,846	17,348
Disengaged.....	105,247	77,819
Totals.....	168,437	146,325

At neighboring ports—
Total tons for 1893.....24,362
Total tons for 1892.....49,319

TONNAGE ON THE WAY.

	1893.	1892.
To San Francisco.....	263,766	242,069
To San Pedro.....	5,907	1,985
To San Diego.....	16,345	21,060
Totals.....	286,027	265,084

The disengaged list consists of 57 vessels, of which 12 are American, 2 are German, 1 is Norwegian and 42 are British.

The list of vessels in port chartered for Grain numbers 24, of which 21 are British, 1 is Italian and 2 are German.

California Grain Crops.

According to the report of the Department of Agriculture the yield of wheat, oats and corn in California in 1892 was as follows:

	Acres.	Bushels.	Value.
Wheat.....	3,012,057	39,157,000	\$26,626,584
Oats.....	67,829	1,987,000	794,956
Corn.....	72,500	2,197,000	1,208,213

Showing a total of 3,152,386 acres devoted to these crops, and a total value of \$28,629,753 for the products. Wheat is estimated at average of 68 cents per bushel (or \$1.13 per cental); oats, 40 cents per bushel, and corn nearly 55 cents per bushel.

For a long time the Department has wholly ignored the barley crops of this State, though in yield and value this cereal stands next to wheat, and this is the chief producing section of the country. Neither has any systematic attempt ever been made here to ascertain the actual yield of barley in the State, aside from the unsatisfactory returns of assessors, and local estimates have been the merest guesswork.

Flour and Cereals.

Detailed statements have already been published in these columns showing the quantities and countries to which exported by sea of wheat, flour, barley and oats. The totals for 1892 and 1891 compare as follows:

	1892.	1891.
Wheat, cts.....	9,762,816	16,947,917
Flour, bbls.....	1,115,267	1,231,993
Barley, cts.....	1,347,572	936,783
Oats, cts.....	22,041	12,955

An increase of 390,789 cts. is shown for barley in the past year, and this is one of the most notable exceptions to be mentioned in connection with the general course of trade in 1892. There was also a small gain in favor of oats. This article has not yet attained much prominence in the export trade of this port, California having, in fact, to draw largely on Oregon and Washington to meet the home requirements. Although 1891 was an exceptional year in the wheat trade, the exports last year fell below several previous ones, and the demand for flour was less than in any other year since 1888.

The export values of the above-mentioned articles were as follows:

	1892.	1891.
Wheat.....	\$14,254,905	\$27,328,951
Flour.....	4,680,704	5,781,590
Barley.....	1,402,014	1,289,391
Oats.....	31,960	21,474
Totals.....	\$20,369,583	\$34,516,406

Showing a comparative loss of \$14,146,823 for the past year.

Chicago Grain Trade.

The receipts of flour and grain at Chicago in 1892 were as follows:

Flour, bbls.....	5,939,300
Wheat, bushels.....	50,389,000
Corn.....	78,737,000
Oats.....	80,003,000
Rye.....	3,633,000
Barley.....	17,089,000

In bushels.....	256,528,000
In 1891.....	231,820,000
In 1890.....	224,348,000

The quantity of wheat received is 8,000,000 bushels larger than in 1891, while oats and corn each show an increase of 6,000,000 bushels, and barley 5,000,000 bushels. Chicago has for some time been the great grain center of the West, receiving and shipping the surplus products of a number of States. The farmers of the West sent 200,000,000 bushels wheat to nine of the leading markets in the last six months in 1892, against an average of 93,500,000 bushels per annum for the same time in the previous seven years.

Exports of Wine and Brandy.

The combined exports of Wine by both sea and rail from California during 1892, and for the three preceding years compare as follows:

	Cases.	Gallons.	Value.
By sea.....	15,876	4,843,128	\$2,336,117
By rail overland.....	36,948	6,330,624	2,680,041
Grand totals.....	52,824	11,173,752	\$5,016,158
In 1891.....	44,615	11,174,029	5,001,781
In 1890.....	9,258	9,091,997	3,792,492
In 1889.....	5,668	7,920,939	3,774,258

*No overland report on cases.

The combined exports of Brandy from California by both sea and rail during 1892, and for the three preceding years compare as follows:

	Cases.	Gallons.	Value.
By sea foreign.....	621	249,093	\$ 196,832
By sea domestic.....	46	290,864	525,870
By rail overland.....	2,564	366,763	575,684
Grand totals.....	3,221	906,720	\$1,297,386
In 1891.....	1,639	799,612	1,217,419
In 1890.....	436	670,997	909,641
In 1889.....		590,265	985,742

*No overland report on cases.

Produce Receipts.

Receipts of produce from all sources at this port for 7 days ending January 25, 1893, were as follows:

Flour, qr. sks.....	96,323	Wool, bbls.....	95
Wheat, cts.....	450,733	Hay, ton.....	2,385
Barley, ".....	22,344	Straw, ".....	113
Rye, ".....	1,026	Wine, gals.....	223,700
Oats, ".....	13,691	Brandy, ".....	18,800
Corn, ".....	4,763	Raisins, bxs.....	5,480
Butter, ".....	586	Honey, cs.....	
Cheese, cts.....	507	Peanuts, sks.....	
do bxs.....		Walnuts.....	
Eggs, doz.....	34,110	Almonds.....	18
Beans, sks.....	72,084	Mustard.....	
Potatoes, sks.....	35,831	Flaxseed.....	
Onions, ".....	2,507	Popcorn.....	
Bran, sks.....	11,281	Broom corn, bbls.....	444
Buckwheat.....	4,745	Pellow, cts.....	162
Middlings.....	1,555	Hides.....	1,967
Screenings.....		Pelts.....	609
Chicoory, bbls.....	176		
Hops, bbls.....			

Grain Futures.

Liverpool.

The following are the closing prices paid for wheat options per cwt. for the past week:

	Jan.	Feb.	Mar.	April.	May.	June.
Thursday.....	5 11d	6 00d	6 01d	6 02d	6 03d	6 04d
Friday.....	5 11d	6 01d	6 00d	6 02d	6 03d	6 03d
Saturday.....	5 11d	6 01d	6 00d	6 02d	6 03d	6 03d
Monday.....	5 11d	6 00d	6 01d	6 02d	6 03d	6 03d
Tuesday.....	5 11d	6 01d	6 00d	6 02d	6 03d	6 03d

The following are the prices for California cargoes for off coast, nearly due and prompt shipments for the past week:

	O. C.	P. S.	N. D.	Market for P. S.
Thursday.....	31 3d	32 3d	31 3d	Quiet
Friday.....	31 3d	32 3d	31 3d	Quiet
Saturday.....	31 3d	32 3d	31 3d	Quiet
Monday.....	31 3d	32 3d	31 3d	Steadily held
Tuesday.....	31 3d	32 3d	31 3d	Quiet

To-day's cablegram is as follows:

LIVERPOOL, Jan. 25.—Wheat—Firm, but less active; California spot lots, 6s 4d; off coast, 31s 3d; just shipped, 31s 9d; nearly due, 31s 3d; cargoes off coast, steady; on passage, more inquiry; Mark Lane wheat, quiet.

San Francisco.

WHEAT.

	Jan.	May.
Thursday, highest.....	\$1 35	\$1 33
" lowest.....	" 32	" 33
Friday, highest.....	" 35	" 33
" lowest.....	" 32	" 33
Saturday, highest.....	" 35	" 34
" lowest.....	" 32	" 33
Monday, highest.....	" 35	" 33
" lowest.....	" 32	" 33
Tuesday, highest.....	" 35	" 34
" lowest.....	" 32	" 33

*Sample market—choice milling.

The following are to-day's recorded sales on Call: Wheat—Morning—Informal—May, 2200 tons, \$1.33 per cwt. Regular Session—May, 200 tons, \$1.33; 200, \$1.33; December, 100 tons, \$1.38 per cwt.

BARLEY.

	Jan.	May.
Thursday, highest.....	" 97	" 86
" lowest.....	" 87	" 85
Friday, highest.....	" 81	" 86
" lowest.....	" 81	" 86
Saturday, highest.....	" 97	" 87
" lowest.....	" 87	" 86
Monday, highest.....	" 97	" 87
" lowest.....	" 87	" 86
Tuesday, highest.....	" 97	" 86
" lowest.....	" 87	" 85

*Sample market—choice brewing.

The following are to-day's recorded sales on Call: Barley—Informal Session—May, 100 tons, 85c per cwt. Regular Session—May, 300 tons, 84c; 300, 85c; 300, 84c per cwt.

Eastern Markets.

The following shows the closing prices per bushel of wheat for the past week at

New York.

	Jan.	March.	May.	July.
Thursday.....	79	80	82	84
Friday.....	78	80	82	84
Saturday.....	78	80	82	84
Monday.....	78	80	82	83
Tuesday.....	78	80	82	83

The following is to-day's telegram—per bushel:

NEW YORK, Jan. 25.—Wheat—79c for February; 80c for March; 82c for May and 83c for July.

Chicago.

	Jan.	May.	July.
Thursday.....	74	79	78
Friday.....	73	74	79
Saturday.....	73	74	78
Monday.....	73	74	78
Tuesday.....	73	74	78

The following is to-day's telegram—per bushel:

CHICAGO, Jan. 25.—Wheat—78c for May.

Markets by Telegraph.

Visible Supply of Grain.

NEW YORK, Jan. 23.—The following is the visible supply of grain: Wheat, 252,000,000 bushels, an increase of 171,000; corn, 12,176,000 bushels, a decrease of 34,000; oats, 5,617,000 bushels, a decrease of 286,000; rye, 1,000,000 bushels, a decrease of 15,000; barley, 2,054,000 bushels, a decrease of 81,000.

Fruits in the East.

NEW YORK, Jan. 22.—Canned Fruits—Sellers are well supplied through early purchases, and lines on the way will arrive timely for the regular spring business. Holders are seeking trade, as they would have to shade prices, and thus put a safe market in a false position.

Peaches—Unpeeled are in fair demand at 14c@15c. Prunes—The limited crop of prunes last year here, in Turkey and France, is becoming rather emphatically realized. Holders at all points are all in different about offering stock at current quotations, and a strong upward tendency prevails for all packings. In Turkish bags the cheapest lines are held at 7c for small and 8c for medium sizes laid down here. Of Bordeaux stock our market was rarely so bare as now, and it would be difficult to execute orders, as England and the Continent are said to have absorbed all available boxes. The stock of Bosnia and Serbia is believed to not exceed 6,000,000 pounds. Turkey is fast disusing the old-fashioned, cumbersome cask and is packing largely as we do, sealed sizes in bags and boxes.

Raisins—Dull, but sellers seem confident that supplies will go through, as general stocks are certainly lightened by previous business. Three-crown bags 4c spot carload common; others 3c@3c; loose boxes, \$1.20 to \$1.40. Latter fancy layers unchanged. Three carloads of fine Forsyth raisins were destroyed at a warehouse fire on Saturday morning.

Apricots—Prime, 16c@17c. Wool—Is extremely active. Prices naturally hardened with the volume of stock lately taken by consumers. The extent of sales would disprove the rumor which all along has intimated that manufacturers are carrying big reserves. The strong point of the trade during the week at Boston was better prices for upper grades of washed. With supplies as well controlled at all points as they are, choice unwashed can be expected to follow the upward turn, and many lots have been put aside with this view.

Sales at New York 100,000 pounds spring California, about 12c; of other domestic, 53c, 50c pounds. Sales of foreign, 41,000 pounds, including 50,000 pounds Persian fleece.

Sales at Boston, 4,226,600 pounds of domestic, including 234,000 pounds fall California at 1

General Produce.

Extra choice in good packages fetch an advance on top quotations, while very poor grades sell less than the lower quotations.

JANUARY 25, 1892.

BEANS AND PEAS.		FLOUR.	
Bayo, cti.....	2 50 @ 2 60	*Extra, city mills 3 90 @	—
Butter.....	2 75 @ 3 00	Do country mls. 3 90 @	—
Peas.....	2 50 @ 2 75	Superfine.....	2 50 @ 3 00
Red.....	2 75 @ 3 00	NUTS—JABBING.	
Small White.....	2 25 @ 2 50	Walnuts, hard	6 @ 8
Large White.....	2 50 @ 2 60	Do soft shell.....	8 @ 9 1/2
Lima.....	2 90 @ 3 00	Do paper-shell.....	10 @ 12
Fld Peas, blk eye	1 10 @ 1 65	Almonds, stshl.....	12 @ 13 1/2
Do green.....	2 00 @ 2 25	Paper shell.....	13 @ 15
Split.....	4 50 @ 5 50	Hard shell.....	7 @ —
BUTTER.		Brazil.....	10 @ —
Cal., poor to	15 @ —	Pecans, small.....	8 @ 10
fair, lb.....	20 @ —	Do large.....	14 @ 16
Do g'd to choice	20 @ 27 1/2	Peanuts.....	3 1/2 @ 4
Do Giltedged.....	28 @ 29	Filberts.....	10 @ 12
Do Creamery.....	27 1/2 @ —	Hickory.....	7 @ 8
Do do Giltedged.....	31 @ 32	Chestnuts.....	11 @ 12 1/2
Eastern, lad.e.....	15 @ 18	ONIONS.	
Cal. Pickled.....	20 @ —	Silverskin.....	1 25 @ 1 40
Cal. Keg.....	20 @ —	POTATOES.	
East'n Creamy	22 @ —	River Reds.....	65 @ 75
CHEESE.		Early Rose, cti.....	1 00 @ 1 10
Cal. choice	12 1/2 @ —	Peelers.....	80 @ 90
cream.....	12 1/2 @ 14	Burbank Seed's.....	75 @ 85
Do fair to good.....	10 @ 12	Do do Salinas.....	1 30 @ 1 40
Do Giltedged.....	14 @ —	Do do Oregon.....	1 15 @ 1 25
Do Skim.....	5 @ 6 1/2	Sweet.....	50 @ 75
Young America	13 1/2 @ 14 1/2	Extra choice sell for more	money

EGGS.		POULTRY.	
Cal. "as is," doz	30 @ —	Hens, doz.....	6 00 @ 7 00
Do shakys.....	15 @ —	Roosters, old.....	5 50 @ 6 00
Do candled.....	30 @ —	Do young.....	6 00 @ 7 00
Do choice.....	32 1/2 @ —	Broilers, small.....	4 00 @ 4 50
Do fresh laid.....	— @ 35	Do large.....	4 50 @ 5 50
Do do old white	— @ 37 1/2	Fryers.....	5 50 @ 6 50
Eastern cold	— @ —	Ducks.....	6 00 @ 6 50
storage.....	25 @ —	Do large.....	7 00 @ 8 00
Do fresh.....	28 1/2 @ —	Geese, pair.....	23 @ 25 00
Do selected.....	— @ 32 1/2	Turkeys, gobl'r.....	13 @ 15
Outside prices for selected		Turkeys, hens.....	15 @ 16
large eggs and inside prices		Do dressed.....	16 @ 18
for mixed sizes—small eggs		All kinds of poultry, if poor	or small, sell at less than
are hard to sell.		quoted; if large and in good	condition, they sell for more
		than quoted.	

FEED.		Manhattan Egg	
Brans, ton.....	14 00 @ 15 00	Food (Red Ball	Brand) in 100-
Feedmeal.....	25 00 @ 26 00	lb. Cabinets.....	— @ 11 50
Gr'd Barley.....	19 00 @ 19 50	GAME.	
Middlings.....	21 00 @ 23 00	Quail, per doz.....	1 00 @ 1 25
Oil Cake Meal.....	— @ 35 00	Do Mall'd.....	1 00 @ 1 25
Manhattan Horse		Do Sprig.....	2 00 @ 2 25
Food (Red Ball		Do Teal.....	1 75 @ 2 00
Brand) in 100-		Do Widgeon.....	2 00 @ —
lb. Cabinets.....	— @ 8 00	Do small.....	1 25 @ —

HAY.		GRAIN, ETC.	
Compressed ton.....	7 00 @ 10 00	Barley, feed, cti.....	80 @ —
Wheat, per ton.....	7 00 @ —	Do good.....	80 @ —
Do choice.....	— @ 13 50	Do choice.....	84 @ —
Wheat and oats.....	7 00 @ 11 00	Do brewing.....	93 @ —
Wild Oats.....	7 00 @ 9 00	Do do choice.....	93 @ —
Cultivated do.....	6 00 @ 9 00	Do do Giltedged.....	97 1/2 @ —
Barley.....	6 00 @ 9 00	Do Ohevalier.....	80 @ —
Alfalfa.....	8 00 @ 10 50	Do do Giltedged.....	1 15 @ —
Olover.....	8 00 @ 9 50	Buckwheat.....	2 25 @ —
Straw, bale.....	35 @ 50	Corn, white.....	1 02 1/2 @ 1 07 1/2

WHEAT, ETC.		SEEDS.	
Do good.....	80 @ —	Alfalfa.....	9 1/2 @ 10
Do choice.....	84 @ —	Clover, Red.....	15 @ —
Do brewing.....	93 @ —	Do common.....	1 25 @ —
Do do choice.....	93 @ —	Surprise.....	1 45 @ —
Do do Giltedged.....	97 1/2 @ —	Black feed.....	1 05 @ 1 15
Do Ohevalier.....	80 @ —	Do seed.....	1 17 1/2 @ 1 30
Do do Giltedged.....	1 15 @ —	Gray.....	1 30 @ —
Buckwheat.....	2 25 @ —	Rye.....	1 12 1/2 @ 1 17 1/2
Corn, white.....	1 02 1/2 @ 1 07 1/2	*Wheat, milling	2 71 @ 1 35
Do small.....	1 05 @ 1 07 1/2	Giltedged.....	2 62 @ —
Oats, milling.....	1 35 @ 1 37 1/2	Do choice.....	2 62 @ —
Feed, choice.....	1 37 1/2 @ —	Do fair to good.....	1 25 @ —
Do good.....	1 34 @ —	Shipping choice.....	1 25 @ —
Do fair.....	1 30 @ —	Do good.....	1 25 @ —
Do common.....	1 25 @ —	Do fair.....	1 22 1/2 @ —
Surprise.....	1 45 @ —	Common.....	1 20 @ 1 30
Black feed.....	1 05 @ 1 15	HOPS.	
Do seed.....	1 17 1/2 @ 1 30	1892, fair.....	17 @ —
Gray.....	1 30 @ —	Good.....	18 @ —
Rye.....	1 12 1/2 @ 1 17 1/2	Choice.....	19 @ —

Live Stock.

BEEF.		MUTTON.	
Stall fed.....	6 1/2 @ —	Wethers.....	6 1/2 @ —
Grass fed, extra.....	6 @ —	Ewes.....	6 @ —
First quality.....	5 @ —	Do Spring.....	7 1/2 @ 8
Second quality.....	5 @ —	HOGS.	
Third quality.....	4 1/2 @ —	Light, 30 lb. cents.....	6 @ —
Bulls and thin Cows.....	2 @ —	Medium.....	6 1/2 @ —
VEAL.		Heavy.....	6 1/2 @ —
Range, heavy.....	5 @ 6	Soft.....	5 1/2 @ —
Do light.....	5 @ 6	Feeders.....	5 1/2 @ —
Dairy.....	7 1/2 @ 8 1/2	Stock Hogs.....	5 1/2 @ —
		Dressed.....	8 @ 8 1/2

Hints on Home Furnishing.

There is no good housewife, whether of high or low degree, dwelling in cities, farming districts or the wilderness, who does not feel the keenest pride in beautifying her home and making it comfortable. This is a worthy pride, and in whatever form it manifests itself, indicates an upward growth of the moral and intellectual nature, exerting a refining influence upon those who come within its reach, and promising well for the civilization of the future.

While efforts to furnish and decorate homes are constant, and means at hand are utilized, usually with good effect, it not infrequently happens that the mothers and sisters, upon whom this duty always falls, are puzzled for new ideas and stand in doubt of their own good taste in selecting furniture, draperies, carpets, etc., that all may be suitable and harmonious with the place and purpose for which they are intended. It is with a view of aiding the eye and guiding the taste of those who live at a distance from social and manufacturing centers that the California Furniture Company have issued a handsome illustrated catalogue that will be sent free to every woman in the land who asks for it. The California Furniture Company carry the largest and best-selected stock of modern furniture on the coast. Warehouses and salesrooms are at 117 and 119 Geary street, San Francisco. Write for one of their catalogues.

KEEPING DRIED FRUIT.—One of our subscribers from El Dorado county informs us that he finds that a good method of keeping dried fruit from becoming wormy is to place the fruit in sacks ready for shipment, stack them up in a pile in a dry place, and cover them over with hay. He says dried fruit thus treated will keep bright and in good condition any length of time.



PHILLIPS' CLING PEACH.

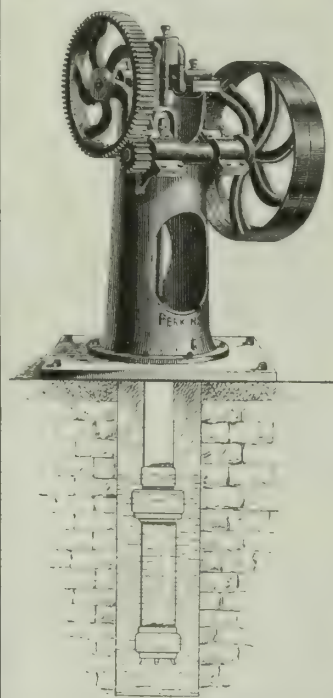
Phillips' cling peach, shown in the engraving, originated with the well-known orchardist, Joseph Phillips, of Sutter county. It is a fine, large, yellow cling; no color at the pit, which is small. It is exceedingly rich and high-colored, and has been described by Mr. Skinner, superintendent of Marysville cannery, as the best peach he ever saw; and we are informed that both the Marysville and Yuba canneries have paid one-half cent more per pound for it than for any other variety of peach, during the last three years.

A. T. Hatch writes of the Phillips' cling:

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W. H. Wright, manager of the San Jose Fruit-Packing Co., writes: "We believe the Phillips' cling to be the best cling peach yet; it is certainly up to date the finest of anything known."

J. T. Bogue, of Marysville, the well-known nurseryman, was the first to propagate Phillips' cling, and has now 25 acres in bearing. He says he has never seen a case of mildew in all the trees he has grown. We understand that Mr. Bogue has a stock of trees for sale this season.



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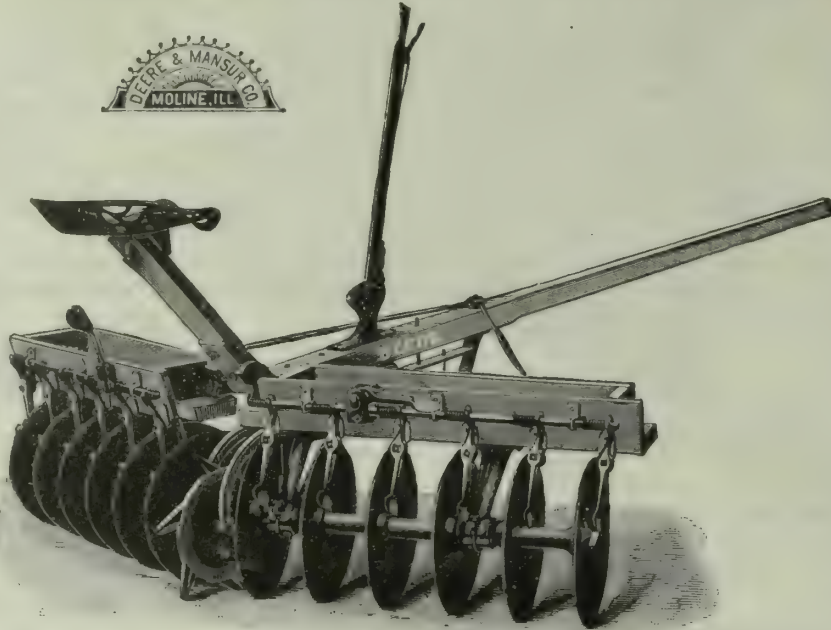
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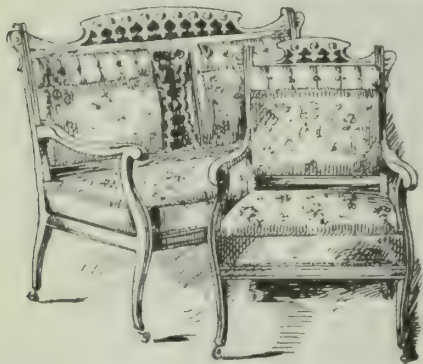
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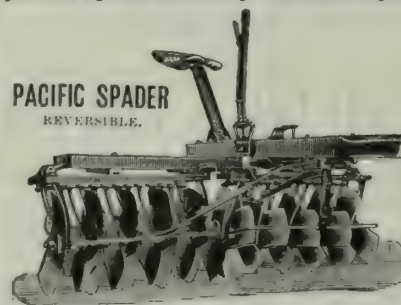
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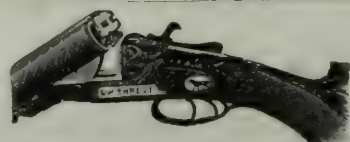
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Vol. XLV. No. 5

SAN FRANCISCO, SATURDAY, FEBRUARY 4 1893

THE DEWEY PUBLISHING CO.
Office, 220 Market St.

Cooking Spraying Material by Steam.

Read at the January meeting of the State Horticultural Society by H. P. STABLER, of Yuba City.

After having used the lime, salt and sulphur wash for pernicious scale on deciduous trees for several years, the writer became satisfied that success with this remedy could only be achieved by *thoroughly* boiling the ingredients before spraying the trees. The materials used are bulky, and simply constitute *whitewash*, unless they have been subjected to long boiling, when they are thoroughly dissolved and incorporated into a chemical solution.

The old system of cooking the remedy in iron vats was found to be impracticable from the fact that only a comparatively small quantity could be cooked at a time, and much difficulty was experienced in keeping the mixture boiling. There was always a tendency to "boil over" as soon as the fire had become very hot. Work around the kettles was rendered very disagreeable on account of smoke and heat.

The presence of the scale made it necessary for us to spray our entire orchard—100 acres—of seven-year-old trees last winter, and the expense of preparing the wash under the old primitive way would be so great we decided to adopt an entirely new system, viz., cooking by steam.

We procured a 12-horse power boiler and attached pipes, vats and hot-water tank, as shown in photographs accompanying this paper. [See engraving.] Two galvanized-iron vats, of a capacity of 300 gallons each, are used, and the steam is conveyed to them from the boiler through a quarter-inch pipe. The round tank on the scaffold is used for hot water for slacking the lime, etc.

With this outfit we succeeded in making 1500 gallons of spraying material a day, boiling it always more than two hours. We placed 50 pounds of lime and 100 pounds of sulphur in one of the vats and allowed 100 gallons of hot water to run into the vat from the hot-water tank. By turning on the steam we had the contents of the vat boiling almost immediately. After long boiling—never less than two hours and sometimes for three hours—the remaining lime, 150 pounds, and the 75 pounds of salt were added, after having been previously slacked with hot water in the three half-barrels shown in the photographs. The steam was kept up and the contents of the vat boiled for at least half an hour longer. Water was then added until the vat was entirely full. The second vat was managed in the same way. The last batch made up during the day was boiled far into the night.

Three Bean spray pumps were used to spray the wash on the trees. Two men were required to weigh, measure and mix the materials and keep up steam. We kept about 30 or 40 pounds of steam in the boiler, but found that very little was required for our purpose.

An improvement in our arrangements could be made by having the vats on a platform about six feet from the

ground. The material could then be "run" into the 100-gallon tanks on the spray-trucks without the necessity of using buckets.

At the end of the season, after having used a carload of lime and five tons of sulphur, we had only about two buckets of residue from cleaning the vats. This showed conclusively that the long, hard boiling had almost entirely dissolved the materials used. I have seen over ten times as much residue from a much less quantity of lime, sulphur and salt, cooked in the old way by direct heat of the fire. The action of the steam, as it comes from the pipes, keeps the ingredients thoroughly stirred all the time, and there is, of course, no danger of the material adhering to the bottom of the vat and burning.



OUTFIT FOR STEAM-COOKING OF INSECTICIDES, RANCHO SUTTER, NEAR YUBA CITY.

We observed that the trees did not appear as white after being sprayed last winter, as they did the season before, and infer that the spray had been so thoroughly cooked that it was not *whitewash*, but a chemical solution.

As to final results: We have entirely eradicated the pernicious scale, and will not be under the necessity of using our outfit this winter.

Two bills for the promotion of the fruit industry have been presented to the Oregon legislature, modeled after the California laws against the importation of diseased fruit trees and for the destruction of fruit pests. Strange to say, they encounter much opposition from the public press. Within certain bounds, Oregon is a good fruit State, and fruits ought to be a large portion of its wealth; but the industry must be properly encouraged.

FOREIGN investigators have just given a new name to what they describe "the California vine disease." They claim that it is due to a specific fungoid parasite, *Plasmodiophora californica*—an organism new to science. We suppose they refer to the Anaheim disease, and if so, the new name ought to satisfy the most ambitious. It will be some satisfaction, if this is the disease they refer to, to get some sort of a report as to its specific cause.

The Last Florida Freeze.

Advices by mail unfortunately bear out the early telegraphed advices concerning the serious injury wrought upon Floridian citrus fruit groves by the severe freezes of the middle of January. The injuries are said to be the most grave that the oldest inhabitants have ever known. It is claimed that from one-half to two-thirds of the crop has been ruined, and in low and exposed places many trees have been killed outright. We hope this will be found to be an exaggeration.

There will be no disposition in California to rejoice over the visitation of frosts which have badly injured the Florida orange crop; but the orange-grower here is perfectly justified in making the most of the situation. Riverside has been holding back her pack until the news from Florida was definite, but it will soon be sent forward. Other communities are watching the situation with equal closeness, and are fully prepared to do that which is likely to prove most beneficial to them.

THE Farmers' Institute at Malaga, Fresno county, proved a very successful meeting, filling three sessions with interesting and important transactions. The attendance was less than desired, but there was some new material at hand and it was gathered in. At several recent Institutes it has been our pleasure to note the appearance of new-comers to the State who are familiar with the results of Institute work at the East. Their participation is always cheering, and will be of notable value in advancing the local appreciation of the importance of the effort now being made to acclimate the Institute here.

The Southern California Farmers' Institute has issued an excellent programme for its next meeting to be held at Rivera on Tuesday and Wednesday of next week, Feb. 7th and 8th. We hope our readers in that part of the State will advertise and attend this meeting. An Institute is under preparation by Sacramento Grange to be held March 1st.

NEW ENGLAND capital, it is announced, is about to seek investments in large amounts in California fruit industries. A company has been organized in Rhode Island with a capital of \$40,000 for the purchase of an extensive tract of land and the planting of deciduous fruits, principally French prunes. The company is said to have attracted widespread attention in New England because of the well-known conservatism of its stockholders, comprising some of the leading capitalists and bankers of Providence. Accompanied by Mr. A. Bull, of the West Coast Development Company, a party of investors are about to visit California.

It is one thing to build good roads and another to keep them in first-class condition. Broad tires for wagons are of material help.

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ANY subscriber sending an inquiry on any subject to the RURAL PRESS, with a postage stamp, will receive a reply, either through the columns of the paper or by personal letter. The answer will be given as promptly as practicable.

ALFRED HOLMAN.....General Manager

San Francisco, February 4, 1893.

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BUSINESS ANNOUNCEMENTS.

[NEW THIS ISSUE.]

Harrows and Plows—H. C. Shaw Plow Works, Stockton.
 Vehicles and Agricultural Implements—Allison, Neff & Co. Nursery Stock—Leonard Coates, Napa.
 Live Stock Sale—Killip & Co.
 Windmills and Pumps—Frank Bros.
 Clydesdale Stallions—H. P. Mohr, Mt. Eden.
 Jacks—L. U. Shippee, Stockton.
 Grape Vines—L. D. Butt, Penryn.
 Cannery for Sale—X, this office.
 Caustic Balm—The Lawrence-Williams Co., Cleveland, Ohio.
 Grub and Stump Machine—James Milne & Sons, Scotch Grove, Iowa.
 Protection from Gophers—E. H. Black.
 Nursery Stock—R. T. Sutton, Yuba City.
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 Jack Wanted—H. G. Harvey, Hueneme.
 Alfalfa Seed Wanted—Rancher.
 Bee Supplies—Amos I. Root, Medina, Ohio.

See Advertising Columns.

The Week.

The heavy rains promised last week have come in full measure. The reign of fogs in the interior valleys has been broken, and clear, bright days between days of generous rain have been more in accord with California traditions and far more acceptable. We have had the fringe, as it were, of the cyclonic movement which brought blizzards to the north-central States and phenomenal cold to the Atlantic coast even as far south as the gulf. Farther north on the Pacific side there have been heavy snows and temperatures below zero, but California has so far escaped with temperatures not below 25°, except in higher regions where wintry weather is expected.

The rains are now adequate for present uses in all parts of the State, and in some regions generous. In southern California the rains of the week have been heavier than at the north—the season's total to date in Los Angeles being greater than the full season last year. So far as natural conditions go, the outlook for the year is as bright as could be asked.

THERE is a cafe attached to the California building at the World's Fair, and our home producers have been expecting thereby to dispose of a large amount of California wines to its patrons. But they have encountered sudden and unexpected opposition. The Gage Company, who are by contract caterers to the fair, say that no wines shall be sold in a "cafe" which is allowed to be conducted by others than themselves. A cafe, say they, is a place where coffee and doughnuts may be sold, but nothing else. Of course the California managers insist that the word must be used in what they call its American sense, so as to mean "restaurant." There the matter hangs. Behold, how great a row a little word kindleth!

The Raisin Problem.

As the RURAL goes to press on Wednesday there is in progress in Fresno a meeting of raisin-producers and dealers which is unquestionably one of the most important assemblages ever convened in California. It is true the production of raisins is but one of many industries of California, but it is a great one and upon its prosperity depends not only the success of thousands whose livelihood must now be considered at stake, but the future utilization and development of a much greater area of fertile lands, which are suited to the growth of raisin grapes. But this is not the only ground upon which we may claim great importance for the issue now pending. It is in fact the narrowest measure of its significance. When we consider that the quandary in which the raisin-producers now find themselves is the same which impends all our producing specialties which plan to thrive by supplying the wants of remote consumption, it clearly appears how necessary it is that the universal problem should be correctly handled from the outset. The raising-growers have been first to experience the grievous hardships of large production, coupled with wholly inadequate system of distribution and sale. Orchard fruitmen have anticipated such experience, and they have, it is true, had foretastes of it, but in one way or another they have enjoyed temporary relief. And yet with the extension of orchard-planting and the vast increase of the products thereof, it is clear that the different lines of tree fruits are being carried quickly to face just such an issue as befalls the raisin people.

The wine interest has for some time groped along in the shadowy valley, contending with adverse agencies and conditions, and instead of commanding the situation it has partially yielded to it per force. But the wine interest had a different fight to make and a harder one. It aims to impress itself upon a people not bred to drink wine—a people whose extremes are whisky on the one hand and water on the other, with beer and coffee as right and left centers, and no great place for wine. With raisins, dried fruits and fresh fruits the case is different. There is no question about the demand for them; the people want them, and the measure of their use of them is the size of their purses. But people cannot consume a year's food in a month, and the producer who attempts to supply it in that way becomes the prey of commerce, which has no conscience except that which approves of getting possession, at the lowest rate, of what producers must sell, and parting possession, at the highest rate, of what consumers must buy.

We say the raisin producers have been first to strike the depth of such ill fortune, and their mastery over it will make it easier for each allied interest to conquer also when its turn comes; in fact, we hope that the success of the raisin growers may be so significant that other industries may profit by their work to escape similar ills rather than cut through them.

Our readers are aware of the efforts put forth last summer, centering at Fresno and extending into other raisin regions: how they secured a large adherence to a compact which fixed a minimum price, etc., and how packers and dealers joined in what the public approved as a laudable effort. Though the movement has failed it has probably served some use and yielded experience upon which better organization can be established. Although it was the aim of the association to secure the holding of raisins until legitimate trade demanded them at a fair price, the undertaking lamentably failed and these reasons are assigned:

"Your committee would attribute this deplorable result to the insane competition which exists between rival cooperative raisin-packing companies and rival commission packers of the State, and to the practice which has heretofore prevailed of throwing the great bulk of the raisin crop of the State upon the Eastern market at one time without regard to the consumptive demand; to the fraudulent and dishonest branding of raisins; to the absence of sufficient capital in the business and to the practice indulged in by many of the co-operative packers of consigning raisins to Eastern brokers for one-half the estimated value of the raisins, and requiring the broker to advance the freight and to the sale of these raisins, in many cases upon an already overcrowded market, immediately upon their arrival, at considerably less than their value; to the great jealousy which exists between rival packers, and also between rival brokers; to the absence of any systems of uniform marketing; to the sale by needy growers to packers who trade upon the necessity of the grower and purchase his raisins at prices varying from 1½ to 2½ cents per pound, little more than one-half the cost of production."

This is a brief outline of evils under which the growers suffer. If one seeks their full grievance, and if we mistake not it will be quite fully disclosed at the meeting to which we have alluded, it will be found that a depression exists beyond anything we have seen in many days. The belief exists that many packing firms are profiting by the disaster to the growers and are by extortionate charges against the goods robbing the producers even of the small share which would be theirs by right. This belief, be it correct or otherwise, is no doubt fostered by the refusal to furnish consignors satisfactory statements of the transactions involved in the sale of their goods, on the claim that such state-

ments are impossible, and an arbitrary return is made at a figure which brings the grower face to face with bankruptcy.

In view of these facts we look upon the transactions of this week's convention as of the highest importance. It is easy to point to a remedy, theoretically; it is most difficult to develop a course of action upon a practicable basis. And yet this difficult thing must be done. Unless the growers and their friends can arrange to guarantee the quality of the product in its grades; to place it upon the market in such quantities as the trade demands; to secure such advances as the grower needs and relieve him from the devices of the broker and speculator, and to lift the whole trade above the pitfalls which now beset its progress, the raisin industry will languish and decline, although it has as fair a field and as promising an opportunity as any great productive enterprise could desire.

What will be done toward the results desired by this week's meeting, we cannot of course foresee. It is the plan of the committee having the matter in charge to make a better organization under State law, endowed with certain powers, rights and privileges. If the meeting thus decides to proceed, our reports in next week's RURAL will present the details of the plan.

THE California Drainage and Reclamation Convention has decided to present two bills to the legislature, one creating a board of public works and the other providing for the formation of drainage districts. The latter bill is a very long one, necessarily involving many details and legal safeguards, and providing for the election of officers of the districts, their duties and the manner of carrying out the plan under the direction of the board of public works. The districts to be formed will embrace all lands which will be benefited by one general system of drainage and reclamation, regardless of existing districts. A petition shall be presented by the State board of public works to the board of supervisors of the county interested having the largest assessment roll, the next preceding equalized county assessment roll being the basis for ascertaining the county having the largest assessment roll. Such petition shall pray that the district be organized under the provisions of the act. It also specifies the manner of advertising and forming such districts, assessing the land and enforcing the collection of assessments, and provides for the election of five commissioners—one from each of the natural subdivisions of the district—to act as a board of equalization on the assessment, expenses, etc.

A DEAL of talk has been indulged in by our good friends of the Pacific Northwest over the fact that a steamer has been chartered to carry fruits from Hawaii to Puget Sound and Portland. They seem to expect that the fruit business will thereby be revolutionized and that the source of supply will be diverted from California to these Pacific islands. It is not likely, however, that this new enterprise will materially limit the market for California fruits or other products. It appears that only one steamer has been chartered, and its trips must in the nature of things be so infrequent that it can hardly be depended on as a stable source of supply for so perishable a product as fruit. On the other hand, there is no employment in this particular business for more than one steamer by the Northwest, simply because the market is not large enough. It is possible, but not probable, that an outlet may be provided by rail to the East. But even then Hawaiian bananas would not go far before they would meet the great tide of Indian and Spanish-American fruits now being so copiously bentowed on the United States markets. At any rate, there is no reason to feel alarm that an important market is to be cut off for California products.

THERE is much inquiry in the East for California mustard seed, and rancher Potter of the San Miguel Mesa, San Diego county, seems to have made a "ten-strike." It is reported that he had been harvesting over 300 acres of hay land and observed that wild mustard always crowded in and came to perfect maturity, whether dry or wet seasons prevailed, and could be depended on. Concluding that it would do even better if properly planted he has sown 160 acres to mustard and it is making surprising growth. The barley field adjoining has been checked by dry weather, but the mustard grows as he watches it. The growth of mustard in California has an interesting history. During the civil war the price of seed was so high that often more money was made from mustard garnered from the wheat field than from the wheat itself. Mr. Potter no doubt has a valuable product.

A BILL "to prevent combinations to obstruct the sale of live stock in the State of California," has passed the State Senate. The design is to prevent big dealers from dictating to small dealers where they must make purchases." In other words, it is a blow against a possible cattle trust.

From an Independent Standpoint.

Mr. Blaine's long sickness was ended by a peaceful death on Friday of last week. For ten days he lay half-conscious, his vital powers failing hour by hour, only kept alive by stimulants. He uttered no word and finally ceased to breathe. The members of his family were gathered about his bedside during the last hours and it is believed that he recognized them and knew that the end was near, but he made no effort to speak and passed from life unto death without a message of farewell. Mr. Blaine was born January 31st, 1830, and was therefore within a few days of sixty-three years of age. Concerning the nature of his disease there is singular reticence on the part of his family, but it is understood to have been a species of kidney trouble allied with disease of the lungs. The wide relationship of Mr. Blaine to our national interests and the affection in which he was held by great numbers of his fellow-citizens was illustrated by the interest which his death excited. The President was among the first to call upon Mrs. Blaine and offer his sympathies; both houses of Congress immediately adjourned; the several State legislatures in session passed resolutions of respect and sympathy; flags hung at half-mast in every city of the nation. It was the wish of the President that the funeral should be a state affair and that Mr. Blaine's body should be borne to its resting place from the Capitol; but the family preferred that the rites should be private and simple, and in respect to their wishes the President's plan was given up. But it was impossible to make Mr. Blaine's funeral a private one. On Monday all business in Washington City was suspended and the hearse on its way from the house to church and from church to the Georgetown cemetery passed between lines formed by multitudes. The service, which was purely devotional and of the simplest sort, was pronounced by the family pastor, Dr. Hamlin, of the Church of the Covenant (Presbyterian) of Washington. Mr. Blaine's will, which was opened the day of the funeral, leaves the whole of his property (valued at about \$800,000) to his wife, who is appointed sole executrix.

Mr. Blaine's public career began as sub-editor of a little weekly newspaper in Maine. Later, he was associated with the leading paper of the State as a political writer and took a prominent part in the anti-slavery discussions which preceded the war. His abilities, exerted earnestly on the side of anti-slavery and union, soon won for him a State reputation and an election to Congress, where he took his seat at the beginning of the war. Almost immediately Mr. Blaine took high rank in Congress and he was repeatedly re-elected until he entered the Senate in 1874. For three consecutive terms he was Speaker of the House, each time by the unanimous vote of his own party. Mr. Blaine served in the Senate until Garfield became President, when he entered the cabinet as Secretary of State. This position he resigned shortly after Garfield's death, devoting the ensuing four years to political and literary study and to the writing of his book, "Twenty Years of Congress." In 1884 Mr. Blaine was the Republican candidate for the presidency and was beaten. The next four years were spent in study and foreign travel. In 1889 Mr. Blaine entered the cabinet of President Harrison as Secretary of State and served in that capacity until May of last year. Since that date—and indeed for some months before it—he has been a constant sufferer from the disease which caused his death.

During the years of his great prominence Mr. Blaine has had to do with nearly every question that has been before the American people. He opposed the perpetuation of irredeemable currency; he opposed the Bland Silver Bill of 1878, but favored a bimetallic currency; in 1878 he advocated a subsidy to establish a Brazilian line of mail steamships, and urged the development of our American commerce by the subsidy methods of Great Britain; he denounced the withholding by Congress of appropriations except upon condition of executive complaisance as revolutionary, saying: "Do as we demand or we will stop the wheels of Government"; in 1878 he denounced the injustice wrought to the whites of the Northern States by the denial of suffrage to the blacks, since by its enjoyment a full representation suppressed suffrage, the South had a larger representation than the North, since in Iowa and Wisconsin it took 132,000 whites to send a man to Congress and in South Carolina, Mississippi and Louisiana it took but 60,000 whites. From the first Mr. Blaine vigorously advocated the restriction of Chinese immigration.

These are only a few of the general positions taken by Mr. Blaine during the past fifteen years, but they serve to illustrate the general character of the man and his relationship to the legislation of the country during the period of his congressional service. It is true, perhaps, as has often been stated, that no great legislative achievement bears the name of Mr. Blaine, but it is equally true that

there has been no settlement of any great political question during the past twenty years in which his opinions have not had great weight and influence.

In our judgment, Mr. Blaine's most enduring fame was won during his service with the Harrison administration. It was during that time that he called to a general conference representatives from all the republics of the western world, and thereby laid the foundation for political association and future commercial union. It was in this position that he had to deal with serious international questions growing out of the Behring Sea controversy; the controversy with Italy over the New Orleans massacre; the Chilean affair, and other great and momentous questions. In each of these great diplomatic battles Mr. Blaine so carried himself as to win not only the applause of his fellow-countrymen but the admiration of the world. The name of Blaine will always be a bright one upon our roll of parliamentary leaders; it will always be distinguished in the history of American diplomacy; it will be among the great names of our political literature, and it will, if we mistake not, stand in future as it stands to-day, highest of all names upon the roll of great party leaders.

Mr. Blaine's mastery of political forces was an effect not more of the extraordinary quality of the man than of the correspondence of his temper and powers with the times in which they were employed in public affairs. It was a period following civil war in which the passions of the conflict and of the controversies which led up to it remained the paramount sentiments of political life. At such times, patriotism with the mass of earnest men takes the form of devotion to party; party rules the hour; and the most adroit, forceful, popular and successful party leader is the reigning idol. While statesmen of the moral, philosophic and judicial temper wait for other and better times, current political forces are directed by more ardent and more gallant spirits. Upon such a time came "Ben" Wade, "Zach" Chandler, "Matt" Carpenter, "Thad" Stevens and "Jim" Blaine. Of this class of virile, and aggressive leaders, brought to the front of our political life by the ardor and passion of the time, Mr. Blaine was conspicuously the chief. If he failed in one respect or another to match the special gifts of each of these notable men, he combined as no one of them did the whole range of powers essential to brilliant party leadership. In the peculiar intrepidity of his temperament, in the readiness and virility of his address, in the popularity of his manners, in the solidity and discipline of his intellectual powers—in these fine and manly traits—the dominant party of the time saw the reflection of its own ideals. Mr. Blaine's moral make-up, like his constitution of temper and mind, was suited to the times. In his view the whole of duty to country was comprehended in loyalty to party; in his creed there were no convictions which could not reasonably be subordinated to the requirements of policy. Where a man of more sensibility to purely moral and philosophic considerations might have faltered and failed, he pushed boldly forward and won.

The final historical estimate of Mr. Blaine will, in our judgment, class him with our greatest party leaders rather than with our statesmen of the first rank. He will, we believe, be identified with an epoch rather than with the whole course of our national life. His name will always present solid claims to the admiration of his fellow-countrymen, but it can never fairly be written with the names of Washington, Franklin, Webster, Hamilton, Lincoln, Jefferson, Marshall and Calhoun. He will be ranked above, but in the same class with Olay, Madison, Van Buren, Seward and Tilden. It is not in the nature of things for a party-leader—for one who must deal as often with policies as with principles—to attain the topmost summit of civic greatness. This is an exaltation reserved for those who live not for a period, not for a party, but for all time and for all mankind.

There arrived in San Francisco last Saturday morning a delegation of five citizens of the Sandwich Islands en route to Washington City to invite our Government to annex the several islands which form the Hawaiian Kingdom to the United States. These gentlemen represent a revolutionary movement which has overturned the monarchical system hitherto dominant in the islands, and established a provisional government pending the action of the United States. The monarchy in the Sandwich Islands has long been something of a farce but it succeeded in maintaining a de facto government up to the fifteenth of last month. On that date the Queen attempted to impose upon the kingdom a new Constitution, abolishing the hereditary house of nobles, substituting therefor a body of her own selection, and denying to foreigners the rights of franchise. This attempt on the part of the Queen was met by a revolutionary movement on the part of the foreign residents, chiefly Amer-

ican; and at the end of a day's bloodless wrangling, the Queen was imprisoned in her palace and the functions of government were assumed by a Commission appointed by a convention representing the commercial interests of the country. Four-fifths of the business and capital of the Hawaiian Kingdom is American, and it is natural, therefore, that in this new governing body American sentiment should predominate. One of its first acts was to name the delegation whose arrival in San Francisco on Saturday morning is above-noted.

The proposition which these gentlemen bring to us is a very serious one. Our system does not contemplate the acquisition of territory beyond the continental limits of America and makes no provision for the government of remote and unassimilated peoples. The temporary and make-shift means by which those parts of our country not yet elevated into States are governed are unsuited to a country in the situation of the Hawaiian Islands. In those islands there is a miscellaneous population of about sixty thousand. Something more than one-half are pure Kanakas, the descendants in the second, third and fourth generations from a breed of Malayan cannibals. They are docile and amenable to discipline, but are not civilized in any just sense and are incapable of civilization according to our standards. They are not of the stuff of which American citizens are or can be made. Another element of the population is a class of laborers numbering from ten to thirty thousand mixed Japanese and Chinese, who work the sugar plantations of the Islands very much as the negroes of the South before the war cultivated our cotton-fields. They are not slaves in an exact sense, but they are hired in the mass and paid at the rate of a few dollars per month. The intelligent, efficient and property-holding element is foreign and numbers somewhere in the neighborhood of fifteen thousand, of whom four-fifths are of American birth and sympathy. The property and commerce of the islands is almost wholly in the hands of this foreign element and is therefore almost wholly American.

To annex these islands, which lie 2000 miles to the southwest of us in mid-ocean, would be a departure from American precedent and a violation of the counsels of the founders of the Republic who warned future generations against a policy that would extend the dominion of the Republic beyond the limits of the continent. It would involve the taking into our body social of an uncivilized, alien element out of which we could not safely make citizens and which our system affords no means of taking care of as subjects. It would create in a small way a new political problem akin to the negro problem in the South and the Indian problem in the West. To annex the Hawaiian Islands would at once put upon us the business of defending them, and that would require a large increase in our naval establishment, the construction of an ocean cable connecting the islands with the continent and the maintenance at all times of an expensive naval force in mid-Pacific. At the very beginning we should have to encounter the jealousy of the leading European nations, especially of Great Britain, and it is intimated from high sources that not jealousy alone but force will be employed by England against us in any attempt to make the islands our own.

On the other hand, Hawaii is the key to the whole commerce of the Pacific ocean; it is the half-way house to the great group of productive countries which lies in the southwestern ocean; it is the natural outpost in the Pacific of American commerce and of vast importance in its relations to the trans-Pacific, Indian and Chinese trade. If we fail to accept the invitation now before us England will step in and assume with thanks what we decline. For many years the creation of an English party in the Hawaiian Kingdom has been one of the favorite subjects of English diplomacy and the possession of this important nation has been a prominent plan in English foreign policy.

In California, there are sound local reasons for the proposed annexation. It would be a step, and a very great step, toward the promotion of American commerce in the Pacific ocean and the creation of American markets in the Islands and in Asia; and, therefore, has a direct bearing upon the commercial interests of California. The sentiment of this State, we believe, is almost unanimously favorable to annexation, and it is the general opinion that within a few months the Stars and Stripes will float over the Capitol at Honolulu. It is not to be supposed that Hawaii will be accepted, for the present at least, as Texas was accepted, and incorporated into the Union of States. That cannot safely be done until the old race, which is rapidly dying out, shall have given place to a population in which Anglo-Saxon blood shall predominate and to whom American ideas of civilization and government are at least comprehensible. In the meantime, there will

have to be a Government under direction from Washington.

The annexation of Hawaii, if it shall indeed come about as we believe, will mark the departure of the United States from its traditional continental policy, and will inevitably end in a wide extension of our territorial limits. It can scarcely be doubted that the accession will form a precedent for the accession of Cuba and later of British territory on the north and Spanish-American country at the south. It will mark the entrance of America into a wide field as a world-power; it will make her a competitor for preeminence on the seas; incidentally, it will make the Nicaragua canal an immediate necessity. Consequences the most momentous now hang upon the judgment of the powers in Washington, and all the facts must be known and carefully considered before that judgment is rendered.

After keeping Representative Bretz on the anxious seat for ten days, the Assembly on Monday voted to reprimand him and suspend him for one week—The Assembly has developed a hot anti-railroad sentiment during the week. It has voted by an overwhelming majority to oust the Railroad Commission and to impose upon the Southern Pacific the reassessment proposition. The Senate has yet to consider these matters, and it is believed that both propositions will be rejected by that body—On Tuesday the United States Senate passed the anti-option bill (previously passed by the House) by a vote of 40 to 29.

CITRUS FRUITS.

Cloverdale Holds a Citrus Fair.

San Francisco has no monopoly of citrus fairs. The glories of orange and lemon groves are shown at the Mechanics' Pavilion in a manner sufficiently impressive and altogether satisfactory; but it must now be admitted that all citrus sections in the northern thermal belt have not full representation there. The enterprising town of Cloverdale, in Sonoma county, for instance, has within the week just past been holding a fair of its own; and a very interesting and creditable exhibition it has been, too. Not large, nor costly, nor very elaborate, perhaps, but tasteful and complete, and successfully showing that the region about Cloverdale is finely adapted to the culture of the orange, lemon, the fig and olive. It has been known for some years that orange trees would thrive in that region with ordinary care and attention, but they have been used almost altogether for ornamental purposes. It was not until within the past few years that it occurred to the good people of Cloverdale that their special advantages of soil and climate might be used to advantage, and a substantial source of revenue added through the cultivation of the orange and lemon. The awakening has taken place, and the fact is published officially to the world by the First Annual Cloverdale Citrus Fair, held in Library Hall, January 27-31 inclusive. Bad weather interfered with the attendance, and decreased the number of exhibits, but the fair was nevertheless an artistic and commercial success, in that it displayed a large collection of citrus fruits, nuts, raisins, figs and olives of approved quality to the world at large.

The first orange tree was planted in Cloverdale about 20 years ago, either by Esquire Brush or J. A. Kleiser. Each set out a tree, and it is not certain which was first. Other trees followed, planted by other residents, and all thrived and bore rich and luscious fruit. A seedling in I. E. Shaw's lawn has been bearing about ten years. No general movement occurred, however, until about five years ago, and since then G. B. Baer and others have been instrumental in placing about 2000 trees in the hands of men who were willing to undertake their cultivation. The young trees are just now coming into bearing, and it is part of the fruit of these that has been gathered and placed on exhibition.

The fair, held under the auspices of the recently organized Cloverdale Citrus Association, was in Library hall, a commodious two-story structure in the center of town. The various displays were arranged about the room with a very pleasing attempt at novelty and ornamentation, though nothing was gaudy or pretentious. One of the first things to catch the eye was the model of a full-rigged ship, made from green olives, with a deck covered with prunes, ripe berries, dried peaches, figs, Golden Drop plums and green persimmons. It was the effort of Mr. J. A. Kleiser.

Miss Lizzie Armstrong showed an excellent collection of Navel and Seedling oranges. The latter were from a tree 13 years old, the seed planted from a Tahiti orange.

One of the conspicuous displays was that of Mrs. G. Ginocchio, living at Asti, three miles from Cloverdale. It occupied much space and contained a variety of Riverside Navels, Florida Navels, Mediterranean Sweets, Homasasa, Japan Mandarin, Italian Mandarin, Seedlings, Kinkans, and other varieties unknown. The lemons were Sicily, Villa Franca, Lungi, and the climbers, many unknown; also a fine show of Florida limes and the red orange, Sanguinelle. A handsome tree with growing fruit, in her exhibition, was the Japan Mandarin. No citrus fruit or ornamental plants were on Mrs. Ginocchio's place five years ago.

D. Chisholm showed lemons, remarkable for size. These grew on the steep slopes of Copper peak, a mile southwest of town. The surface is too deep to plow, and he digs by hand. The soil is a red-clay loam.

Magnificent seedlings from the Brush tree (over 20 years of age) now owned by Mr. Chalfant, attracted much atten-

tion. The surface is bright and clean, and the fruit most delicious.

Filberts and English walnuts were shown from the garden of Mrs. Larabee.

T. B. Wilson had a plate of oranges from a tree planted last spring. Of course the tree was pretty well advanced at that time; but the product nevertheless shows the excellent qualities of soil and climate about Cloverdale.

Conrad Haehl exhibited a collection of raisins.

Mrs. Shoels showed a plate of crystallized watermelon. An orange church was the product of the genius of Alfred Yardi. It was a perfect model, and contained a bell which frequently pealed forth. An acute observer at the fair remarked that there was something very appropriate about a bell of orange peeling forth.

A very attractive feature that forced itself upon one's notice, as soon as he entered the hall, was a banner made entirely of oranges, hung conspicuously at the farther end, with this device "Welcome, Citrus Fair." The designers and exhibitors were Messrs. Brush & Williams.

Turner Brothers made a display of dried prunes and figs, neatly packed. They have the largest bearing prune orchard in the vicinity.

Captain J. Field shared a large table in the center of the room, with Mrs. Ginocchio, and the two combined to make one of the most inviting displays there. Captain Field also showed lemons of first quality.

Lack of space prevents full description of the individual exhibits; but all are worthy of commendation, and appear to have been made with a desire to inform the public, in the most complete and convincing manner, exactly what Cloverdale and vicinity can raise. Among exhibitors were the following:

J. A. Kleiser,
Miss Lizzie Armstrong,
Mrs. Preston,
Mrs. Ginocchio,
H. Hubbard,
I. E. Shaw,
Mrs. W. H. McCray,
Italian-Swiss Colony,
I. G. Ury,
H. M. Hayward,
Mrs. Larabee,
J. C. Holloway,
Mrs. A. Provo Kluit,
D. T. Dunham,
T. B. Wilson,
Turner Brothers,
W. P. Ink,

Capt. J. Field,
K. H. Whipple,
G. Hunziker,
W. T. Brush,
H. M. F. Hainey,
Mrs. H. Gerkhardt,
F. Yardi,
I. E. Chalfant,
E. G. Furber,
Conrad Haehl,
G. Hagmeyer,
N. R. S. Koch,
J. B. Gallagher,
Capt. C. A. Williams,
H. L. Walker,
J. P. Heald,
Geyser Water Co.

Taken as a whole, the fair deserves the warmest commendation. It was a maiden effort, and it was undertaken with some misgiving that it might not be an entire success; that is to say, great haste was made in its preparation, and some fear was felt that there might not be a general response on the part of exhibitors. For that reason, it was not widely advertised and no special effort was made to secure visitors from abroad. The result, however, has been so satisfactory, that the Cloverdale citrus fair is to be a permanent thing, and next year a more elaborate effort will be made in the matter of exhibits and in attractions for visitors. It is likely also that an annual exhibit, on a large scale, will be made at the San Francisco citrus fair. Some talk was indulged in toward securing representation at this year's fair, but it seems to have come to nothing.

A RURAL PRESS representative, who visited Cloverdale last Saturday, was driven about the city by Mr. W. T. Brush, a leading citizen and one of the promoters of the fair. Cloverdale is without doubt one of the most thrifty and attractive small cities in California. The homes are all neat and well-kept, and are, almost without exception, surrounded by roomy lawns, upon which there has been uniform attempt at ornamentation. A favorite lawn-tree is the orange, and these all appear to be heavy-bearing, or, rather, the older trees are all large bearers. As a matter of fact, it was the success and comparative ease with which ornamental trees were grown that attested the capabilities of climate and soil and led to the setting-out of orchards. It cannot be long until Cloverdale has become a factor in orange production, and until shipments are regularly made from the town and vicinity. About 2000 young trees have already been set out.

The particular territory of Sonoma county represented at this fair, and at which it was clearly demonstrated that the orange, lemon, olive and fig may be and are staple products, is about 12 miles in extent, north and south, and takes in the entire width of the upper Santa Rosa valley, east and west. It has unusual advantages of climate. The rainfall is about 35 inches per annum and the temperature is singularly mild and equable. So far this winter the mercury has not at any time been below 32°, and the same gentle conditions are the rule every winter. There are frosts, but no killing frosts. There are winds, but they are soft and do not blow enough to operate a windmill successfully and hardly enough to fly a kite. It is well protected by surrounding foothills. Indeed, it is probably this proximity to the mountains that gives Cloverdale its rather large average total rainfall and insures against heavy winds. There is no need of irrigation, or at least the inhabitants say they have never yet felt the want of it.

In temperature, the people are fond of comparing themselves with Riverside, and saying in that respect they are quite as well favored as the great southern home of the orange. They believe they are highly favored by nature, and no doubt exists that they intend their belief to take practical shape. They have railroad communication and, if they raise oranges and lemons, will be within easy access of a market.

Before closing, it is proper to say that Col. Armstrong, M. Menihan and W. T. Brush were indefatigable in their entertainment of visitors, and that the Cloverdale *Reveille* contained an excellent account of the fair.

THE Berryessa fruitgrowers, in Santa Clara county, have decided to form a cooperative association. They have found that intelligent fruit-marketing is just as important as intelligent fruit-cultivation.

Gleanings.

THE legislature has practically refused to make an appropriation to encourage ramie culture.

THE Bolsa drainage ditch, in Orange county, has been completed. It is three miles in length and cost \$12,000.

ALBERT HOFFMAN, of Reno, bet \$3 he would kill himself, and immediately proceeded to win the bet. He was drunk or crazy.

MANY of our farmers are awakening to a realization of the fact that the itinerant country vegetable peddler is altogether too prosperous.

A HUGE cask of redwood, capable of containing 20,000 gallons of wine, is to be constructed and exhibited at Chicago, as a sample California cask.

THE directors of Linda Vista irrigation district, in San Diego county, have sold \$800,000 worth of bonds, for 90 cents on the dollar, to Wade & Cooper.

COMMISSIONERS are on their way to Round valley to appraise and divide the land. There will be about 43,000 acres for the use of the Indians, and 60,000 will be thrown open to settlement.

THE latest talk is that a great English company is to secure 100,000 acres in San Diego county and go extensively into the beet-raising and sugar-making business. So far, however, it is only talk.

THE sugar season at Watsonville has ended, and the factory last week closed after a five months' run. It is estimated that some 54,000 tons of beets were crushed, yielding 6000 tons of sugar.

THE Government has decided to give experimental rainmakers no more money. About the only thing they seem ever to have "wet down" with conspicuous success was their numerous appropriations.

IT is stated that the Earl Fruit Company paid \$7500 for the crop of fruit on the trees of the four-year-old Navel orange orchard belonging to Vinton Mitchell, south of San Bernardino. Not all young orchards can expect to yield so profitably.

LOS ANGELES wants a State fair held there, as well as at Sacramento, making two fairs, and asks the legislature to appropriate \$25,000 for that purpose. The Angelenos are a spirited people and no doubt proceed on the principle that none but the brave deserve the fair.

ORANGE THIEVES are a sore trouble to growers in various towns of the State. The growers' association of Redlands has offered a reward of \$25 for the arrest and conviction of any one caught stealing. Vigorous and continued application of a good healthy rawhide is still better.

A HOUSE COMMITTEE at Sacramento has reported against the bill repealing the bounty on coyote scalps. It seems that there is to be no cessation of the more or less holy war of extermination against the pestiferous beast, and also of the substantial rewards therefor to the exterminators.

A BILL is before the legislature, and has a good chance of passage, requiring adulterations of olive oil to be suitably labeled as "adulterations." At present, it is claimed that cottonseed oil, masquerading as olive oil, is sold for \$1.50 per gallon, when the genuine product cannot be sold for less than \$3.50.

THE movement for a general irrigation convention is making favorable progress before the legislature. Ostrom's resolution has been adopted by the Senate Committee on Irrigation. The city of Fresno is already making an effort to secure the convention. Fresno is enterprising and forehanded enough to deserve it.

THE Los Angeles county Board of Supervisors has passed a resolution declaring against county division, and it is likely that other counties, similarly threatened with dismemberment, will be asked to do likewise. But if resolutions could stop agitation, the Pope's bull, on a famous occasion, would have everlastingly squelched that impetuous comet!

THE Los Angeles *Express* has issued a very complete and elaborate edition, describing the character, resources and industries of southern California. The matter appears to have been compiled with care and intelligence. It is presented in very tasteful manner, the illustrations being clear and numerous and the mechanical appearance of the paper first-class.

THE Secretary of State at Washington has received notice from Consul-General Wallace at Melbourne that the prohibition of the importation of horses from California into New South Wales and South Australia is still in force, and that no local official action has been taken on the request of the United States Government that the prohibition be removed.

LESS than 150 carloads of oranges have been shipped from Riverside this season. The association of packers and growers recently formed there is holding back shipments until the Florida fruit is out of the market. Heavy shipments will commence about the middle of February. The probable shortage in the Florida crop has assisted in demonstrating the wisdom of this course.

THE Kern County Land Company has spent \$3,500,000 on canals, constructed 1400 miles of ditches, and has an average of 400 men at work all the time. Mr. Fergusson, of the company, thinks the railroads ought to be more active promoters of the settlement of California lands, and has a scheme by which he expects to stimulate emigration to this State very largely. Its nature is not yet fully disclosed.

THE Farmers' Alliance Mill at Gilroy started operations last week by grinding its first grist, the first barrel of flour being sold for \$20 and the second for \$10. Its capacity is 80 barrels per day, with machinery powerful enough to increase its capacity to a much larger extent. The building is a fine one, and equipped with the best modern machinery. There are more ways than one to assist in breaking up the flour "combine."

A NOVEL and interesting decision affecting water rights has just been made in the Superior Court at Merced. The Crocker-Huffman Land and Water Company sold a tract of land to J. W. Steen-Zynen, through which its water-pipes, supplying the city of Merced, were laid, but in the deed neglected to reserve the pipes or right-of-way over the land. A controversy resulted, and Steen-Zynen demanded \$10,000 for the right-of-way, or, in case of refusal, declared he would blow up the mains. The case came to trial and the judge decided that, although the deed from the company was absolute and without reservation, the water-pipes and right-of-way were reserved by implication, for the reason that the signs of the mains and the pipes were open and apparent and the way was one of necessity for the company. Of all this the defendant had notice, and he, therefore, took his land with this burden upon it, a contrary intention being altogether unreasonable. The court further decided that the defendant's position was inequitable and unjust, as it would uselessly put the company to an expenditure of \$24,000 to escape his land.

THE fruit cannery at Yuba City packed during the year the following:

Peaches.....	31,775 cases
Apricots.....	3,794 "
Pears.....	1,659 "
Plums.....	3,157 "
Grapes.....	778 "

Total.....41,163 cases
For this fruit, which was purchased direct from growers in the vicinity, the sum of over \$46,000 was paid, as follows:

For peaches.....	\$39,281
" apricots.....	2,260
" pears.....	2,500
" plums.....	1,900
" grapes.....	308

Total.....\$46,249

THE VINEYARD.

For a Combination of Vineyardists.

TO THE EDITOR:—The Winegrowers' Union of Napa county has caused a circular letter to be mailed to all grapegrowers in the land, setting forth statistics and giving their views on the future. In this circular they say:

Wine on hand before vintage of 1892.....	Gallons.	Gallons.
Wine made vintage 1892.....	16,500,000	11,500,000
		28,000,000
Yearly exports from the State.....	12,000,000	
Consumption in State.....	6,500,000	
		18,500,000
Which would leave us on December 1, 1893,		
about.....	9,500,000	
Besides vintage of 1893, estimated at.....	11,500,000	
		21,000,000
Deducting from this the probable yearly trade		
of.....	18,500,000	
		2,500,000
Would leave us only.....		
At the beginning of the 1894 vintage.		

As these gentlemen seem to be handy with figures, they will probably say to themselves and others about as follows: At the beginning of the 1894 vintage we will have but 2,500,000 gallons of wine on hand and cannot make above 11,500,000 gallons. We need 18,500,000, and more as our trade increases, consequently there is a shortage of 4,500,000 gallons and prices must go up.

Now, "from an independent standpoint," I wish to take issue with this respectable committee of Napa county winegrowers. As regards their estimate of wine on hand before the vintage of 1892, and amount made this last vintage, I have no quarrel with them. Our export trade from the State I believe to be nearer 13,000,000 than 12,000,000 gallons, and I doubt the consumption of 6,500,000 in our own State, very much. However, let it be granted that with our increasing trade we can dispose of 18,500,000 gallons of wine per annum. From this on I think the good brethren run wild. Let me ask them what basis they have to estimate the coming crop at only 11,500,000 gallons, the lowest for many years and not nearly an average. Unprecedented coulture, heavy frosts and two dry seasons in succession caused us to make so little wine; but are these conditions certain to occur again? Does this season promise to be dry? I reckon not, for we have already had nearly as much rain as during all of the previous winter. Do they know that the same heavy frosts are going to visit exposed places, or that the berries will drop as much as last year? Do they know what the apple crop of the United States will be? Let me give them a few figures:

Our State Viticultural Commission tells us that in 1890 we had about 90,000 acres of wine-grape vineyards in this State, nearly all of which are in bearing. Mr. Prislér, in his last report, states that phylloxera has killed about 2000 acres in Napa county. Let us suppose that 5000 acres have been destroyed in this State by phylloxera and other diseases, and by changing vineyards into orchards, which would still leave us 85,000 acres in bearing. When conditions are favorable they can produce on an average three tons of grapes per acre, or 450 gallons of wine. Allowing 50 gallons for evaporation and loss from other causes, each acre is liable to put 400 gallons of wine on the market, a grand total of 34,000,000 gallons. Out of this a considerable amount would have to be made into brandy for the production of sweet wines and for the trade, but let us suppose that 10,000,000 gallons for this and other purposes are used, we would still have 24,000,000 gallons of wine to contend with. Considerable grapes have been dried of late, but the trade therein depends entirely on the fruit crop of the East. If this is large there will be comparatively few dried grapes sold, but if the Eastern crop is a failure, about \$15 per ton can be realized for grapes to be dried; many could be disposed of in this manner and relieve the pressure on the wine market. Conditions at present are thus, that common and sound 1892 wine is certainly worth 15 cents, and I agree entirely with Napa people that by combining we could readily get that, but the coming crop is still an unknown quantity, and should it prove to be exceptionally large the industry will be in as bad a shape as ever.

If a combination of grapegrowers could be made to take care of the 1893 vintage, make into brandy or high-proof spirits and export out of the country enough wine so as to allow the net production not to be over 15,000,000 gallons, then our 1892 wine would sell for 25 cents and dealers would look up the producer, not vice versa, as has been the case of late years; nor would we be obliged to sell on from four to six months' time and run chances of getting nothing in the end, but the transactions would be on a cash basis or approved notes, much the same as with dried fruits. Just as long as we allow more wine to go on to the market than it requires, the price will be ruinously low, the same as with every other product.

The impending overproduction of raisins is a great menace to the northern grapegrowers, for as soon as the price of wine and brandy are materially advanced, many of the Fresno raisingrowers will graft their Muscats to wine-grapes, and if they cannot make a good drinkable wine, they will supply the brandy market on short notice to the entire exclusion of their brothers to the north. Combination to simply put up the price will do no good, unless it is accompanied with a reduction in the output.

In conclusion, I would call attention to the indiscriminate grafting on Riparias. There is no doubt about the phylloxera-resistant quality of the vine, but it does not grow equally well in all locations, nor is it, in my opinion, a fit subject for such varieties of viniferas that naturally make large wood. On my place, Riparia in gravelly soil does very poorly, and Falle Blanche grafted thereon continually break off, and this after two years' growth, and apparently a good union. On my neighbor's place, Pinot on Riparia brought him three tons of grapes to the acre, while

the same grape on Plusard roots, in the same location, bore 4½ tons. In gravel and on stony mountain-sides, Riparia will not be a success. Another question is whether the wild resistant vine should not be brought direct from its native home instead of weakening its resistance by continued cultivation. I have experimented with two other varieties which are much used in France and Germany and considered entirely resistant by experts, and which seem to do much better in dry and hard ground than Riparia. They are Galonis and Champini. If ever the time comes when we require more vineyards, nothing should be thought of but phylloxera-resistant vines, for the little pest is now pretty well distributed over all the counties in the State. Dealers who own wineries in districts where the phylloxera has destroyed the vineyards are now encouraging people to replant with resistant stock, realizing that their property is worth nothing if there are no more grapes in the neighborhood; but before their advice is taken, it behooves the intending planter to study the situation carefully. It will henceforth cost more money to produce a ton of grapes, for grafting is an expensive affair, and he will find that no matter how much it costs to produce the grapes, the buyer will pay him just as little as is necessary to get his crop. The only salvation of the grapegrower and farmer in general is to combine, not to put up the price on a given article, but to regulate his crop in such a manner that not more is produced than the market requires, and the price will take care of itself. Do you doubt for a moment that if the American farmer had raised only 75 per cent of last year's wheat crop but that he would have received more money for this 75 per cent than he does now for all he grew?

WM. WEHNER.

Evergreen, Jan. 23, 1893.

FLORICULTURE.

Alfalfa for Lawns.

TO THE EDITOR:—Suggestions as to details are sometimes of value, and as one who has had a long and discouraging struggle in securing a favorable lawn that would for the most part water itself, eradicate its own weeds and maintain a good color all the year, I want to recommend to your readers alfalfa. Its deep roots call for very infrequent wettings; no sprinkler is needed, simply one or two good soakings of the ground a year by running the water on it and moving the end of the hose every half-day until all is wet. Under the constant pruning to lower buds by the lawn-mower, it stools out in a remarkable degree, and makes a very fair sod, quite as good in texture and appearance as the clover sod East.

In coloring, it far exceeds blue grass, and never goes yellow in spots or looks bilious all over, as does that much-praised grass in California. Low spots in the lawn have the same color as well-drained areas, the only difference being in rapidity of growth; and it has for the busy man the rare advantage that if one can foresee a time of being too busy to cut it, he has simply to withhold water, and while its growth is checked its color remains, darkening but still being a pure true green.

In winter, one cutting a week keeps it in good form. In the spring, two cuttings a week are needed. Through the summer the cutting depends on the water. Last summer I gave mine one good soaking about July 1st. For two weeks after that it was cut twice a week, then once a week, and in September and October once every three weeks, and yet all the while it was green, a real green, and a uniform color all through, not four or five different shades in varying patches as with bluegrass.

Gophers do not work in it any more than they do in bluegrass, and they do it far less harm. Finally, it has the very great advantage that if it gets ahead of one through inattention and becomes too coarse or too erect, you can let it go, get a good crop of hay, and then, with a sharp hoe, cut the soil not over one inch deep, when it will all come again fresh and tender and subject to the pruning mower to make it stool.

This stooling was quite a surprise to me, and is far more satisfactory than I had expected. As one walks on it, it looks exactly like a clover lawn in the East, and it is only by getting down and feeling it that the long, coarse, flat stems are discovered.

It should be sowed thick, at least three seeds to the square inch, to get a sod quickly, and if put in in April and kept wet (not sprinkled), it will make a thick sod by August.

It is not an Eastern grass lawn, of course, but it is more satisfactory, both to care for and look at, than many California grass lawns.

Hueneme, Jan. 24, 1893.

Notes on Palms.

Nothing in the whole range of vegetation so impresses the traveler from less-favored climes than the presence of lofty palms. At the residence of Mr. Kinton Stevens, of Montecito. Santa Barbara county, can be seen a pair of *Cocos plumosa* over 20 feet high, with well-defined trunk, less than 11 years old. In the same gardens can be seen thrifty specimens of *Seaforthia elegans* and *Jubaea spectabilis*, the "Coquito," or little coconut of Chili, the latter a very hardy palm; besides these, a good collection of fan-leaved palms, including "Sabal palmetto," of Florida. At the residence of Mr. Sheffield in Santa Barbara, can be seen a fine *Seaforthia*, which has already produced fertile seeds. In many other Santa Barbara gardens, smaller specimens of *Seaforthia* are growing, showing the appreciation of the Santa Barbara people for fine plants.

In Los Angeles the list is much smaller. At the home of Mr. E. Germain flourishes a thrifty plant of *Kentia Forsteriana*. This plant has been in the open three winters and is a model of health and beauty. Few species can surpass *Kentia Forsteriana*; it ultimately attains a height

of 40 feet; indigenous in Lord Howes island. At Mr. H. Jevne's place a smaller example of the same species seems well established. Near Rosedale cemetery, in a private garden, a nice young specimen of *Cocos plumosa* occurs; out several seasons. At Mr. Forester's place, on Seventh street, and at Mr. Decler's place, on Sand street, are also good plants of *Seaforthia elegans*, out several years in the open ground; while at Coronado Beach, beautiful plants of *Areca Bauerii*, *Kentia Forsteriana*, *Seaforthia elegans* and *Cocos plumosa* can be seen.

There yet remains a number of good palms to be introduced to open-air cultivation, notably the following: *Kentia Belmoreana*, *K. Canterburyana*, *K. Sapida*, *Areca Bauerii*, *Cocos flexuosa*, *C. Australis*, *C. coronata*, *C. Yatai* and *C. Romanzoffiana*, *Ceroxylon andicola*, *Caryota Urens* and *Ptychosperma Alexandria*, all of varying degrees of hardiness. At some particularly sheltered and warm places along the foothills, it is not improbable that *Oreodoxa regia* would flourish. The writer noted the experiment of a plant of this species tried in this city, which endured two winters, but the heavy soil during the third winter, owing to unusually heavy rains, became so cold and water-logged that the roots decayed and the plant perished. These considerations should always weigh in the attempt to cultivate new species of doubtful hardiness. Many a tropical plant will flourish and endure slight frost if not too frequent, if the soil be comparatively light and well-drained; while in a quite frostless location, heavy soil may become so charged with moisture that decay of the roots takes place, and the plant either languishes or dies outright.

It is not intended that the foregoing remarks are more than a glance at the possibilities of new introductions. We know comparatively little of the Andean palms of Bolivia, or the remoter Alpine regions of Venezuela, while Paraguay is almost a botanical terra incognita. Count Castleman, during his great Brazilian expedition, records having seen many palms on the confines of Paraguay, few of which anything is known. Spruce, in his valuable essay on the palms of the Amazons, alludes to several genera and species as occurring at considerable altitudes. *Iriartea ventricosa* and *I. exorrhiza* ascend the Andes to 5000 feet. According to Humboldt, *Ceroxylon andicola*, the famous wax palm of Columbia, was found growing in the Cordilleras, near the pass of Quindiu, between Ibague and Cartago, at from 7900 to 10,000 feet, in company with *Podocarpus* trees and *Quercus Granatensis*, not very far from the snow line.

From the temperate mountain regions of subtropical Mexico are known, among others, *Chamaedorea colorata* and *Copernicia pumosa* (the latter a fan-leaved palm), at elevations of from 7000 to 8000 feet. In the garden of the writer, *Chamaedorea Desmonoides* seems quite hardy. Some of the Mexican Acrocomias and Astrocaryums (splendid spinescent palms) would undoubtedly flourish in favorable places here. In Ceylon, *Oncosperma fasciculatum*, a slender-stemmed, prickly palm, of great elegance, occurs as high as 5000 feet, while *Copernicia cerifera*, the Brazilian wax palm, extends into Argentina, and would likely flourish here. Enough has been said, however, to indicate in some degree the possibility of adding many fine palms to cultivation here.

It should not be inferred that the fan-leaved section of palms is much less beautiful in all species than those of the former group. Indeed, a few species rival and some excel the pinnate palms in magnificence, and no paper would be in any degree complete without reference to them. Commencing with *Washingtonia filifera*, which is abundantly represented, we have, in lesser numbers, *Chamaerops excelsa* and *C. humilis*, picturesque, but stiff and ungraceful palms. Not quite so common is *Corypha Australis*, a fine Australian palm. Still rarer is *Lantania Borbonica*, a fine-fruited specimen of which can be seen at Mr. Hancock Johnson's place in East Los Angeles. There are two other fine palms rarely seen, and yet their native habitat is less than 400 miles distant. *Erythea edulis*, from Guadalupe island, off the coast of Lower California, and *E. armata*, occurring in deep canyons just below the State line in Lower California. They are both quite hardy and make splendid plants as they attain size. The former has rich, dark green leaves, much darker than *Washingtonia*, and without the filaments so characteristic of this species, while the foliage of *E. armata* is an ashy blue, and one of the most distinct of palms.

The Sabals, of which *S. palmetto* of Florida and other southern States is so well known, are rarely seen in our gardens here. All are sufficiently hardy. All of the species of *Thrinax* are elegant plants.

It is proper to say, in closing this article, that due consideration should be given to location, character of soil, known liability of biting frosts, or general exemption, and of equal importance in the planting of species of doubtful hardiness is the selection of good, strong plants, pot or box-grown, and planting should be done not much earlier than April, nor delayed much beyond May. A long summer is thus assured, during which the subject may become well established.—J. C. Harvey in Rural Californian.

HORTICULTURE.

Berries and Briars.

"There is no rose without a thorn."

A lady was watching me trimming my blackberry bushes and she said, "Why you should just see my husband when he trims our blackberries! His clothes are almost torn off of him and his hands are torn until they look like a beefsteak."

I do not think "husband's" experience was enjoyed (?) by him alone, as I have repeatedly seen other berrygrowers working in the same way, and it has occurred to me that a few berrygrowers might like to know how to escape the briars, so I give my method: Put on a duck coat, if you have it, as the briars slip on the duck and do not puncture it. Get a pair of very heavy buck gauntlet gloves. If you

can not get gauntlets slip a sleeve from an old jumper over your wrist, with a thumb hole cut in one end to hold it in place. Turn up your collar to protect your neck. With your pruning shears cut off all of the dead bushes near the ground. When this is completed take a long-handled hay-fork and lift out the dead bushes that you have cut loose and place them on piles. Then with your fork carry these bushes to some place where you can pile them up to burn. Now, with a sledge, go over the stakes, driving down all that are loose and replacing those that are broken. Next, take a good-sized hoop, cut it in two and drive a nail near one end. Take a half-hitch around this nail with your twine, slip your hand back to the other end of the hoop and holding your tie yarn taut, pass the half-circle of the hoop around the straggling bushes until you can reach the other end of the yarn. Tie up your bush, then with the shears trim the ends off of the long arms, but do not make the very common mistake of cutting off all of the bearing buds and leaving only the stalk and bare arms. Now, with a rake clean up all the trimmings and if the ground is very wet pull out all the grass that has a foothold between the plants. Examine the plants closely and if you find small, white specks here and there, which, when lifted, show a minute pink bug, your bushes are infected with rose-scale.

With a single-pronged hoe clean the leaves and ground away from the bottom of each bush, for right there is where spraying for rose-scale fails, in this, that the scale works down under the ground and so escapes the usual spraying.

With the ground cleared away, give the bushes a thorough spraying of lime, sulphur and salt, and then wheel in and cover the ground about six inches deep with good manure. Plow this under early in March, and in April plow and cultivate thoroughly, and if your berry bushes were properly cared for, and the ground kept wet until the rains came, the past season, you can depend upon a crop that will so well repay you for all your labor that you will be ready to declare that "A rose without a thorn" would be a poor thing anyway.

E. H. SCHAEFFLE.

Murphys, Cal., December, 1892.

California Canned Fruits.

The San Francisco *Herald of Trade* makes the following estimate of the California fruit-canning output for 1892:

	Cases.
Apricots.....	200,000
Pears.....	175,000
Peaches.....	200,000
Green Gages, Egg plums, Gold Drops, Damson plums.....	150,000
White cherries, Black cherries.....	30,000
Grapes.....	30,000
Apples.....	2,000
Blackberries.....	10,000
Currents.....	3,000
Gooseberries.....	3,000
Nectarines.....	1,000
Quinces.....	1,000
Raspberries.....	2,000
Strawberries.....	5,000
Jams, jellies.....	5,000
Square asparagus.....	4,000
Total.....	821,000
Tomatoes.....	150,000
Total.....	971,000

In 1891, the pack was 1,400,000 cases.

Disinfect Pear Seedlings.

The following is a letter to Col. Mark L. McDonald, of Sonoma county:

SAN FRANCISCO, Jan. 13, 1893.

I beg to call your attention to the necessity of disinfecting all pear seedlings that arrive from France. A shipment of such trees was found to be infected with new aphids upon the roots. This resembles the woolly aphid of the apple (*Schizoneura lanigera*), but lacks the woolly exudation characteristic of that species. The body is sparingly covered with a light, powdery substance; this is also noticeable upon the root where the aphid is located.

As a disinfectant, I would recommend that a bundle of pear seedlings be immersed—for not less than two minutes—in a warm solution containing one-third of a pound of whale-oil soap to each gallon of water.

Please call the attention of your local inspectors to the above.

Yours respectfully,

ALEXANDER CRAW,

State Quarantine Officer.

DURING the year 1892 from the depot at Placerville, El Dorado county, there was shipped 5,113,655 pounds. One hundred and twenty-two cars, of 20,000 pounds each, and including 62 refrigerators, were loaded and dispatched with green fruit, without transshipment, to Eastern markets. There were, also, of dried fruits 7 carloads. Of wine grapes, 11 carloads. Of lumber, a large increase, 36 carloads. Of slate, for roofing, 60 carloads. Of miscellaneous fruits, in various quantities, 80 carloads.

THE FIELD.

Trellising for Hopyards.

Mr. Flood Flint, the well-known Sacramento hopbuyer, gives to the *Sacramento News* the following, relative to equipment of yards with the trellis system:

The system of trellising hops was patented in New York some years ago, but the experiment proved a failure, as there is now no trellis-work in New York, or any of the other Eastern yards. But a New Yorker, Logan by name, who happened to be in the yard of D. P. Durst, of Wheatland, in the year of 1884, gave Mr. Durst the idea of a system of trellising, and, putting their heads together, they concocted a system which is a success and which is rapidly replacing the willow-poles in all the hopyards. They put up 10 acres of trellis-work during the year of 1884, and as fast as the willow-poles gave out, trellising has taken their place, until



TRELLIS-WORK IN THE HOPYARD OF A. MENKE, SACRAMENTO COUNTY.

now hardly any willow-poles can be found in any of the Wheatland hopyards. Besides, there are hundreds of acres in Sacramento county which have recently been put under wire, and as fast as the benefits of this system are becoming known, more yards are added to the list of those who have already adopted the plan.

The materials used are redwood-poles from the forests of Mendocino, Humboldt and Santa Cruz counties (those from the latter place being much preferred) and wire. The poles, or posts, vary in size, being from 16 to 20 feet in length, and from 4 by 6 inches at the top and 6 by 6 at the bottom to 8 by 8; while some prefer them 6 by 6 inches at the top and bottom, others like them 6 by 6 at bottom and 6 by 4 at the top. But 6 by 6 inches and 20 feet in length is considered the best, for the reason that after several years that portion underground may rot; if so, the posts may be turned end for end and will last as long again.

Every pole should be selected, especially those for the outside rows, which carry the strain. The price per post ranges from \$1 to \$1.25 laid down at Sacramento; but as everything pertaining to this system should be of the very best quality, without regard to price, George C. Brewer uses posts 6 by 6 inches and 20 feet in length, and selects his timbers, being satisfied to pay a little extra for this privilege, while J. E. Camp will use posts that are 8 by 8 by 20, as he does not propose losing any sleep nights to see whether his hops are in the air or flat upon the ground.

On the Yolo side of the river the posts are mostly 6 by 6 inches at the bottom, 6 by 4 at the top and 20 feet in length, and the idea has been to see how cheap per acre it can be put up. One grower, who, by the way, is a rustler and a shrewd buyer, estimates the total cost per acre, including labor and material, at not to exceed \$60. It is claimed, however, that an acre of trellising costing less than \$100 is not to be depended upon after two or three years' service. One's idea should not be "how cheap," but rather, "how substantial."

To preserve the posts, Henry Gerber uses an oil called "carbolineum," putting two coats on that portion which goes under the ground, and it is said to be an excellent wood-preserved. Other growers use tar, but the majority use nothing at all.

About 30 posts are required for an acre of hops. The outside posts should be at least four feet in the ground and canted out; those on the inside about three feet in the ground and set straight. The inside posts are merely supports, as the pressure is always downward about the wires.

In the past, galvanized cable-wire has been chiefly used, but the wire most commonly used this year is black annealed smooth wire—No. 4 for cross-wires and No. 6 for every row, with galvanized-wire to splice out the annealed-wire about four or five feet up from the ground, to the anchor-post from four to six feet underground.

This annealed-wire comes in ballast from England in the form of iron rods and is pulled through machines which reduce it to the required size, at the mills in San Francisco and Pittsburg. The California Wire Works, San Francisco, manufacture largely, but were not prepared for the

number of orders placed; and some months ago a certain shrewd grower, who anticipates putting up many acres for himself and others, seeing the situation, cornered the entire output of the works, and as a great many growers have put off ordering, and as freight by rail from Pittsburg, Penn., the nearest point from whence it can be obtained, is so high, it must come via the Isthmus of Panama (time of transit from 60 to 100 days), so it is doubtful whether orders placed now will arrive in time for next season. Prices on this wire, laid down here, were from \$2.15 to \$2.50 per 100 pounds, but owing to the "corner," prices have advanced to \$2.85.

The number of pounds required per acre are: If the hills are six and a half feet apart, 150 pounds of the No. 4 and 653 pounds of the No. 6; if the hills are seven and a half feet apart, 160 pounds of No. 4 and 671 pounds of No. 6. Almost every grower has his own idea in regard to the putting up of trellis. We give here the ordinary way in which it is done:

And to better illustrate, we suggest that you take a lead-pencil and a sheet of paper, mark thereon a square or oblong, and imagine it an acre of hops. Mark the lines north, east, south and west. It is now supposed that you have laid out this acre into hops the hills of which are six and a half feet apart. To make it clearer, mark it off into squares, and at every intersection there is supposed to be a hill of hops. On the eastern and western boundary lines make a small cross on every hill of hops; on the northern and southern boundaries mark a cross with a circle around it for every sixth hill of hops.

These crosses will represent redwood posts six inches by six inches in width and 20 feet in length, placed four feet in the ground and canted outward. Draw a thin line from the crosses on the eastern boundary to the corresponding cross on the western boundary, which will represent wire No. 6; in like manner draw heavier lines from the cross and circle on the southern boundary to the corresponding cross on the northern line, and these lines will represent wire No. 4. No. 4 wire should be put on first by firmly anchoring at one end.

The anchor should be an ordinary fence post buried six or seven feet underground six feet from the outside posts, the wire made fast to the post and the ground thoroughly tamped in. Pass the wire over the post, draw tight and anchor at the opposite end. Fasten the wire firmly on top of each post by means of wire staples. The No. 6 wire is put on by means of three teams and wagons—one wagon on each side of the field, containing a coil of wire; the third team and wagon, upon which a frame, nearly the height of the large cross wire, has been built, is used for carrying the wire across the field. This wire is first passed over the outside wire (No. 4) and is attached to a hook on the top of this frame, and is then drawn by the horses to the next cross wire, and so on until the opposite side is reached; the wire on the other wagon is then attached to the frame and drawn back in the same manner, until there is a wire on every hop row in the field. This small wire is now resting on top of the large cross wire.

After being thoroughly stretched and anchored at both ends, small copper wire is used to fasten the No. 6 wire to the No. 4, and should be securely fastened directly over the hop row to prevent slipping. There are different modes of putting up this wire, but the one just described seems to be the most substantial, and we take the yards of Mr. George C. Brewer, on the Grant, as an example.

Some do not carry the large wire over the top of the posts, but wind it around the posts, and the cross wires ride on a railroad spike driven in near the top of the post at an angle of 45 degrees. In the yards of George H. Menke and Daniel Flint, the small wires may be taken down when tying strings to them, or picking hops. In these yards a hook is made by bending a piece of wire about six inches in length in the form of a letter "S," the upper part of which is firmly pinched on to the wire, while the No. 6 wire is passed through the lower portion of the hook; but we believe the most substantial way is to let the wire rest upon No. 4, as described above. There are different methods of stretching the wire, one of which is: Thoroughly anchor your wire at one end, make the post-hole at opposite side extra large, draw the wire over the top of the straight posts as well as can be done, ordinarily, and fasten the wire to the top of the post canted inward, and with a block and tackle draw the post until the wire is perfectly tight, taking up the slack in the anchor post. The Lovdals have an entirely different method. Instead of placing their posts on the hop row they set the posts between the hop rows, and consequently the vine grows up on an angle, and instead of the wires going over the tops of the posts they are wound around the posts and made fast by a clamp.

The best advice that can be given is to go slow; do not mind a little extra expense; use the best materials and do everything in a thoroughly substantial manner.

Potato Culture.

TO THE EDITOR:—Your correspondent obtained the following notes from Mr. Frank McCreery of Larabee station, Humboldt county. I know that Mr. McCreery gained all his information from practical experience:

"I observe by reading agricultural papers, and in conversation with my neighbors, that there is a great difference of opinion on the subject of potato culture. This no doubt is in part because different climate and soil make some difference in methods of cultivation necessary. I believe, too, that many talk and write on the subject who have had no actual experience. My experiments have been made at Larabee, Humboldt Co., and I presume will apply to the greater part of northern California.

"In the first place, a thorough cultivation of the ground before planting is of the greatest importance. I plow first early in the fall, and aim to plow at least four times before planting, giving time between each plowing for all grass or weeds that have started to die. By doing this, I have the ground free from all weeds before planting. The last plowing, or the last but one, I plow as deep as possible. When I began raising potatoes, I asked advice of my neighbors in regard to planting, etc. A told me to plant deep—eight or ten inches at least; B said six, and C told me to cover just as shallow as possible. It was the same as to the distance between rows and hills, the number of pieces in a hill, the number of eyes in a piece, and the kind of potatoes to plant. I concluded to try as many methods on the same ground as I thought practicable, and find out for myself which was best.

"To ascertain the proper depth, I planted three rows side by side—the first row ten inches, the second and the third two inches deep. Those planted two inches deep were up through the ground four days before those planted five inches, and eleven days before those planted ten inches in depth. There was but little difference in the time they ripened, and I dug them at the same time. Those planted two inches deep yielded one-fourth more than those five inches deep and a little over twice as much as those ten inches deep. The amount of small potatoes was greater in the deep planting. I have tested it since in different soils, always with best results from shallow planting. I have experimented in the same way with all the other details of planting, and have had the best results from planting in rows about 30 inches apart, dropping one piece in a place ten inches apart, and have found it best to have the pieces large, with two or three eyes in each. I cut a fair-sized potato in three or four pieces. There are many who sell or eat all the large potatoes and plant the small. *Don't do it!* For each extra dollar you make this year by selling your choice potatoes this year, you lose ten next. Every one picks out the best of corn, and it is the same with wheat, oats and other crops, and what is the reason one should make an exception of seed potatoes? After a number of trials, I have demonstrated to a certainty that the yield from good, large potatoes is at least 20 per cent more than from the small ones. And this is not all; there is at least 30 per cent more small potatoes from the small seed potato, making an actual difference of nearly one-half.

"You may not believe this, but try it before you pass your opinion: I harrow my potatoes thoroughly when they begin to come up. Unless weeds appear, I do not cultivate again till they are quite large, when I plow a light furrow toward the row from each side. Later on, if the potatoes come to the surface, I go through them and cover up the bare ones with a hoe. Now, in regard to irrigating, I found to my sorrow that it will not do to flood potatoes here. When I began to irrigate, I let the water fill up and flood the low places, and wherever the water came up around the stocks, they did no good. I also made a mistake by irrigating too late in the season. I watered a patch when they were in bloom, starting a new growth which injured the crop to some extent. But where it can be done, I would say irrigate by all means, once or twice, between the rows, according to the season, but not after they are in bloom.

"I believe the best way to apply stable manure is to plow under in the fall; and by the time you plant, if the ground is plowed several times, it will be well mixed with the soil. I have obtained good results from a small amount of manure by scattering it along the furrow where I plant.

"I have arrived at the above conclusions after several years' actual tests and close observation, and I believe it will put 'money in your purse' if you follow some of my suggestions, though from your different location, some of them may not be practicable."

ED ROBERTSON.

Blocksburg, Jan. 25, 1893.

Good Husbandry.

J. W. Brumagim of this city writes to the *Bulletin* concerning good husbandry. He says:

"I commenced husbandry early in life when a boy under the instructions of my father, who carried on all the business of a farmer, comprehending agriculture or tillage of the ground, the raising, managing and fattening of cattle and other domestic animals, the management of the dairy and whatever the land produces. It was in the State of New York, where climate and the seasons are different from those of California, but what he did there you can do here. He never worked more than 320 acres, but they were well worked. He produced or made everything on his own farm which he required, except a few luxuries of life and some implements for farming. He raised carriage horses and work horses; cattle for the dairy, for beef; oxen; sheep and lambs for his own table and for sale; hogs for pork, ham and bacon; poultry for eggs; potatoes, corn, cabbage and every other garden vegetable were there produced.

"I have heard men say, and so have you, that they could buy these things cheaper than to raise them. I controvert such a declaration. It is true that some time and labor are necessary to grow these vegetables, but it can be done

at times when you have nothing else to do, between times of other work.

"There is plenty of land in this State adapted and suitable for alfalfa. Hogs will live and grow on the alfalfa alone, and until well grown, then, when you want to fatten them, about eight or ten bushels of wheat will fatten them up to 200 pounds and over. See how much you will thus get for your wheat.

"Work less land; raise divers crops. Summer-fallow your land; raise everything you need, when you will save the money that another party will get if you don't follow this advice. Success attends the man who looks out to do or to see that all work is properly done and at the proper time. Want of attention; not looking out for implements; letting them lay around unprotected from the sun and rain causes more damage than their use. Go to work now; small farmers and large farmers, and raise something else beside wheat. Try diversified farming and you will get rich as my father did—at farming."

Soap for Poison Oak.

TO THE EDITOR:—I read with much interest F. H. Billings' article on poison oak, in your issue of January 7th. I have always been very susceptible to this poison, and at times suffered great discomfort from its effects. I have tried all sorts of remedies with but little success, but finally blundered into the practice of rubbing soap on the affected parts and found great relief.

Whenever I have been exposed to the poison I rub the exposed parts with a lather of any kind of soap I can get hold of, and let it dry on and do not wash it off for several hours, leaving it on perhaps all night. Even when I have neglected it until the itching and burning commences, one thorough application will generally stop it, giving almost instant relief. Sometimes a second dose is found necessary. This remedy I consider almost infallible. Simply washing with soap and water and then drying with a towel has little or no effect. In a mild case, simply dipping the cake of soap in water and rubbing it on the skin until dry and leaving it undisturbed, will usually suffice.

I have no theory to offer as an explanation and would like to know what Mr. Billings thinks of it.

If it be inconvenient to go for the soap when I have accidentally touched the plant, I rub the skin with damp earth which nearly always prevents further trouble.

Los Gatos, Jan. 16, 1893.

L. W. PARSONS.

THE STOCK YARD.

English Fat-Stock Shows.

Our English exchanges give full particulars of the stock exhibited at the two principal fat-stock shows, that took place at Birmingham, and Smithfield (London) in the order named.

The 44th exhibition of fat-stock was opened at Birmingham on Saturday, Nov. 26th, and closed Dec. 1st. The entries consisted of cattle 210, sheep 49 (pens), pigs 94 entries (pens), poultry 2402, and pigeons 1208 entries.

The judging was done on Saturday, the first day of the show, when less than the average number of visitors usually attend, they being chiefly composed of people who take an interest in process of judging and its lessons.

The premium for steers over three years old is still continued at the English fat-stock shows, though there are comparatively few of the better class of cattle throughout the country fed to that age, the majority going off at something like 24 to 30 months of age, at which time, if they have been well fed from calfhood, they ought to be fully ripe for the butcher.

There has been no premium for three-year-old steers for the last two years at the American fat-stock show, which also differs from the English in that it offers no premiums for females.

At the British shows the champion prize for the best beast in the yard is quite frequently taken by a female. That was the case at Birmingham in 1892, a crossbred heifer being declared the champion over all others, a Devon steer being paced as reserve. The heifer was 2 years 10½ months old and weighed 1826 pounds, being a gain of a little over 1½ pounds a day since date of birth.

It is not usual for an animal that is 900 days old or over to have a record of two pounds a day in growth, but we find it among the Herefords at Birmingham, where one was exhibited in the two-year-old class, 976 days old, that weighed 1972 pounds, being 2 lbs. 0¼ oz. gain per day since birth. While this is not the greatest gain recorded, taking age into consideration it is one of the best. It is, however, a very close run against a Shorthorn, 977 days old, weight 1890 lbs., gain per day 1 lb. 15¼ oz.

The greatest gain per day made by any beast in the show was made by a Shorthorn steer, 614 days old, weight 1557, gain per day, 2 lbs. 8½ oz.

CROSSBREDS.

The next greatest growth is made by a crossbred steer 658 days old, weight 1563 lbs., gain per day 2 lbs. 6 oz.; there were also two other crossbreds that made 2 lbs. 4 oz. and 2 lbs. 5½ oz., respectively.

The crossbred cattle were chiefly Shorthorn and Aberdeen-Angus, the champion of the show being bred that way. It is the most popular cross for the production of good beef cattle, and has probably produced more good fat-stock-show animals than any other cross, not, however, by any haphazard method of breeding, but by mating well-bred, first-class animals of each breed. There were also a few animals of the Hereford-Shorthorn cross which were well thought of for their beefing qualities.

The butchers of Birmingham give prizes for the best beasts likely to die well for their purposes, the judging being done by the butchers themselves. The first prize went to a Shorthorn weighing 2494 pounds, being the heaviest

beast in the hall. This is a large, heavy-weight butcher's beast which had probably been fed too long for profit. The *Mark Lane Express* says of it: "Although not particularly handsome, he was a firm handler, devoid of coarseness considering his size, and no doubt a good butcher's beast." The second prize in this class went to a Shorthorn-Angus of very nice quality and a fair amount of substance.

Of sheep there were fewer than usual, the entries being about 20 less than in 1891. In referring to the table of weights and ages of sheep, we find one of the Cotswold breed with a gain of 14 oz. a day, at 276 days old, and another of same age has a growth of 11¼ oz. a day, which latter is equaled by a crossbred, 300 days old, weight 220 lbs., gain a day from birth 11¼ oz. Others range from 10½ oz. to 4½ oz. a day, of growth, the highest in Shropshires being 9¾ oz., in Southdowns, 9½ oz., and Oxford Downs 10½ oz. a day from birth.

There were about the same number of pens of pigs as in 1891. It appears that breeding pigs are allowed to be exhibited at Birmingham, which the *Mark Lane Express* thinks to be at least a doubtful policy, particularly in a building of limited size.

The fat pigs were more numerous than usual, particularly Berkshires, some of which are said to be wonderfully developed for their age. Several of the other pigs are also of an extraordinary weight for age—so says the *Agricultural Gazette*—but as the pigs are not weighed, as are the cattle and sheep, we cannot give the weights of any of them, neither their comparative rate of growth from birth.

The Smithfield Show.

The 95th show of the Smithfield Club was held December 5th to 9th, inclusive. It was one of the best in the annals of the club, and was well patronized by the public. On Tuesday, the second day of the show, the visitors numbered 30,000, followed by about 20,000 on each of the following days.

The cattle classes represented ten different breeds on exhibition, besides crossbreds. The latter class of cattle in the year 1892 produced the three champion animals, over all breeds at the principal shows. At the Norwich show the champion was a cross between a Red Poll and a Shorthorn, a steer of the age of 3 years, 6 months and 25 days, that weighed 2032 pounds. The Birmingham champion was a cross between a Shorthorn and Aberdeen Angus, as before stated, and the Smithfield champion over all breeds was the blue roan steer that weighed 2276 pounds, at the age of three years, five months and five days, being a Galway and Shorthorn cross.

The crossbred cattle at these shows are generally produced by a direct cross between any two pure breeds. They are not what are called grades in this country, though such are allowed to compete for premiums offered in any of the crossbred classes, which are supposed to be open for competition to cattle of any mixed breed.

The *Mark Lane Express* says: "The crosses are *par excellence* the classes of the show this year in all respects. To them at Birmingham belongs the honor of taking the great trophy of the day—a feat they have accomplished more fully at Islington (Smithfield). Seldom do we find three champions in one class of animals. This, however, has been the case this year."

The Birmingham champion heifer was placed second to the champion at Smithfield as best beast in the yard, besides winning the £50 (\$250) cup as the best heifer or cow in the show, the Queen's roan Shorthorn heifer Rosemary being considered the second best. This heifer also was the winner of the £25 cup given for the best Shorthorn animal in the yard. Of this breed and its influence for good on the beef-producing qualities of cattle generally, the *Agricultural Gazette* says:

Were the entries of this breed to be taken by themselves, they would still stand high among British breeds, if not at the very top. But if one allows them—as one ought—a share in the merit of the remarkable cross-bred section, it will at once be seen that, in spite of a diminished average per head in the sale ring of 1892, the Shorthorn, still is, above all other breeds in the world, the principal factor in supplying Great Britain with Christmas beef. This is high praise; yet, to the whole of it, the Teeswater is fully entitled. It should be added that, of the 15 prizetakers, 11 were calved in England. Further, it should be said that the highest return *per diem* made since birth by any steer is, this year, obtained from one of H. M. the Queen's Shorthorns. The average weight—of the steers under 24 months—is curiously close in three sections of the show, i. e., Shorthorns, Sussex and cross-breeds. But—as the Shorthorn certainly gave the weight and early maturity to the last—pleading for the red, white and roan (as their chronicler has a very good title to plead), we may say that, at Islington, they show no sign of having lost any of the utilitarian properties—which first brought them to the front in British markets.

Both the Devons and Herefords showed up well, there being about 30 head of each breed exhibited. The Queen is an exhibitor of both breeds and takes the breed cup for the best Hereford. Mr. J. Wortley wins the same for the best animal of the Devon breed.

The *Mark Lane Express* has a bit of criticism on the awards as made in the class of two-year-old Hereford steers, which is confirmatory of the ideas we have more than once given expression to in these columns, in regard to style and beauty, unless combined with weight and substance, counting for nothing in cattle and cattle-breeding:

The two-year-old steers puzzled the judges even to a greater degree than they did at Birmingham, for they could not agree, and Mr. Perry, one of the Devon judges, had to be called in as umpire. One of the judges preferred Mr. R. T. Griffiths' very fine healthy steer to the Queen's—the former was third and the latter first at Birmingham, and they hold similar positions here; but we are not certain the verdict in either class is the right one, for the steer of Mr. Griffiths scales 17 cwt. 1 qr. 20 lbs., and that of the Queen, although older, only 14 cwt. 3 qrs. 6 lbs. The Queen's is, no doubt, a dashing, nice-looking animal, who carries himself well, whereas the steer of Mr. Griffiths stands and walks badly. But neither the Smithfield nor the Bingley Hall fat-cattle shows ought to have their prizes awarded because of the good looks of the animals, and unless it can be proved that the Queen's steer was of much better quality to the other, and would come out better in a block test, the weightier animal should have had preference. We much question as to whether the steer of Mr. Griffiths, which displayed excellent handling, would

not have been preferred by any skilled butcher to the Royal steer, and as the former has yielded a daily gain of about 2 lbs. from birth, and the gain of the other would only work out a little over 1 lb. per day, the point seems clear that the wrong animal got first prize.

The Aberdeen-Angus breed was well represented, not only in numbers, but in great merit in the animals exhibited.

The champion of the breed was a heifer 1 year, 10 months and 10 days old, that weighed 1474 pounds, an extraordinary weight for age, the attainment of which shows that there must have been skillful feeding in addition to good breeding. The heifer was bred and exhibited by Mr. Clement Stephenson, an old exhibitor and winner of many of the highest honors at the Smithfield show in times past.

There were 11 different breeds of sheep on exhibition, which includes about all of the improved British breeds of old standing. The champion long-wool sheep was one of the Leicester breed, and that for short-wool breeds a Southdown.

In pigs, the Berkshire breed was the winning one, taking champion prize for best pen of pigs, as well as that for best single pig, over all other breeds.

In looking over the results of the show, we have the usual lesson that the youngest animals make the greatest weight of growth for the food consumed. As above stated, a Shorthorn steer made the best record, in that respect, for the year 1892. As usual, the premium animals of that breed were nearly all roan or white. Two or three are described as being of a gaudy red and white, and only two or three as red. One of our most successful American Shorthorn-breeders, after having seen the best herds of Great Britain in 1892, returned with the conviction that he who wants to have the best cattle must go to breeding roans. His opinion is confirmed by the results of the American and British show-rings, of both breeding and fat stock for the year 1892.

POULTRY YARD.

Poultry Diseases.

TO THE EDITOR:—In answer to yours of Jan. 10th enclosing postal from Walter E. Gammon, requesting to be informed as to the nature of a disease or malady attacking his poultry, I would say that as far as my observation of the nature and cause of such a difficulty as seems to have overtaken him, enables me to speak, it may have its origin in one of three prevalent causes as follows: A disordered and congested state of the liver, or a rheumatic affection, or to a diseased condition of the knee-joints, the result of a parasitic attack, or possibly, a jar or shock to the joint caused by alighting heavily from too high a roost while in too heavy a condition from excessive fatness, or from being by nature large, heavy fowls. Roosting places should never be too high (not over two feet) for any fowls that are well fed and carefully kept.

In the course of my poultry experience, a term of nearly 12 years, during which time I have given the care of fowls in sickness and health my close attention, I have had among other ailments of my flock many cases of lameness, some cases apparently having their origin in a diseased state of the liver, that organ appearing to be dotted with whitish spots and apparently inactive and not yielding readily to treatment. No other solution of the difficulty offers itself to enable one to locate the trouble and apply needed remedies. Right here I deem it proper, or perhaps I should say admissible, to say that unfortunately so little is really known of the diseases of poultry that one of two courses seems to be the rule, either to fall back on some "warranted cure all" or to experiment on one's own account with what intelligence or knowledge of fowl nature one may possess from having studied both more or less closely. Fowls are such small things (?) that really it seems hardly worth one's while to give them so much care, and to try to invest them and their ailments with so much importance; and yet let an old cow or a thirty-dollar horse get sick and how one does hustle around among the neighbors to know what to do, or hurry off to look up a "vet" and secure his services for the cure. All this in the face of the fact that a yard of fowls will aggregate more in value and in the product they give than perhaps a half dozen or a dozen cows. Why should not the study and treatment of the diseases of poultry form a part of the education of the horse or cow doctor? The time has been when the occupation of a horse or cow doctor was held in as little repute as would apparently that of a hen doctor be now.

I venture to say that money invested in fowls will give a larger return than the same amount invested in any other kind of stock; but, of course, not without intelligent and careful conduct of the business; the same intelligent and careful treatment that owners give to their choice cows and their fine horses. Failing in this they may not hope for success.

I would like here, if it is not too much of a digression, to do a little in the way of statistics gleaned from the *Poultry Keeper*: "Missouri shipped in 1891 \$4,213,961 worth of eggs and fowls," the greater part of them, without doubt, coming to California, and this of one State alone (since increased largely). Then from the same source we have as the result of official investigation "Poultry and eggs as above; corn and oats \$4,606,703; coal and iron \$3,752,393; lead and zinc, \$4,740,200"; not a bad showing for poultry, I think, especially when we consider that this showing is made up mainly from the product of isolated barn-yard flocks under the generalship of farmers' wives and daughters.

But to resume: I hardly know what to advise your correspondent unless it be to apply a mixture of kerosene and oil, or grease of any kind in fact; say three parts coal oil and one part oil, just sufficient to correct the disposition of the coal oil to burn or blister, and I have for this found nothing better. Elsewhere I have seen recommended a mixture of one part crude petroleum, one part kerosene and three parts lard. I should also advise low roosts, as fowls

flying down from high places not only injure their legs, but are liable to injure themselves internally, unless of the old dunghill style, put up for flying and for not much else.

Then perhaps his method of feeding may be in fault. I have never found squash seeds or watermelon seeds to be productive of harm to my flock, or figs, or in fact any kind of fruit, to all of which they have free access in their season. I am inclined to think that perhaps he had better make some change in the character of their food, perhaps less of wheat or corn and more of a thick mush of bran and scraps of meat and vegetables; say one feed per day of this and their dry grain at night. Plenty of green stuff and vegetables are always good and the fowls relish them.

As a corrective of many disorders, charcoal is, I consider, invaluable in a poultry yard. It should be broken in fine pieces so that the fowls can readily eat it, and kept in their reach always. Perhaps as their range is on a clayey soil they may lack grit unless supplied with broken or ground shells, or coarse, sharp sand. They should have both. To advise otherwise than in a general way is almost impossible, unless one can know how the fowls are kept, their condition and habits. Personal observation is much more satisfactory.

The business of poultry-raising, like most others, is afflicted with theories, many and perhaps the greater part of them being the unhealthy offspring of indoor (so to speak) discussions of methods, and a consequent evolution of theories warranted to suit all cases and meet all exigencies; but alas! more likely to be like the darky's rabbit that he failed to catch—"takes too much butter to fry him, an' he ain't good fur nuffin' nohow."

Theories in themselves are not altogether bad, but to make them thoroughly good and reliable, a practical and experimental knowledge is necessary, and that can only be the case when the theory is the result and expression of practical knowledge and experience. T. B. GEFROY.

Lodi, Jan. 26, 1893.

A Sure Cure for Roup.

A subscriber whose old chickens have a white substance around the entrance to the windpipe and become wheezy, while the young pullets are affected with swollen eyes, asks for a cure.

From the symptoms described, it is impossible to say whether or not it is a case of true roup. Roup proper is a contagious disease and appears to be induced by cold, damp, dark and filthy quarters. Even drafts of cold air descending on the fowls while at roost seem to bring on the malady. But so similar are the symptoms of roup and several throat and nasal troubles caused by the same bad hygienic surroundings mentioned, that it is difficult to tell the true nature of the disease. For this reason we can place but little reliance on most of the cases where it is claimed that roup has been cured.

The symptoms of true roup are dullness and general languor, ruffled feathers, loss of appetite and rapid, wheezy breathing. There is a watery discharge from the nostrils, which later become thick and foul-smelling. When the nostrils become closed, the discharge exudes from the eyes, thus causing blindness and the head to swell. In severe cases, sores form under the thick, yellowish, cheesy matter in the throat and on the face. I have consulted with Dr. James Law as to the best treatment for roup fowls. He recommends as follows: Spray and swab the throat, mouth and nostrils thoroughly with a solution of one ounce hyposulphite of soda to one quart of water. The house should be thoroughly disinfected to kill all germs of the disease which may be lodged about the walls and floor. To do this, spray with a solution of chloride of lime four ounces to four quarts of water. Provide the fowls with warm, dry, sunny quarters, and feed warm, nutritious food in good variety, always keeping pure water and grit accessible.—JAMES E. RICE, Cornell University, N. Y.

Poultry Notes.

Keep fattening poultry quiet.

Cultivate the laying habit in early pullets.

It pays to fatten well all poultry sent to market.

Much fat-producing food is not best for laying fowls.

Appearance is a factor in selling any product to advantage.

A warm house not only saves feed, but also helps to secure eggs.

It requires a little more care to look after early chickens, but they sell higher.

Quick sales and small profits is as much of an item with poultry as with other stock.

It is a very important item with young chickens and turkeys to keep them free from lice.

Economy and good management go hand in hand in poultry-keeping, if it is made profitable.

With good management all of the poultry on the farm can be improved by the use of good males.

If raising early broilers for market, they must be forced to get the desired size as quickly as possible.

Keep chickens intended for early market in close quarters and put the growth on as rapidly as possible.

Poultry manure contains all of the solid as well as the liquid excrements, and hence is very fertilizing.

Many fail to secure the best profit by keeping too large a number of old fowls on hand that should have been marketed.

Keeping fowls on hard runs will frequently cause swollen feet and legs; give them some loose ground to scratch over.

As soon as the chickens make sufficient growth to eat, they should be supplied with at least some whole grain, rather than to depend upon soft foods entirely.

SHEEP AND WOOL.

Yearly Review of Pacific Coast Wool Trade.

The year 1892 will be a memorable one to the San Francisco wool-sellers, in the fact that both spring and fall clips were marketed with less effort than ever before, and also for the reason that stocks were almost exhausted on the first of January, 1893.

The year was marked as one in which the wool trade run unusually smooth and in which no great fluctuations in prices existed, and while prices for fall wools were really down to a free-trade basis, yet both growers and sellers were fairly well pleased with the year's active results.

The spring clip was a fair average in condition, except in the San Joaquin valley, where wools were not up to a good standard; in other sections of the State, particularly northward, the spring clip was remarkably good.

The fall clip was poor in condition all through, the northern being more shrinky than expected, and the southern being both very shrinky and very defective, the plains' wools especially being more earthy and perhaps shorter-stapled than at any former period, the marketable result being lower-range prices than ever before realized; in other words, more of these wools were sold on a basis of 6½ to 7 cents per pound than in any previous year. These ordinary fall wools have very little merit at best, and though prices for them seem to be less and less each year, buyers are more and more indifferent to them every fall even at the lower prices.

The year 1893 starts in well, so far as wool-industries and wool-interests are concerned, stocks of good domestic wool are light East and West, manufacturers have a splendid trade, jobbers in dry goods are doing well, and on the Pacific coast we have a magnificent season in prospect. The winter rains have been abundant up to this time, feed will be good, sheep will be fat and mutton will bring good prices; therefore, the sheepman in California has every reason to congratulate himself, notwithstanding the tariff "bogey-man." We venture the assertion that good spring wools will bring as much on the average, in 1893, as they did last spring, and if such proves to be the case the wool-producer will have no cause to worry over tariff matters. At the present writing it seems very probable that we shall have no extra session of Congress this spring; therefore, there is no reason to apprehend any disastrous wool legislation for 1893. It is true the wool-jobbers, dealers and manufacturers will all agitate tariff, and make "legislative uncertainties" a pretext for still lower prices, but if it were not "tariff," it would be something else to the same end, and, as we said before, prices are about as low as they can be for inferior stock; therefore, we don't see any reason why they should be lower this year, or why the growers of choice wool should be disheartened. On the contrary, we hope that altogether the year 1893 may prove, if anything, as profitable for the wool and mutton interests as was 1892.

WOOL PRODUCTION OF CALIFORNIA FOR 1892.

Wool received in San Francisco from all sources during 1892, 94,333 bags; estimated.....	34,000,000	Lbs.
Pulled wool.....	1,025,000	
	35,025,000	
Shipped direct from interior.....	4,000,000	
	39,025,000	
Deduct for—		
Oregon and Washington.....	3,504,000	
Nevada and Territories.....	1,500,000	
Foreign, in transit from Australian to Eastern markets.....	1,500,000	
	6,504,000	
California production, 1892.....	32,521,000	
Of which—Spring wool.....	19,521,000	
Fall wool.....	13,000,000	
And an increase over 1891 of.....	3,500,000	
On hand, San Francisco, December 31, 1892, estimated.....	1,500,000	
On hand in the United States, Dec. 31, 1892—		
Domestic and pulled.....	68,354,000	
Foreign.....	18,388,875	
	86,742,875	

WOOL PRODUCTION FOR TEN YEARS IN CALIFORNIA.

	Lbs.		Lbs.
1883.....	40,848,690	1888.....	32,569,972
1884.....	37,415,330	1889.....	32,591,720
1885.....	36,561,390	1890.....	34,917,320
1886.....	38,509,160	1891.....	29,013,476
1887.....	31,564,231	1892.....	32,521,000

From these figures it will be noticed that the product for 1892 shows an increase over 1891 of 3,500,000 pounds, with every prospect of increased yield for present year.

We give herewith some pertinent facts relative to wool that will prove interesting to our wool-growing friends:

	Lbs.
World's production of wool for 1891.....	2,010,000,000
United States production of wool for 1891.....	307,400,000
California's production of wool for 1891.....	29,013,476
Australia's production of wool for 1891, estimated.....	545,000,000
Foreign wool imported into United States fiscal year 1891.....	129,390,280
Foreign wool imported into United States fiscal year 1892.....	148,670,670
Consumption of wool in United States, 1891.....	411,373,600

TARIFF.

Clothing wools.....	11c lb.	Combing (scoured) wools.....	36c lb.
Washed wools.....	22c lb.	Carpet wools, valued over 13c.....	50 per cent ad val.
Scoured wools.....	33c lb.		
Combing wools.....	12c lb.	Total duties collected on imports of wool to United States for year 1891.....	\$6,552,267
Carpet wools, valued at 13c or under.....	32 per cent		

There is probably 50 per cent of our California wools now sold to the scourers, and the outlook is that the scourers will handle more and more of our wools each year; therefore we beg to call the special attention of our friends to the two chief objections urged against many clips of wool sent to this market from Oregon, Nevada, Washington and California. The first one is the branding or marking of sheep with tar, the other objection is the use of sheep dips (by "spotting" or "dipping"), as they discolor and prevent

the wool from scouring white. Tar should never be used on sheep, and "spotting or dipping should be avoided immediately after sheep are shorn; even then purchasers of "dip" should be satisfied that it has not the objection we refer to. All woolgrowers should give special attention to these things, as it means depreciated wool and less price when not guarded against.

THOS. DENIGAN, SON & CO.

San Francisco, January 25, 1893.

Dorset Horn Sheep Breeders Meet.

The second annual meeting of the Dorset Horn Sheep Breeders' Association of America was held at the Fifth Avenue hotel, New York city, Wednesday, January 11th, 1893. The attendance was the largest in the history of the organization.

The secretary's report showed that there were 2038 sheep on record, and that the transfers numbered 308. The association reports 162 flocks scattered over 24 States. New York leads the list with 65 flocks, Pennsylvania 32, Connecticut 15, Ohio 10, Indiana 9, New Jersey 5, Massachusetts 6, Minnesota 2, Vermont 3, Canada 2, Iowa 1, Colorado 1, Michigan 1, Oregon 1, Kentucky 1, Delaware 1, South Carolina 1, Maryland 1, Virginia 1, Illinois 1, West Virginia 1, North Carolina 1, Missouri 1 and Wisconsin 1.

The invitation extended to the association by the Director-General of the World's Columbian Exposition, tendering the use of assembly hall at Chicago for semi-annual meeting during the exposition, was unanimously accepted and a vote of thanks extended to Chief Buchanan for the courtesy extended the association. After considerable discussion, the following scale of points was adopted:

1. General appearance, head well up, eyes bright and alert, and standing square on legs, 20. 2. Broad, full chest, brisket well forward, 10. 3. Broad, straight back, with well-sprung ribs, 15. 4. Heavy, square quarters, set on short legs, straight legs well apart, 10. 5. Legs white, with small, light-colored hoof, 5. 6. Head small, face white, nostrils well expanded, nose and lips pink in color, 5. 7. Neck short and round, set well on shoulders, 5. 8. Horn neat, curving forward and light in color, 10. 9. Good foretop and well covered on belly and legs, 10. 10. Wool of medium quality, good weight and presenting an even and smooth, white surface, 10. Total, 100.

The election of officers resulted as follows: President, T. S. Cooper, Coopersburg, Pa. Vice-presidents, C. I. Allen, Terryville, Conn.; M. M. Small, Cooperstown, Pa.; H. E. Fletcher, Minneapolis, Minn.; John A. McGillivray, Toronto, Canada. Secretary and treasurer, M. A. Cooper, Washington, Pa. Executive committee, J. M. Ham, Washington Hollow, New York; J. B. Wylie, Washington, Pa.; George E. Jones, Litchfield, Conn.; W. E. Kimsey, Angola, Ind.; W. J. Baldwin, Thorndale, Pa.

M. A. COOPER, Sec'y., Washington, Pa.

Sheep Shearings.

Especially when on dry feed, sheep need a good supply of water.

To keep sheep healthy, they require a frequent change of food.

Care should be taken to clean out the mangers of feed-racks frequently.

Look over the flock and sell the sheep that show the least improvement.

Inferior sheep are often a drag when good sheep sell readily at good prices.

Never allow sheep to be frightened or run by a dog, or in any way disturbed.

If any of the ewes have poor teeth, it will always pay to feed them ground feed.

A sheep kept thrifty will shear a heavier and better fleece than one poorly kept.

In commencing to feed grain to sheep, feed a small quantity at first and gradually increase.

HORTICULTURE.

Olive Culture in California.

Read by PRESIDENT B. M. LELONG of the State Horticultural Society at its last meeting.

At the last meeting of the society, the subject of the Future of Olive Culture in California was assigned to me. This subject is too important and too broad to be discussed in a paper of but one month's time of preparation. I therefore submitted a series of questions on the information desired to the olivegrowers themselves, and herewith submit their replies as follows. Capt. Guy E. Grosse of Santa Rosa writes:

Q. 1. The amount realized on olive trees per acre?

A. That depends entirely on the age of the trees. My first plant on Rincon Heights are Mission olives. I got the trees from John Spence of Santa Barbara in 1885; they were two-year-old roots from cuttings in nursery. Consequently, they are eight years old in orchard or ten years from cuttings. They began fruiting a little when three years old, and have gradually increased as the trees grow older and larger; they have not yet yielded over one gallon of berries to the tree and some trees less than a pint. I cultivate the land thoroughly, chiefly by hand labor, as most of my lands are too rocky (basalt boulders) and too steep to plow. Out of 7000 trees on Rincon Heights, ranging from one year old to eight years from nursery, comprising Mission, Nevadillo Blanco, Manzanillo, Rubra and Redding Picholine, I find the Nevadillo Blanco and Manzanillo fruiting fairly well the third year, which is the oldest I have of those varieties. I cannot answer the question definitely, as my trees are too young, and it depends on the use of the olive whether for oil or pickle. Perhaps from 500 to \$1 per tree is a fair estimate on eight to ten-year-old trees, and after the tenth year the olive tree has some size, and the increase of fruit is considerable every year thereafter. I planted one Mission tree in a residence lot in Santa Rosa 15 years ago, which had ten gallons of fruit last season; 1892 seems to have been an off year in Sonoma county at least. I had more fruit in 1891 when the trees were one year younger than last year, and I observe the same in other orchards elsewhere. To answer the question intelligently, I can only say that the Tagnoti family near Lucca, Italy,

has about ten or a dozen olive trees as large as our biggest live oaks, which they resemble some in shape. They bear as much as 500 gallons of fruit to the tree every other year, and the trees are probably over 1000 years old, and I daresay that some of the olive trees in the Garden of Gethsemane, under whose green, waxy foliage, delicate sulphur-hued bloom and sun-protecting shades our Lord and Savior Jesus Christ offered up his prayers and devotion to His Father in heaven, are still there and growing, and bearing fruit and perhaps not yet in full bearing.

Q. 2. The cost of bringing said trees into fruiting?

A. The first 500 trees I bought from Mr. Spence of Santa Barbara at a cost of 45c each, adding freight 2c and digging holes 2x2 feet and 2 feet deep 15c, with stake or picket 3c, and planting and tying up 5c, made a total cost of 70c per tree; the first year cultivating land and caring for trees, pruning, etc., about 10c per tree, or \$10 per acre each year thereafter; say at the fourth year when they began to bear a little they cost just \$1 per tree.

The next lot of 3000 trees I bought in 1886 from the Goodrich or Hammond Farm in Santa Clara for \$1000, or 33 1/2 cents each; cost of planting and handling about the same as before, or a trifle less, trees costing about 90c each the fourth year. Since then I have had my own trees raised in nursery from cuttings from the two lots quoted; consequently, I consider the cost of raising the trees not worth more than 10c each. I bought two-year-old Nevadillo, Manzanillo, Rubra and other varieties at 25c each since, and most any of the best varieties can be bought for 20 to 25c now, and on my kind of land and my mode of planting, using a six-foot fence picket to each tree for a stake, I think 60 to 70c a fair estimate of cost to bring an olive tree into bearing, according to cost of trees.

Q. 3. Does the demand for olive oil and pickled olives warrant the planting of new olive orchards?

A. To the best of my knowledge and observation, I find a growing demand for pure olive oil, and the consumption of oil and pickles is annually increasing. The American people are acquiring a taste for the fruit and oil, and inasmuch as the Pacific coast is really the only olive territory of the United States tested, and the trees have to acquire an age of ten years before they attain a remunerative or profitable size, the demand and consumption are increasing faster than the production; hence the many spurious and adulterated olive oils in the markets. While the American people are cultivating a taste for olives and olive oil, they, and especially the medical fraternity, out of necessity, are also educating themselves in testing the purity of the oil, and in my opinion any one of the present generation is perfectly safe and justified in planting new olive orchards, provided he can afford to wait eight or ten years for a profit on the investment, assuring him that he will receive a bigger interest thereafter than on any other plant possible.

Q. 4. What varieties give the best returns?

A. As I have only Mission and Picholine old enough to bear sufficiently to judge by, of the two the Mission pays best by big odds; however, I have great faith in Manzanillo, Nevadillo and many others, and feel encouraged by their thriftiness, hardiness and youthful bearing.

Q. 5. What obstacles are there to hinder the olive-oil industry from becoming one of great commercial importance?

A. There are many. Rape seed, grape seed, cotton seed and peanut-oil, and from 50 to 100 per cent cotton seed, branded, labeled and placed upon the market in handsome bottles as pure olive-oil. Such oils are placed by manufacturers into dealers' hands, at low prices, affording great profits to jobbers and retailers in a certain class of trade. This business of making spurious olive-oil is the result of increasing demand for the pure article and the inadequate production of it, its high price and small profit to the dealer, as against big profits realized in handling the adulterated oils.

Q. 6. Give instances you may know of and names of growers who have realized paying returns (amount per acre) from olive orchards. If none, the reason why?

A. That question I cannot answer correctly, there being only one old olive orchard in this county, except a few isolated old Mission trees planted here and there by old settlers, some of whom never gathered the fruit until of late years, and in many instances the first use of the fruit is being made now by pickling it. Col. Geo. F. Hooper, of Sobre Vista, Sonoma county, has the oldest orchard of about 160 trees; he has made an excellent quality of oil for a number of years. I do not know the profit he realizes from his small plant, but I can attest to the excellence of his oil, having used it in preference to any other when I could get it. There are perhaps 100,000 olive trees set out in Sonoma county, orchards varying in age from one to ten years. The largest plants are at Asti, Cloverdale, Healdsburg, Korbels, Los Guillos, Santa Rosa and Penn's Grove. A great many will be set out this season, and in a very few years we shall know who does and how much they realize per acre, and who does not, and the reason why.

LETTER FROM EDWARD E. GOODRICH OF "EL QUITO."

SANTA CLARA, Jan. 19, 1893.

Mr. B. M. Lelong: Yours of the 13th duly received. I cannot give any information as to what is realized on olive trees, owing to the peculiar development of my place and the small crop, due to various changes and incidental conditions. The estimate of the cost of bringing into bearing would be the same as prunes, with the difference of price of tree, if two-year-old trees were planted. It might be safe to add one year more. I am inclined to think that the demand for pickled olives is sufficiently large and increasing with sufficient rapidity to justify olive planting for pickles. It seems as if the ignorance of our people as to the value of pure olive-oil and the dangerous character of the adulterations is such that, for some years to come, it will be difficult to market any large quantities of oil at the high price which olive culture demands. I know nothing about the pickling business. For oil purposes on "El Quito" the Italian Correggiola and the Grossaja seem to produce the finest oil and promise to be good bearers.

There is nothing to hinder the olive industry from becoming one of great commercial importance, except the ignorance of Americans as to the value of olive oil and the necessity of purity, the rascality of the trade which adulterates and, to some extent, the careless processes of some oil producers.

I do not know of any one who has made a decided financial success in olive culture, unless Mr. Elwood Cooper and Mr. Frank Kimball, but then there are no great number of producing groves near me.

My impression is that after the Columbian Exposition there will be a decided change in the olive market.

LETTER FROM PEVERIL MEIGS.

SANTA BARBARA, Jan. 17, 1893.

B. M. Lelong, Esq.—I regret that my experience with the olive has been too limited to enable me to answer your queries. I have about 200 trees about 18 years old, and have had but six years experience with them, and during that time have had but one crop, which yielded me 400 bottles of oil, \$400 (1x bottles to the gallon), and 125 gallons of pickled olives, sold at 65c, \$81.25; total, \$481.25. Not knowing that I should succeed either in pickling or in making an edible oil, I neglected to weigh my crop of fruit, and this is why I cannot give you accurate information. My trees are scattered and have good cultivation, but do not bear. I judge that they yielded about 5000 pounds the year they bore (two years ago), which would have been about 10 cents a pound, or \$2.50 a tree. I cannot tell you anything about the cost of bringing trees into fruiting.

Your 3d question: "Does the demand for olive oil and pickled olives warrant the planting of new olive orchards?" I am quite sure that it does not, because the trees do not bear regularly, and the oil does not sell very readily, owing partly to its not being first rate, more because our people as a mass have not been educated to it, but mostly because of the cheap and deadly stuff sold under the guise of olive oil by men in whom all sense of honesty is dead and who do not care a pin for either the lie on the label or for the shattered health of those who consume their poisons, so long as they make money by their rascality. I saw recently that an analysis of 64 samples of

alleged olive oil in New York City revealed the shameful fact that not one was pure.

Your 4th question: "What varieties give the best returns?" I cannot answer, as I know only the "Mission."

Your 5th question: "What obstacles are there to hinder the olive industry from becoming one of great commercial importance?" 1st. Because it cannot be made and sold at \$3 a gallon, the price required by commercial men to enable it to enter our markets largely. 2d. Because our people do not know what olive oil is, and are not likely to find out as long as the present infamous practice of adulteration is allowed.

Your 6th question: "Give instances you may know of and names of growers who have realized paying returns from olive orchards." I cannot answer because I know of no one who has made money by raising olives and selling pure olive oil. Why? The oil is not good enough in flavor to create a love for it and our people are satisfied with cottonseed oil, and many prefer it. In other words, I do not think the ideal has been reached by any one yet in California in olive oil. I am informed by a gentleman in New York, who is perfectly familiar with the California trade, that a limited quantity of first rate olive oil can be sold at \$1 a bottle, that is, \$6 a gallon, or even considerably more, but that it cannot become of any commercial importance until it can be sold at \$3 a gallon, or 50 cents a bottle, and it must be excellent in flavor to fight its way even at that price. He intimates that no such excellence has been achieved so far by California. If our oil does not find a rapid sale now, when the census shows that the total annual output of our olive orchards is only about \$65,000, what chance will there be if we increase our product tenfold? My opinions cannot carry much weight owing to my meager experience, but I write with perfect candor and sincerely regret that I cannot put the outlook in a more roseate hue.

LETTER FROM COL. GEO. F. HOOPER, OF "SOBRE VISTA."

SONOMA, Jan. 16, 1893.

B. M. Lelong, Esq.—In reply to inquiries contained in your circular dated San Francisco, January 13, 1893, viz:

1st. The amount realized on olive trees per acre?

Taking my crop for the past five years, it has averaged \$154 net per acre.

2d. The cost of bringing said trees into fruiting?

My Mission trees, at eight years old from the rooted cuttings, cost \$120 per acre.

3d. Does the demand for olive oil and pickled olives warrant the planting of new olive orchards?

Hardly, as, owing to the high wages, the producer of olives and their oil has to ask a higher price for his product to obtain a fair return for his outlay.

4th. What varieties give the best returns?

My experience is with the Mission. I think well of it.

5th. What obstacles are there to hinder the olive industry from becoming one of great commercial importance?

The expense of production, adulteration, also competition with the imported article, which can be bought at a less price than we can put the pure olive oil on the market.

6th. Give instances you may know of and names of growers who have realized paying returns (amount per acre) from olive orchards. If none, the reason why?

I cannot speak authoritatively.

LETTER FROM GEN. JOHN BIDWELL, OF RANCHO CHICO.

CHICO, CAL., January 20, 1893.

B. M. Lelong, Esq.—Referring to your letter of the 13th inst., I will say that I do not feel that my experience in growing olives has been sufficient to justify an expression of views upon the inquiries propounded in your letter.

The only olive trees I have in bearing are a few old trees about my house, which were planted many years ago. From the annual crop gathered from these I have made sufficient oil from year to year to supply my own table, but I have never sold any and have never made any attempt to ascertain what it cost to make it. I have some younger olive orchards planted, but they are not as yet in bearing, and I am therefore unprepared, from a commercial standpoint, to give any advice as to the amount that might or ought to be realized per acre from a bearing orchard. I am sorry that I am unable to give you anything more valuable in connection with this important industry.

LETTER FROM JOHN ROCK.

NILES, ALAMEDA CO., CAL., Jan. 14, 1893.

Mr. B. M. Lelong—Yours of the 13th received. The six questions you give are six hard nuts to crack for anyone with exception of about three or four men, who have given the olive a full test.

The olive industry is quite new yet. I don't believe there are a dozen men in the State who can show any returns from olives. If you had asked the question thirty years ago what French prunes would do, nobody could have answered it.

I cannot give you any information on the subject, but will be able to do so in two or three years from now, when our orchard at Biggs will be in bearing.

LETTER FROM C. R. RINALDI, OF SAN FERNANDO.

B. M. Lelong, Esq.: Your questions of January 13, 1893, are rather too far-reaching to answer satisfactorily so as to cover the subject.

It depends mostly on distance from market, soil, water-sources, financial, mental and muscular ability of the grower, etc.

I will give my experience and observation in this location. I am located about 25 miles from Los Angeles City, two and one-half miles from railroad depot. We have here eight or nine olive groves and about 2000 trees, set out in alley-way form, on roadsides and as windbreaks, in reddish, sandy loam. The land is worth \$200 per acre. Cost: deep plowing to destroy gopher and squirrels' work, \$3 50 per acre; 75 trees at 25c, \$18.75; to lay out ground, set, cultivate and irrigate trees, \$3.50. Second year, pruning, plowing, cultivating and irrigating, \$6; third year, \$7; fourth year, \$8; fifth year, \$9; sixth year, \$10; seventh year, \$10.

SUMMARY.

	Per Acre.
Capital in land.....	\$200 00
Interest on capital for seven years at six per cent.....	84 00
Trees and first year's expenses.....	25 25
Seven years' interest on \$25.25 at six per cent.....	10 60
Care for six years.....	50 00
Interest on \$50 for over three years at six per cent.....	9 00
Taxes.....	10 00
Total.....	\$388 85

Proper handling will reduce this figure, as trees will bear in four years from time set out.

Mr. R. Pico's first crop was 70 gallons per acre, which he sold pickled, at 90 cents per gallon. The trees are now 12 years old, and the last return was 4 1/2 cents per pound on the tree, and the yield about one ton per acre, besides cuttings.

I have about 520 trees, nearly 80 years old, set out in alley-way; they returned in the last three years \$120 per acre annually, besides cuttings. These trees were pruned and plowed once a year and had no other cultivation.

In regard to the demand for pickled olives and olive oil, I can say that we never have had enough fruit. No oil has been made, but as soon as the crop is sufficient to warrant, an oil mill will be made here.

I am not in possession of statistics of oil imported into our country, but I know as long as merchants can buy pure home-made oil, foreign oil will lose sale. Imported oil does not affect ours in competition, even with the duty, because it is mostly impure.

I have found the Mission the best olive both for pickle and oil, and the future will teach that only the large olives should be used for pickles.

I firmly believe that olive culture has a brilliant future. It is considered the true friend of the poor man in Europe, and will be a source of wealth to our country.

[Other letters will appear next week.]

THE HOME CIRCLE.

By the Little Hammock.

Written for the RURAL PRESS by ISABEL DARLING.

By the little hammock she sews and sings:
 "O riches have often hidden wings,
 And honors are often fleeting things;
 But Baby's wee hammock swings and swings,
 With dipping and gliding curving springs,
 And close to my flying thread it brings
 A pillow and spread of filmy lace,
 The yellowest head and dearest face
 Where dimples have found a hiding-place
 And peep at the merry smiles that race
 From the rounded chin to the crowning tress
 Tossed back on the pillow. You cannot guess
 One-half of the happy hopes I press
 Close into the seams of Baby's dress.

"Now into the sunshine, now the shade,
 Almost to the nest the linnet made
 High up where the cypress twigs are laid
 In evergreen towers braced and stayed;
 Almost where the poppy sat and played
 With his green night-cap on his yellow head,
 Though he dared not rise from his tiny bed,
 With its green lace pillow and green lace spread,
 Till the lark came back with its true-love song,
 Till the nights grew short and the days grew long,
 Till his cheeks grew round and his feet were strong
 Till he heard love-sighs from the east and west,
 Till he strained the bands of his baby vest
 And arose full length in his dainty nest
 With his pale-green mantle freshly pressed;
 Then he flung his cap at the twinkling breast
 Of the humming-bird.

"O the hammock swings
 Where Baby can see the fairy rings
 That smile to the grasses a hint of springs;
 It swings to the clinging passion vines
 That climb on the arms of sighing pines
 And cover their plumes with mystic signs.

"O riches have often hidden wings,
 And honors are often fleeting things,
 But Baby's wee hammock swings and swings."

So she dreamily sews as she dreamily sings,
 And the fluttering hands, like a birdling's wings,
 Seem tenderly touching the answering strings
 Of the harp that forever and ever hath rung
 To the sweetest melody felt or sung,
 The music of nature, tamed or wild,—
 A mother's low song to her sleeping child.

Farm Societies for Women.

Written for the RURAL PRESS by LAURA B. EVERETT.

HE was one of our society girls," said a college graduate.

"A society girl? She does not look gay."

"O, I mean that she belonged to the Young Women's Christian Association. She was a most devoted worker."

The phrase "society woman" has gained a meaning far removed from frivolity. The great movements are mainly the work of "society women." Frances E. Willard strikes for "God and Home and Native Land," and thousands of earnest women tie on the white ribbon and pledge themselves to temperance principles. Josephine Butler in England, asks for the same standard of morals for men and women alike, and women in all lands work and pray for the extermination of the social evil. Pundita Ramabai works for the child widows of India, and every civilized country aids one woman in establishing a school for these suffering children.

Mrs. Margaret Bottomo says: "Whatever your work, ask Christ's help, and labor 'In His Name'; and a maltese cross worn at the throat tells that the wearer is striving to pattern her life after the Perfect One."

In sympathy, the women of the world are one. The wonderful sisterhood is the closer knit by work in common.

Shall interest in these societies be confined to city women? Do not those in the country need even more the benefits of such association?

"We live too far apart." "We have too much work to do." "People might think we neglected our homes." In all the mingled voices there is an undertone which says, "I would enjoy such work."

Few realize the unvarying plainness in the lives of women in the country. Their horizon grows small. The sons and daughters grow up, are sent away to be educated and come home with a feeling that something is missing in the household. They have gone on; mother has stood still. Blessings on the motherly head. Her self-abnegation is not without reward. The question is, Ought she to lose the companionship of her children, in justice to herself or to them?

A C. L. S. C. or other reading circle will demand a little time each day—time that can well be spared from some unnecessary work. Daily reading of good books works wonders, though the time spent be not more than a half-hour each day. If there can be meetings of those reading the same course, discussion of the subjects studied and ex-

change of ideas, it will keep the reader's sympathy world-wide. Sympathy

Differs from gold and clay,
 That to divide is not to take away.

An interest in missions brings Natal and Uganda, Kalgan and Pekin, Constantinople and Kyoto to our very doors. World-workers send the account of their failures and success to every village through the magazines devoted to the work.

The Women's Christian Temperance Union is an organization suited to any country town. Few societies give work suited to so many tastes. With its 40 departments of work, each member may choose the work best suited to herself. Make your readiest letter-writer corresponding secretary. Let some one who loves children take the Sunday-school department. Give some studious woman the department of "Relation of Temperance to Labor."

Some one who will take time to edit a temperance column in a neighborhood newspaper, or to write reports of the society for publication, ought to have "Press Work." Give some wise mother the subject "Hereditry," and choose a spiritual person for "Evangelical Work." If you have no young women's union, your girls may find work in "Flower Department, Music, Young Women's Work," and other lines.

"Hygiene, Suffrage, Scientific Temperance" are important topics. Space is devoted to the W. C. T. U. because it is a society in which every mother will feel an interest.

Mothers are anxious to work for temperance, if they only know how. This union, whose aim is to educate in the home, will fit the mother in many ways for her life work—the molding of her children's characters.

For an elastic society, where the aim is results in moral growth and spiritual grace; where the society can spend little time on meetings, by-laws, officers, the "King's Daughters" or "Lend-a-Hand Ten" will fill the need.

Whatever line of study or work is chosen, let it be participated in by many. A neighborhood may be uplifted by one band of earnest women.

Dear mothers, whose home is on the farm, do not deny yourselves the privilege of working in association with other women. The time it will take is little in comparison with the benefit to you and yours. Open your hearts to the sunshine and receive the blessings that come to sisters who work together in unity. The homes of the future will prove the usefulness of outside interest for the women on the farm.

Grains of Gold.

The busy have no time for tears.—Byron.
 Vanity is the quicksand of reason.—George Sand.

The villain's censure is extorted praise.—Pope.

The overcurious are not overwise.—Massinger.

A good intention clothes itself with power.—Emerson.

The secret of success is constancy to purpose.—Disraeli.

Either I will find a way, or I will make one.—Sir P. Sidney.

Avarice is always poor, but poor by its own fault.—Johnson.

Subtlety may deceive you; integrity never will.—Cromwell.

When faith is lost, and honor dies, the man is dead.—Whittier.

There is no genius in life like the genius of energy and activity.—D. G. Mitchell.

He that is good for making excuses is seldom good for anything else.—Franklin.

Countries are well cultivated, not as they are fertile, but as they are free.—Montesquieu.

It makes a great difference in the force of a sentence whether a man be behind it or no.—Emerson.

He is happy whose circumstances suit his temper; but he is more excellent who can suit his temper to any circumstances.—Hume.

Mohammed hearing one of his soldiers say, "I'll turn my camel loose and trust him to God," said to him, "Tie your camel and then trust him to God."

"The last word" is the most dangerous of infernal machines, and the husband and wife should no more fight to get it than they would struggle for the possession of a loaded bombshell.—Douglas Jerrold.

Sensible Editor.

A country editor puts the old question in new shape, and says to his subscribers: "Brother, don't stop your paper just because you don't agree with the editor. The last cabbage you send us didn't agree with us either, but we didn't drop you from our subscription list on that account."—Atlanta Constitution.

My Old Maid Scores New York City.

Written for the RURAL PRESS by AUGUSTA E. TOWNER.

January the eighth, '93, and just the loveliest kind of a Sunday afternoon. Going into my garden I pick a handful of pink Bon Silene roses, and declare to myself that I'll step down the road and give them to Miss Hetty.

Miss Hetty is the dear, little, original, independent old maid ("nineteen years and some months" she calls herself) that I have written about so often. Just now she's a little lame and keeps company with her rocking-chair, mostly. She strained her ankle stepping into a gopher-hole when she was irrigating her back-yard.

Irrigate? Well, I should say so! You ought to see her with shovel and rubber boots managing a "head" of water! Ought to see the Zanjero, too, when he's given her a "head and a halt;" it "got away with her," and she's giving him a piece of her mind.

I never thought the Zanjero cared for these "pieces." As for me, I have found them so entertaining that I am saving them to make me a quilt to wrap myself in when I am dull, or suffering from "ultramarine lycanthropy" (Bostonese for "the blues," you know).

I find Miss Hetty in her rocker, her knitting-work in her lap and a big San Francisco daily in her hands.

She does nursing for the two Doctor B.'s, and the doctors and their patients, most of them, lend her papers and magazines. She reads everything she can lay her hands on, nearly. It helps keep her awake nights when she is watching. Her reading is amusingly miscellaneous. So are her opinions. These last, however, are about as decided as you find them.

As I hand Miss Hetty the roses, and before I can say "How are you?" even, she bursts out:

"It's typhus now! And what do you suppose it'll be next spring? O, those two thousand sacks are at the bottom of it all. Don't you doubt it?"

"Sacks?" I gasp, and sit down. Miss Hetty flourishes her paper and proceeds.

"It's just horrible! I haven't had those rags out of my mind a day since I read about them five or six weeks ago. I have my opinion of the papers, that they don't make more fuss about them. They ought to have followed those rags up and had them burned, every one, and let us all know about it, too, so we could sleep easy nights."

"It's my opinion," and Miss Hetty jabs her paper right at me, "it's my opinion, if this nation can't keep house better than that, they'd better put in women as President and mayors and health officials. Now, if I'd been mayor of New York City, a whole regiment of Dr. Jenkins wouldn't have dared to let in those dirty rags."

"Miss Hetty," I interposed desperately, "Will you tell me what you are talking about?"

"Why, child, didn't you know that two thousand—Two Thousand!—sacks of old rags, which came over in a certain ship some time early in December were let into New York City without—being—disinfected?"

"They were marked disinfected, but no one had seen it done over here. Some doctors advised that they be disinfected on the spot—before landing, but that awful, awful Dr. Jenkins said they might come in without it. Yet I read there was a Government order to have all rags disinfected here."

Paper said that the rags were thought to come from Russian hospitals. A doctor who looked at them some said they were bloody and very filthy. O! it makes me sick! I've seen hospital rags! I've seen old clothes used about sick people! Ugh! And just think! this item was in fine type, only so long (she measures off her middle finger), and on an inside page!"

"What New York City is thinking of, I don't see," and Miss Hetty rattles her paper right in my face again. "One would think nothing had been said about cholera germs, and microbes and such things in old, dirty rags. I'm ashamed of our country's house-keeping. New York ought to be ashamed. Every neat housekeeper ought to be up in arms."

"Why, child, if I was a mother, and a nurse or a governess, or a servant of any sort, would let a sack, or half a sack, or a tiny piece of rag, even, come on to my premises or about my home, and children from a neighbor affected with contagious diseases, diphtheria say, I'd want to tear them limb from limb! Think I'd keep them in my service an hour? a minute? No sir! And if I had to have such things from a diseased household, think I'd trust to their disinfecting them? No-sir-ee! I'd see it

was done. I wouldn't take any risks. No one would that was faithful or decent, or loved their families!"

"And aren't we one big family? And because we are so big, mustn't we be a thousand times more vigilant and careful?"

Miss Hetty pauses to take breath, and at last I get a word in "edgewise." I ask, soothingly:

"Miss Hetty, didn't you read what a storm they've been having on the Atlantic coast, and that New York City was buried under two feet of snow the sixth? Look at your roses, and be thankful you are in such a cozy corner of the world as the Santa Ana valley!"

Miss Hetty looks at me soberly. "Child," she says, softly and slowly, "When I say we are one big family I mean it. If I go scot free through a pestilence, do you suppose I don't suffer thinking of others? Why, about the time I read about these rags, I read in the New York World of the way children and babies are treated in the poor districts of London, and I cried all night. I couldn't get them out of my mind. But—" and she straightens herself up, as if to shake off the memory of these foreign waifs, "my country is a little nearer; and when I think of the danger of letting 2000 sacks of old rags into the country I'm that mad I could spank the whole of New York City!"

Twenty Things Worth Knowing.

Keep the cover on the canister.
 Rub lamp chimneys with dry salt.
 Throw chloride of lime in rat holes.
 Wash oilcloth with skimmed milk.
 Beat carpets on the wrong side first.
 Cover apple barrels with newspapers.
 Keep everything clean around the well.
 Apply hartshorn to the stings of insects.
 Pour boiling water through fruit stains.
 Drink cream for a burned mouth and throat.

Put your coffee grounds on your house plants.

Good eggs always have dull looking shells.

Boiled vinegar and myrrh are good deodorizers.

Use oatmeal instead of soap for toilet purposes.

Camphor is the best antimosm preparation known.

Use whisky instead of water to make liquid glue.

Sponge roughened skin with brandy and rose-water.

Use hartshorn to bring back colors faded by acids.

Wagon grease will take off warts and protruding moles.

If sneezing be induced it will stop a disagreeable hicough.—Home Queen.

Americanisms.

An English correspondent of the Boston Herald has found in a "Dictionary of the Isle of Wight Dialect" a number of words which English writers usually class as American provincialisms. Among them are "cute" and "piert," found also in one of George Eliot's novels; "backed up," "call," in the sense of reason and necessity; "chipper," "darn," as a mild oath; "fall," for autumn; "galluses," "heft," "bunk," "jaw," meaning to scold; "jiffey," "get out of kilter," "rare," in the sense of undone; "thick," for intimate; "gumption," "tan," meaning to thrash; "spells" of weather, "put to rights," etc. The subject is a most interesting one, and deserves more attention from philologists than it has thus far received. The compiler of the dictionary in question says that many of the provincialisms in the Isle of Wight are identical with those current in the adjoining counties of Hampshire, Wilts and Dorset, once forming part of the Saxon kingdom of Wessex, and that the basis of the dialect of this region is purely Anglo-Saxon.

A Man's Standard.

A lady reader writes that she has discovered the standard by which one man judges another—viz., himself. Here are some of her definitions as she has heard man express them:

A rascal—one who owes him money.
 Ditto—one to whom he owes money.

A dude—one who dresses better than he.

A miser—one who saves more money than he.

A spendthrift—one who spends more than he.

A snob—one whose social position is better than his own.

An upstart—one whose social position is worse than his own.

A smart man—one who thinks as he does.

A fool—one who doesn't.

A crank—one whose theories differ from his own.—Journal of Education.

Taking Cold.

A person in good health with fair play easily resists cold. But when the health flags a little, and liberties are taken with the stomach or the nervous system, a chill is easily taken, and according to the weak spot of the individual assumes the form of a cold or pneumonia, or it may be jaundice. Of all cases of "cold" probably fatigue is one of the most efficient. A jaded man coming home at night from a long day's work, a growing youth losing two hours sleep over evening parties two or three times a week, or a young lady "doing the season," and over-fed children with a short allowance of sleep, are common instances of the victims of the cold.

Luxury is favorable to the chill-taking; very hot rooms, soft chairs, feather beds, create a sensitiveness that leads to catarrh.

It is not, after all, the cold that is so much to be feared as the antecedent condition that gives the attack a chance of doing harm. Some of the worst colds happen to those who do not leave their house or even their bed, and those who are most invulnerable are often those who are most exposed to change of temperature, and who by good sleep, cold bathing and regular habits preserve the tone of their nervous system and circulation.

Red Blot In History.

From 1791 to 1800, when warfare was almost continuous, 2,080,000 Frenchmen were successively called under arms. In 1800 only 676,598 remained. In ten years 1,400,000 soldiers had disappeared. And this was only the Republic's share. That of the Consulate and Empire far surpassed it. Napoleon's consumption of men is estimated at 2,000,000 by the most moderate statisticians, and at 3,000,000 by M. Richet in his most careful estimate. Broca and Thiers admit the loss of 1,000,000 of Frenchmen, the rest belonging, according to them, to the allies incorporated in the French armies. But the total remains the same. "It stands as a great red blot in history." In the language of Gen. Foy, "A man entered the military service at that time never to get out of it alive."—New York Sun.

Mustard as Medicine.

Few domestic remedies are of greater value than common mustard. As a condiment and agreeable stimulant to the digestive organs, it is found upon most every table. Used in this form it will sometimes remove obstinate hiccup. The unbroken seed of the white mustard is of some value as a laxative when taken in tablespoon doses. Of more importance is the use of mustard as an emetic. A tablespoonful of ordinary ground mustard, taken in a cupful of warm water, will produce copious vomiting in from two to five minutes. On this account, and because it is most always at hand, it is especially valuable in emergencies. In cases of poisoning by opium or other narcotics, it is without an equal as a domestic emetic.—Ex.

Eggs for Epicures.

A boiled egg being easier of digestion than meat supplies a means of graduating the amount of nourishment. The celebrated Guinod de Reyniere, who consecrated his life to studying the delicacies of the table, affirms, in his "Almanach des Gourmands," that eggs can be served in more than 600 ways, and a book published in London by a French cook who gives 150 recipes for cooking eggs. The feeble man who has regained strength by eating boiled eggs for several days, will continue the same comforting food when presented in the form of an omelet, which is the one principal food preparation made with eggs.

To Sell the Bustles.

It remained for one of our greatest city stores to introduce an economic scheme which may now be safely followed, no matter what may have been its ludicrous seeming before this worthy example was set. The bustle has gone out, you say? Yes; but above a huge pyramid of them on holiday week, swung a wall pocket in pale pink satin with many ribbon bows. It bore a legend in large letters, thus: "This beautiful wall pocket is made upon a 5-cent bustle." Isn't this enterprise? No longer need the farmer's girl be ashamed of her five-cent economies!

Amusement for Children.

Much amusement is afforded to small children by running a stick through an orange and putting it into the neck of a wine bottle; then a face is cut out from the peel of the orange, more or less funny, according to the skill of the maker. From a piece of brown paper a cloak and hood are improvised, and, behold! a yellow-faced, little bottle-bodied woman.

YOUNG HOBBS' COLUMN.

Jim Didn't Worry.

Nobody never quite made out Jim! Peared like they allers just thought him queer, And kinder cranky and laughed at him. When Jim would tell 'em he didn't keer, "Don't make no dif'erence," I've heard him say, An' most folks called him a jolly brick— "It's a tough ol' world an' 'll have its way! 'Tain't worryin' me—I've got no kick."

But I knowed better; he's come to me Many's the time heartsick an' sore! "I'm tired of the whole outfit," sez he. They ain't no use ever tryin' no more; "An' then in a crowd he'd peark up smart, An' sorter sneer at the deals he'd git; "That? That's nothin'! W'y bless your heart, I ain't worryin' a little bit."

Jim was unlucky, no use to talk; Folks wondered sometimes at the way he done, But I know w'y he used to balk. An' give up suthin' he'd just begun. His back had been broke by circumstance, An', allers unlucky, he'd los' his grit; But still he'd laugh—"I ain't had no chance, But I ain't worryin' a little bit."

So Jim went a-laughin' right down to death, An' he let go o' life not keerin' a darn; "Pardner," sez he, kinder catchin' his breath, As I set watchin', with the night on the turn, "I hain't had much of a deal down here, An' I ain't askin' now for a softer sit; I'm jest a-lettin' go, bend lower d'ye hear? I ain't—worryin' now—not—a-little-bit."

—Post-Intelligencer.

Rob Melville and His Uncle Christie.

Written for the RURAL PRESS by KATHARINE BRYANT NOLAN.

ROBERT Melville's eyes were blue, and his light flaxen hair grew very straight, although it was quite fine and silky-looking. There was a sad, grown-up expression upon his small face, which lacked all the rounded curves belonging to happy childhood, and his figure was very slender. Robert's garments looked as if they had been made for some other youngster, who had eaten better dinners and slept soundly all his life in a soft bed with warm coverings. His jacket was too long and too broad, and his knickerbockers made his slim legs look like two pipe-stems.

Then his shoes certainly put one in mind of the pipe-bowls, and they had undoubtedly been selected with a painful remembrance of that time-honored fashion followed by boys and girls the world over—the fashion of allowing their feet suddenly to grow larger, although they must know that it is extremely inconvenient to buy new boots at a moment's notice.

Rob wore a green visor cap; the top of his head filled out the faded crown, and the band was hardly tight enough to give him a headache. Yet it was none of these trying details that weighed Rob's spirits down and lent that doleful air of hopelessness, so distracting to a kind-hearted philanthropist, because the boy was undoubtedly thankful for his clothes, and paid no attention to the fact that they failed to fit him.

Rob's garments had the queerest sort of a habit; they went away sometimes while he was off in dreamland, and it was always a thrilling moment when he first awoke. There might be no baggy knickerbockers to put on and no pipe-bowl shoes to lace up and stamp around in. Too big a jacket was certainly better than no jacket at all; every one must admit that. So there was always a grateful glow around Rob's heart whenever he saw his clothes safely piled upon the chair in the corner, placed just where his eyes were sure to fall upon them the instant his blue-veined, heavily-fringed lids unclosed. Even Rob's eyelids were weighted with the despair of his little heart.

If the chair was empty, Rob gently wrapped himself in an old piece of a quilt that gave him the distinction belonging to Joseph and his coat of many colors. The counterpane had been a very gay one in its day. There was a great deal of red and yellow in the tiny squares composing it.

Sometimes he improvised a suit out of a burlap bag, by sticking his arms and head through chance holes. Not on any account would Rob have yielded to temptation and cut holes in a gunny-sack, for the reason that rents would cheapen it as an article of commerce, and such considerations were never overlooked in the Melville household. A nickel was a nickel to them.

Rob cut a very grotesque figure in this sort of apparel, but the baby enjoyed his society fully as well, and he could help his mother with her work better than when he wore his garment of divers hues.

Mr. Melville was blind, but he played the

accordion very skillfully, and the small boy beat out an accompaniment on the triangle. It was a variation having the charm of novelty, and sometimes the public were very generous with their dimes and pennies, as Rob and his unfortunate parent made the tour of Chicago's wide avenues and streets.

But it was tedious work for a little boy, and the family purse seemed to have a very big hole in it. The money ran out faster than it could be poured in, and that was why Rob's clothes had to go away and visit the pawnbroker, whose shop around the corner had three fine, glittering gilt balls for a sign.

Mr. Melville had not always been blind. He was a chemist, and during a series of interesting experiments he was engaged in making, there had been an explosion. Since that unfortunate day, there had been no glimmer of daylight for Rob's father. The world, so bright and beautiful, was shrouded in darkness deeper than the gloom of midnight, and at times he was very ill. His physician said that his nervous system had received a shock from which he might never fully recover, and his medicines were very expensive, but he had to prescribe them if Mr. Melville was to recover.

Robert Melville was learning patience in a hard school. The kind-hearted neighbors who had a little extra change helped them to get Robert's clothes out of pawn, when his father was able to go upon the streets, and in this way they somehow managed to get on from month to month.

There was one thing that Robert longed for, and that was a monkey. He was sure that the family coffers would begin to bulge if they just had a funny little monkey to go about with them. The child pictured his monkey dressed up in scarlet and gold, until it seemed he must wake up some fine morning and find Jocko asleep at the foot of his bed. He had decided to name his monkey Jocko.

"I'm sure he'd be very amusing," Robert said one day, as he ceased the everlasting jingling and took his father's hand in his with a soft little clasp.

"What would be amusing, Rob?"

"Why, to have a monkey go 'long too."

"Maybe your Uncle Christie will bring you one when he comes home from South America, but I don't quite know how we should manage with him after you got him. Rob. Monkeys are so mischievous, and all the people must be quite tired of them by this time, I should think."

"Boys like 'em, and babies, too," Rob answered.

"So they do," Mr. Melville admitted.

"Perhaps he'd learn to do some funny tricks. I might teach him to dance."

Mr. Melville laughed.

"I never heard of a monkey's dancing."

"If wishes were horses then beggars might ride, and you are not likely to get your monkey unless your uncle happens to bring you one, Rob."

Mr. Melville's heart ached for the son, whose prospects in life were so blighted by the calamity that had befallen them. If he could have beheld Rob and that doleful air of his as he smote the triangle steadily and patiently, Mr. Melville would have been perfectly miserable, but he was spared that pain and lived in hope of better days.

Rob speculated vaguely in regard to his Uncle Christie, but life went on a while in the same humdrum style, and the monkey was simply a picture treasured in his mind. It was like poking one's head underneath the black cloth of a photographer's camera and taking a look at the vision on the plate, to think of Jocko, and somehow the picture never lost its power to charm.

One never-to-be-forgotten evening Rob opened the door softly, so as not to disturb the baby if he happened to be asleep, and he saw a tall, bronzed and bearded traveler sitting on one of the broken chairs, with the baby in his lap. It was Uncle Christie. The baby held out his arms to Rob, so he laid down his triangle and hugged his brother close to his heart, while Uncle Christie shook hands with Mr. Melville slowly and sorrowfully.

"This is a bad outlook, old boy," he said. "I shall have to own that it is, Christie," Mr. Melville answered.

"I can't tell you how sorry I am. I can't seem to take it in or be reconciled to it. It's hard to believe that you have not just come home from the laboratory."

"There will never be any more chemical experiments, but Rob's eyes are my eyes. So you see we get along famously."

Uncle Christie swallowed a lump in his throat. "How the little shaver has grown," he said.

"Yes, he was six last March. He is a good boy. I don't know what we should have done without Rob to help us."

Rob's heart glowed, and he began to feel well repaid for beating so patiently on that old triangle. He listened breathlessly, hop-

ing every moment to hear his uncle say that he was to be rewarded with a monkey. Rob even went so far as to punch the baby for cooing and frolicking, he was so afraid of losing a word.

The baby was displeased at this unusual proceeding, so he slipped out of Rob's arms and crept over to the corner. He sat there with his thumb in his mouth wondering sulkily what it all meant.

It was late that night when Uncle Christie went away. Meanwhile it had been decided that Mr. Melville was to enter an institution for the education of the blind. Rob was to go to school, and Uncle Christie was to start Mrs. Melville in the lodging-house business. If possible, he would arrange his business affairs so as to remain in Chicago and live with them, instead of going away again to South America.

Thus he took the burdens of the Melville household upon his own strong, broad shoulders, and it seemed like a new world to Rob. His hopelessness vanished while he listened to the schemes that were to keep the family purse stuffed out in the very jolliest fashion.

"By the way," Uncle Christie said, just as he was on the point of opening the door, "I brought Rob a monkey. He must see that Jocko gets into no mischief."

"How gloriously funny, Uncle Christie! Thank you a thousand thanks! Did you name him Jocko?"

"Yes. Does the name suit?"

"O yes, Uncle Christie. I was going to name him that myself."

Uncle Christie laughed and went away for the night.

Rob's hopelessness never returned. The monkey proved very amusing indeed, but the people on the thoroughfares of Chicago knew very little about Jocko; but they may, some of them, have missed the patient little figure drumming ceaselessly on the triangle while his father played the accordion.

DOMESTIC ECONOMY.

BROWN BREAD.—Two pints of cornmeal, one pint of rye flour, one cup of molasses, one teaspoonful of saleratus, sour milk enough to make a batter not too thick. Bake three or four hours.

HARD GINGERBREAD.—Two cups of molasses, two-thirds of a cup of butter or lard, half a cup of warm water, two teaspoons of soda, one of ginger, flour to roll as soft as you can; wet the top with milk and sift sugar over it before baking.

CAULIFLOWER.—Remove the outer stalks. Soak in cold water, and cook in boiling salted water about 20 minutes. Drain, separate the stalks, put them in a dish, and season to taste; or, with two tablespoons lemon juice, a little salt and pepper mixed with quarter of a cup of melted butter. Or pour a thin, white sauce over the cauliflower and sprinkle bread crumbs which have been browned in butter over the sauce.

ORANGE SHORTCAKE.—Make a rich crus as for strawberry shortcake by spreading one thin cake with butter, and placing another on the top of it before baking. Pare five large oranges, squeeze out the pulp and juice, discarding the pith and seeds, and sweeten to taste. Separate the layers, spread with butter, then with the prepared filling, placing a layer of the latter over the top and on this heap sweetened whipped cream, and serve.



A cream of tartar baking powder. Highest of all in leavening strength.—Latest U. S. Government Food Report. ROYAL BAKING POWDER CO., 106 Wall St., N. Y.

AGRICULTURAL NOTES.

CALIFORNIA.

Butte.

Oroville Register: There are about 100 orange trees in bearing at the County Infirmary and this year the crop amounted to about 200 boxes. At the low rate of \$1.40 a box this would equal \$280 an acre for seedling oranges. Eight acres are now being cleared and prepared to be set to the finest varieties of budded oranges.

Contra Costa.

The settlement of titles, and particularly of the San Pablo ranch, is likely to be attended with considerable expense to the owners therein. The court has already awarded to the commissioners and surveyors the sum of \$12,000 for services performed thus far, and it is anticipated that the total cost will reach the neighborhood of \$100,000. The ranch contains some 18,000 acres, much of the land being exceedingly valuable.

Fresno.

Sanger Herald: Nearly every day wagonloads of fruit trees and grape vines can be seen passing through Sanger and going out to be planted in new orchards. A thousand or more acres will be planted this spring within a few miles of Sanger, and more care than ever will be taken of the orchards. Our people are beginning to see that good fruit will find a ready market at any time and at a fair price.

Glenn.

Willows Register: Last spring Mr. R. C. Marshall planted about one-fourth of an acre of Mangel-wurzel beets. Some of them have grown to weigh as much as 25 pounds. He now feeds them to his cows, and together with nice hay, keeps his bovines in fine condition.

Willows Review: Several farmers are desirous of stocking Glenn county with Japanese pheasants. A movement is on foot to secure about two dozen of these most beautiful and toothsome birds from Oregon, where they are very numerous. They are perfectly at home on a prairie or in fields. Joe Troxel planted a male and female pheasant last spring and they have recently been seen in the vicinity of his farm.

Humboldt.

Our Paper: The huge potato of which we spoke last week, raised by Mr. Lew Derr at his place on McDairmid prairie, has been weighed and measured. Its weight is eight pounds; it measures, the longest way, 24 inches, and the shortest way, 18 inches. This "spud," when seen by Mr. Dinsmore, recalled to his mind that some years ago two tubers weighing 13 and 15 pounds respectively were raised on Mr. Jesse Greenlaw's place at Pepperwood. Compared to those fellows, Mr. Derr's potato does not amount to much, although when placed beside the every-day-boarding-house-spud it is a whale.

Kern.

Rosedale Notes in Echo: Mr. Burnett's little drier built for his own use in a small vineyard has been in the main satisfactory, although he finds some of the details of arrangement may be improved upon. The total cost of his drier was \$125. During this season he dried ten tons of second crop grapes and could have handled 20 tons at but little increased cost. The ten tons saved would have been almost a total loss or at best would have been of such poor quality as to have injured the reputation of his raisins, so he counts that he has already saved the price of his drier.

Bakersfield Californian: There is a fairly well authenticated rumor to the effect that a San Jose party will erect a cannery at Bakersfield this spring, to be completed in time to handle next season's crop. A cannery for general canning purposes of all kinds of fruits and tomatoes would pay, as there is a big home consumption of canned goods in the southern part of the State that depends altogether on the eastern imports.

Mountain View colony has 10,000 acres, all under cultivation.

Kern county has an area of 8100 square miles and contains 5,180,000 acres.

The Lerdo colony has 12,000 acres and is being placed under cultivation.

Bellevue ranch contains 13,500 acres of excellent land cultivated to alfalfa, grain, vineyard and orchard.

The Hop Ranch Colony contains 400 acres and is devoted to fruit-orchards, Indian and Egyptian corn, alfalfa and vegetable gardens.

Lassen.

Cor. Sacramento News: Lassen county produced good crops of grain, fruit, hay, etc., in the past season, and, through some assistance from the contiguous country, has been able to make a record of several thousand dollars on the production of coyote scalps. There are owned in the county four or five bands of sheep, ranging in numbers from 1000 to 3000 each, and, through the efforts of the hunters and the herders, they have been well protected from their \$5-per-scalp enemy. The farmers, orchard men and gardeners, who number several thousand in this county, are kicking more or less because of the increase of rabbits, gophers, and other destructive pests that destroy grain fields, orchards and gardens. These pests were once the prey of the coyote and they were preferred by that animal to mutton as palatable food. There are 250,000 migratory sheep pastured in Lassen during the summer seasons, from which this county derives no benefit. These sheep occupy all the domain on our western border. They are driven here from the counties of Tehama, Butte and Colusa and pay no taxes. No wild geese, rabbits, gophers or varmints of any kind bother them.

Los Angeles.

Pomona Progress: Apricot trees are in great

demand at \$20 a hundred. Three and four years ago there were many nurserymen in this region who gave thousands of the trees away because they were a drug in the market and occupied land that could be used for other purposes.

Pasadena Star: Four carloads of dried fruit have been loaded here for shipment east on the Santa Fe, by an Azusa firm. They will be added to seven other carloads along the line eastward, making 11 cars in all, which is a very pretty little bunch of fruit.

Downey Champion: One morning's work at our neighboring town, Norwalk, at one churning was an output of 210 rolls, 420 pounds of butter. The cream was separated from 7010 pounds of milk, and the machinery separates at the rate of 2000 pounds per hour. The farmer drives up on one side of the building, delivers his load, then drives on the other side and receives his milk minus the cream, and the work is done.

Monterey.

Gonzales Tribune: Ben Graves came down from his mountain ranch last Wednesday on his way to Salinas. He says that the severe frost every night has kept the feed back, although it is better than at this time last year. The stock are not suffering any.

Salinas Index: The profits on little things that entail no cost on the farmer and take away no time from the general business of farming are well illustrated by the experience of Mrs. H. C. Tuttle of San Miguel canyon. She has two cows and 50 hens and, after supplying her own family of seven persons and considerable hired help during harvest and while a new home was being built, she found that her actual sales of butter, eggs and spring chickens had been \$209.85 for the year 1892.

Nevada.

Grass Valley Tidings: Tuesday, James Jenkin of this city, while hunting near T. J. Wagoner's place, in Penn valley, killed a male blue heron. The bird is a large one and is not marked by shot, as only one or two entered its head. The colors of the feathers are beautifully blended.

Sacramento.

On Andrews Island, Sacramento county, the wind was so strong, Thursday of last week, that the house of a farmer named Jordan was lifted and carried a distance equaling the length of the building. The family of seven were in the house, and the two youngest children were bruised. No other harm was done to the occupants.

San Bernardino.

It is estimated that Riverside will this year pay out \$180,000 for labor to pick and pack its oranges.

Chino Champion: It is estimated that the factory will require at least 9000 cords of wood next season, and most of this amount has been contracted.

Riverside Press: One of the ostriches at the yard on Main street dropped an egg Tuesday afternoon, the first one in Riverside. The egg is quite large, weighing exactly three pounds, with a shell as hard and smooth as glass.

Riverside Press: The *Herald* says that a mountain lion was shot near Banning by M. M. Hathaway last week. It was trying to catch a pig in a barnyard, and it took several shots to kill the animal. There seems to be more of those creatures in the foothills this winter than at any time since the country was so thickly settled.

Everything at Chino betokens a very prosperous season for the sugar-beet growers this year. The experimental stage in the industry has been safely passed, and the farmers have learned by experience a thousand and one points about the way to plant, the methods of propagating beets, and the cheapest and best means of harvesting the beet crop for use at the sugar factory.

Redlands Citigraph: E. J. Waite brought to our office this week a branch from an orange tree growing on his place, which was laden with young oranges nearly as large as cherries. This is somewhat remarkable, as oranges of this size are not commonly found until April or May. The new growth of the branch was also unusually forward. The young fruit is perfectly healthy, and Mr. Waite ascribes the growth to the warm weather that has prevailed for the past few weeks.

San Diego.

The Perris and Bear Valley irrigation district, at their recent meeting, sold \$14,500 worth of bonds at 90 cents, \$6000 being taken by the Aetna Iron Works of Bridgeport, Conn., and \$8500 by the Bear Valley Co. Bids for laying laterals will be opened soon, and the entire district of 13,444 acres will be irrigable. The district collector has received \$22,000 in assessments.

Santa Clara.

The first barrel of flour turned out by the Alliance Flour Mill at Gilroy was sold to J. T. Peabody for \$20. The second barrel was taken by Alex. Watson for \$10.

Gilroy Gazette: The folks at The Orchards are setting a good example in the way of tree-planting this season. Mr. Steward of San Francisco is putting out 15000 prunes in addition to the 2280 put out for him last year. H. G. Murray is doing the work. Only one tree failed last year of the 2280 put out. Murray adds 10000 prunes to his own place this year. Mr. Norton sets out 1000 of prune, peaches and pears, and Messrs. Smith, Palmer, Wilder, Villinger and Mrs. Farrer are also increasing their orchard acreage.

Santa Clara Cor. to San Jose Mercury: O. R. Worrell has sold his ranch, which consisted of 20 acres and a fine residence near Milliken's Corners, to J. Burch. Mr. Worrell and family removed yesterday to San Francisco, where they will reside. H. M. Leonard is having 170

acres of prune trees set out in his place in Prune Ridge district. The work is under the management of C. W. Metz. J. Regnard, who resides near Lawrence, has set out 15 acres of his land in orchard.

Sonoma.

G. Ginocchio, near Cloverdale, has one thousand orange and lemon trees. The lemons are especially fine.

Sonoma Index-Tribune: Dr. N. G. W. Greenburg has purchased the Losee farm from the executor, John Cooper, for \$5100. The doctor, who is engaged in the drug business in San Francisco, will make many valuable improvements on his purchase, among which will be the planting of a new orchard.

Sonoma Tribune: At his ranch west of Skaggs' Springs, Friday, Oran Hassett shot and killed a panther that measured from the nose to the tip of the tail six and one-half feet. It was the largest panther that has ever been seen in that part of the county. The hide of the animal will be brought to town this week for exhibition.

Sutter.

Yuba City Register: While there has been much to check the growth of the crop in this county this season, on account of excessive moisture and continued cold weather, the grain is looking remarkably well. While not so far advanced as it usually is at this time in corresponding seasons, it has a good stand, and with a favorable spring will make a big yield. The cold weather had a tendency to make the early-sown wheat "stool out," which will make it thicker and grow more to grain and less to straw. Some late wheat will yet be sown, also considerable barley, the latter usually insuring a good crop when put in as late as March.

J. T. Bogue, the well-known nurseryman of Sutter county, has received a carload of seedling fruit trees which came from southern France. These trees consist of the finest varieties of various kinds, and are in excellent condition after their long journey.

Tehama.

People's Cause: Fruit trees are arriving every day at the depot in large quantities, and are hauled away by the farmers. This indicates that considerable tree-planting is going on. One of the leading nurseries is reported to have sold 40,000 trees in Tehama county this season. The tree-planting area will be large.

Tulare.

Tulare county has 152½ miles of main irrigating canals, 94½ miles of which are in the Lucerne country.

Tulare Register: Fog has not delayed pruning appreciably, and many orchards are ready for spring-growing to begin. Some growers are leaving a few full-length limbs on each young tree, believing that it wastes no more strength in maturing some fruit than in growing all brush to repair the loss by pruning. This is a plan which has not been practiced here before to any extent.

Tulare Register: Paige & Morton recently received an order for seven carloads of sacked raisins, and they are being sent. The shipment will be divided among Chicago, Milwaukee, Detroit and Cincinnati.

Hanford Sentinel: C. O. Butler of the Willows Grove district brought us in a box of fresh grapes one day last week. The fruit was of the black Farish variety, large, sweet and finely flavored. Mr. Butler kept them by burying in dry dirt. He says he thinks that in this manner grapes can be kept fresh and sound from one season to the next.

Ventura.

Ventura Free Press: Chaffee & Bonestel received 150 sacks of potatoes from San Luis

Obispo county, and sold the whole lot to John Laughlin of Las Posas. He intends to put in 40 acres in potatoes this year. In all, Mr. Laughlin has purchased 180 sacks of potatoes for seed for this year.

Ventura Observer: An organization has been effected to prosecute sheepmen who drive their stock over fields and through orchards. Some of these men manage to drive their flocks along most of the public roads and let them scatter into the fields, and owners of young orchards and fields of grain have become tired of the imposition.

Ventura Free Press: Last October W. A. Bell, of Saticoy, got a lot of apples of E. A. Duval. Many of the apples were particularly nice, and Mr. Bell wrapped them in paper, similar to the way that oranges and lemons are enclosed. This week Mr. Bell began using the apples so packed, and finds the flavor improved and the apples as nice as when put away.

Hueneme Herald: The crop outlook at this time is very good. As to the acreage, it is too early to form any definite conclusions, as plowing and seeding is still in progress, but the demand for land is so great that each year more and more land, formerly used for cattle and sheep ranges, is being cultivated. We know of one tract of 700 acres on the Simi that is under cultivation for the first time this year. There is no doubt but that the acreage to barley will exceed that of last year.

Yolo.

Santa Rosa Democrat: D. A. Endicott, our fellow-townsmen, has been visiting over in Yolo, and tells us he saw on the place of Ben Dukrin, two miles from Capay, Yolo county, two of the celebrated mule-foot breed of hogs. They were imported from the Indian Territory, and cost about \$80 apiece delivered there; weight 400 pounds, and are fine-shaped animals, their only peculiarity being the lack of the cloven foot of the ordinary breed of hogs.

OREGON.

Prune-raising in southern Oregon has proved most profitable, one farmer last season receiving \$2080 for prunes raised on ten acres, while a neighbor received \$1892 for the product of eight acres. From one-half to seven-tenths is the net profit, according to variations of prices.

H. C. McCroskey, President of the Farmers' Terminal Warehouse Co., is in Portland looking for a location for the elevator the company proposes to erect. Several desirable offers have been made the company in Portland, and Tacoma and Seattle as well. The company expects to handle about 3,000,000 bushels of wheat during next season, and wish to have the elevator completed in time, at one of these points. Many farmers of eastern Washington and Idaho are stockholders in the company.

WASHINGTON.

Forty acres of the lands in Yakima county, Wash., are to be planted in Concord grapes. This will, it is claimed, be the largest acreage devoted to this crop in that State.

James Curry of South Anacortes, a veteran nurseryman and fruitgrower, after a careful study of the soil and climatic conditions, concluded that grapes could be grown on Puget sound, and last spring set out 17 varieties of grape-cuttings, all of which have made a vigorous growth.

A rancher near Spangle, Wash., was treed by a large pack of coyotes the other day. These animals have hitherto been considered too cowardly to attack a man. Cougars also have caused much annoyance this winter to parties living west of that town, one of them carrying off a young calf from a barnyard one night last week.

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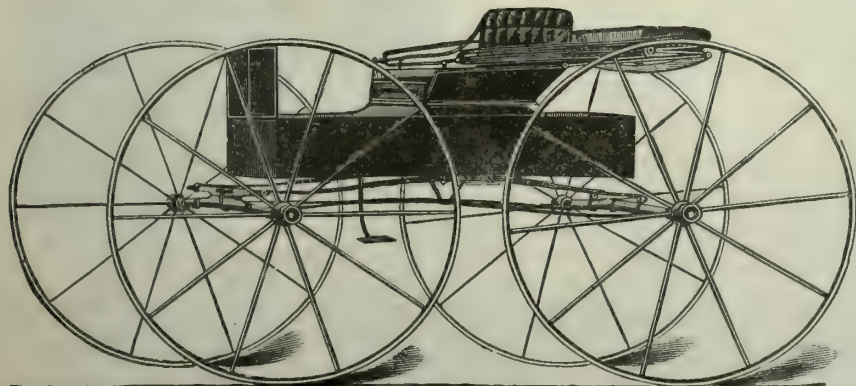
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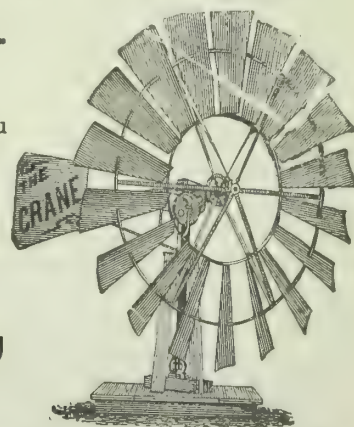
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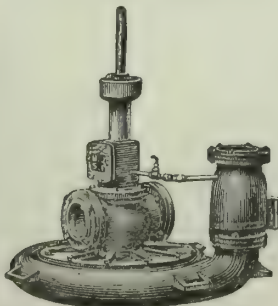
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PATRONS OF HUSBANDRY.

From Worthy Master Davis.

SANTA ROSA, Jan. 28, 1893.

If county, district or general deputies will report any point at which a subordinate Grange can be organized, with name of some suitable person or persons into whose keeping the word can be safely put, an effort will at once be made to organize the farmers and their families in that particular section, into a live and working Grange. There are many such places, but the master is not so thoroughly acquainted with them as the local deputies ought to be. Who will be the first deputy to report?

Santa Clara county will probably get the first new Grange for 1893. Indications point that way now. Won't some other county give them a contest?

A master of Pomona Grange has no authority to communicate the A. W., except as master of subordinate Grange. Remember this! Deputies will so instruct masters of Pomona's when they install officers.

The sixth degree certificates have been signed and forwarded to the secretary for signature and sealing.

What will your Grange do this year for the Grange Temple Fund? Hold a few strawberry festivals, a Valentine party or a social or two, and send proceeds to "John Trimble, Sec'y Nat. Grange, 514 F street, Washington, D. C." He will send receipt for the money. Tell him it is for the "Grange Temple Fund."

Michigan, Missouri, Ohio, Wisconsin and Tennessee will have new faces to represent them at the next session of the National Grange. Elections have already been held in those States and new masters are chosen.

What per cent of the taxes paid by labor comes back to those of its own class? Professional men get the biggest share of fat salaries and easy positions. How long will such things continue?

No bill has been introduced into the United States Senate for a long time that has been more bitterly fought for and against than the Hatch-Washburn Anti-option bill. The measure has passed the House of Representatives and has been set for a vote several times in the Senate, but owing to the parliamentary subterfuges of the opposition, at this writing the final vote has not been recorded. The bill will no doubt become a law, and it is hoped by its supporters and advocates that all gambling in futures will be stopped. The Grange has stood by this bill through thick and thin.

If you will only do a full share of Grange work in your own section this spring and summer there will be an immense growth in Grange numbers during 1893. But to succeed, one must make sacrifice both of time and money. The ladies are usually very much better solicitors for members than the sterner sex. One reason for this lies in the fact that the gentler sex are more patient and more adroit in their efforts; and, possibly, they exercise more caution in their choice of persons solicited. At any rate, they make a success of the work. Come, sisters, give the Grange some of your time and labor!

It would be well for the Grange in this State if a lively interest were shown by the members in the great number of bills introduced in the legislature asking for an appropriation of public money. Do you know, fellow-farmer, that this legislature has more employees on the pay-roll, by odds, than there are members? Why is this thus? Instead of attempting to abolish Commissions, Boards of Trustees, etc., the effort is to create the same. Will you permit your Senators and Assemblies to vote for these bills? Write to them "to Don't!" They talked "economy," but seem inclined to vote "extravagance." Let them hear from you!

Pomona Grange of Sonoma county has voted to go campaigning early in the spring, in the hope of organizing a few Granges. They are to camp down with their neighbors till a Grange is organized. The plan is novel and we hope will be successful.

Is it a safe thing for a few men, a very few, to hold the balance of power? Many persons have thought and urged the idea that the way to make a man do his duty is to put great responsibility on him. This seems well enough, but is it always true? A few years ago the people of this State wanted a Railroad Commission of only a few members. The idea was to locate the responsibility. Now they want to abolish the Commission because they—the people—have located the responsibility and no good seems to come from the location. Not long since a new party was organized. Its platform and nominees announced, as the great central thought, that "all other political parties were dishonest and owned," and that they sought general support at the polls on the idea of "Economy, Honesty and Independence." In many States this new party elected many of its candidates, and if newspaper reports are but partially true, the new party seems in great haste to affiliate—in some States with one, and in other States with another of the old parties. Not six months ago these old parties came in for "scorchings" from many of those who now seem willing to affiliate. We know that the body of the people of this Union are loyal, honest and independent. Can it be that a few cunning men, in every State of this Union, are constantly trying to trap—yes, trapping—any and every honest effort that is made to bring relief to the people of the Republic? Can it be that men are so easily led that they forget all promises made when the tempter calls upon them? The reports of "treachery," of "selling out," of "expulsion," of "fighting factions," of "broken pledges," etc., come thick and fast. Why all these things? Whose is the fault? It is an old adage, "where there is so much smoke there must be some fire." Investigations are the order of the day in several State legislatures, and more than one United States Senator holds a certificate of election that bears the marks of those who are accused of following "ways that are dark and tricks that are vain." Let investigations go on! Let the public be aroused! Good will come of it.

The Secretary's Column.

By A. T. Dawsey, Secretary State Grange of California.

THE S. G. EXECUTIVE COMMITTEE will meet at this office, Wednesday, Feb. 7th.

J. HOLLISTER, P. M. of Eden Grange, lately recovered from a dangerous illness and is heartily welcomed back to the working Grange circle.

AN ABLE COMMITTEE.—Four, if not the entire five, members of the Grange legislative committee have served in California State legislative bodies.

H. H. STEVENS, who was too ill to attend Temescal Grange at its last meeting, is expected to deliver his talk on the silver question on the evening of Feb. 4th, a discussion by the members to follow.

THE officers of Sonoma County Pomona Grange, including Bro. Sanborn, W. M., and Rollin Andrews, Sec'y, were recently installed by Don Mills, P. M. Bro. Davis, W. M., was present, and, as usual, made excellent remarks.

MILLVILLE GRANGE.—Election Dec. 24th; officers chosen: J. S. Edington, M.; Mrs. A. J. Asbell, O.; Mrs. M. W. Webb, L.; F. M. Hackler, S.; L. S. Hackler, A. S.; Sister E. C. Smith, C.; Mrs. M. F. Nichols, T.; C. P. Dunham, Sec.; L. Rawlings, G. K.; Nissie Karr, Ceres; Jennie Dunham, P.; Elsie Fallon, F.; Clara M. Geer, L. A. S.

J. V. WEBSTER, P. M., has been in S. F. some days attending to business relating to his new patent cultivator, now on exhibition at the Mechanics' fair. On Jan. 31st he delivered an address on San Luis Obispo county, at the Pavilion. Bro. and Sister Perry of Merced called recently. Sister Perry is still zealous for the location of the next S. G. at Merced.

THE PATRONS' RELIEF ASSOCIATION.—At the annual meeting held in Oakland, Jan. 12th, the following board of directors was reelected: A. T. Perkins, S. Goodenough, J. Hollister, A. T. Dewey, Emmet Jones, M. L. Gray, Bertha Gidding and Nellie G. Babcock. Some of the directors not being present, the election of officers was deferred until the next meeting.

CALL TOGETHER.—We should like to hear of the election of new officers in the following Granges not yet reported for 1893: Nos. 11, 74, 242, 245, 279, 283, 284, 300. Are there not some deputies or officers or members who will join in concerted action for enlivening up the work in some of these Granges? Reunion meetings of old members might prove effective in some cases.

ANNUAL PROCEEDINGS.—We have some copies left of the Cal. S. G. annual report for 1892, after sending one copy to each W. M., Sec'y, State officers, deputy lecturers for 1892, and Sub. Grange lecturers for 1893, so far as names have been reported. If any of the above have failed to receive a copy, please inform this office at once. Any other Patrons can secure a copy while the edition lasts by sending a 2-ct. postage stamp.

OLEOMARGARINE BILL.

We have received the following suggestive form from the National Grange Legislative Committee:

....., CAL., 1893.

Hon....., House of Representatives, Washington, D. C.—DEAR SIR: Permit us to urge upon you the importance of passing, as speedily as possible, House Bill No. 4843 in relation to original packages of oleomargarine. Unless this bill becomes a law, the dairy interest in many States will be destroyed. The bill is on the House calendar. Mr. Hatch has the bill in charge. Please see him and urge him to call it up and press it for passage.

Patrons, as far as practicable, should, by the above, or similar form, make known their wishes on this important subject without delay.

INSTALLATIONS.

Feb. 1st was the day set for Lecturer Huffman to install the officers of West San Joaquin Grange. Mrs. R. S. Twitchell writes: "The officers of Grass Valley Grange were finally installed by Deputy Alderman, Jan. 14th, with the exception of several who were absent on account of illness. A. Henderson, W. M., has lately been ill with hemorrhage of the lungs. He is a faithful servant, who has filled his chair in the meetings whenever able to get there. A program of musical and literary exercises was rendered, lasting until midnight. Our Grange is fairly prosperous and, I may say, improving. Applications for two candidates were acted upon."

Millville Grange installed officers at their regular meeting, Jan. 21st. C. P. Dunham writes, Jan. 24th: "Millville Grange is all right. We have 77 members and a class of four ready for initiation at our next meeting. Our W. L. has laid the plans for a Grange sociable for Feb. 10th, when we expect to have a real family reunion."

February 2d has been set for the installation of officers of Grimes Grange. H. D. Sirother, W. M., writes: "There will be a class, instructed in the fourth degree and a feast to follow, also speaking in the evening." We are advised that the latching is out for the Sec'y of the S. G., and we are sure a warm welcome will be given to all visiting Patrons. Let those of neighboring Granges remember and act on this hint.

From Watsonville, Sec'y Sarah G. Cromanty writes, Jan. 17: "Changes in the list of officers make Walter Bowman, Treas.; Mrs. Clarence E. Bowman, L. A. S.; Chas. J. Cromanty, Ass't Sec'y. We have a very able staff of officers. With Mrs. E. Z. Roache (who is a whole Grange in herself in power and ability) as W. M., we are once more aiming to be the banner Grange of the State. Had a fine drill in the degrees last Saturday under Sister Roache's able management, and were very successful and happy in the result."

Thus the work goes on, and the prospects of active labors and a good year's harvest brightens up before us.

TO SUBORDINATE GRANGE LECTURERS.

As soon as the election and address of lecturer for the ensuing term has been received at this office, copies of the annual proceedings for 1892 have been forwarded. It is hoped that every one will examine the report and bring before the Grange for discussion all matters specially referred to the subordinate Granges, and also other recommendations in the interests of the Order.

For convenience, we will mention below some of the subjects which it would seem desirable to have

brought from time to time to the attention of members, also the page of the report recording the same.

There was placed on file for consideration at the session of 1893, the "Hyde Bill" (presented at the last legislature), for the exercise of the right of "The Initiative" (or referendum) by the people; pages 47, 77.

A proposed law by Congress authorizing the Government to loan money to farmers on farm lands at 2 per cent per annum interest; pages 47, 78. Also, a proposed amendment of the constitution of the S. G.; pages 49, 74.

The following subjects, principally, have been referred to the Cal. State Grange Legislative Committee, some of which, at least, may as well be discussed in subordinate Granges. Officers and members of the Grange should also use their best efforts to influence their local members of the legislature in all feasible ways to secure favorable action. The State Grange action favors, viz:

1. The passage of such State laws as will prevent the sale of fraudulent butter, except under proper restrictions; page 40.

2. Amendment of the laws of California so as to give the wife the same ownership and right to dispose of community property after the death of her husband as are now enjoyed by the husband after the death of his wife; page 46.

3. That the legislature memorialize Congress to remove the present duty on grain bags, that they may be admitted free of duty; page 66.

4. The calling upon the executive officers of the State and of the U. S. to take the proper measures to maintain the laws and constitution for the protection of farming lands against the destructiveness of hydraulic mining; page 70.

5. The passage of a bill to extend the functions and appropriations of the State Board of Horticulture, to embrace the question of distribution as well as that of production.

6. Urging the National Grange to use its influence with the State Department for the Department of Agriculture, to secure more complete information regarding production of fruit in competing countries as well as information regarding markets in foreign countries; pages 41, 67.

7. The election of U. S. Senators by the direct vote of the people.

8. Legislation providing for the organization of Mutual Fire Insurance Companies.

9. The passage of a law by the legislature for the reassessment of property on which taxes have not been paid and for the collection of all unpaid taxes thereon.

10. A law providing for the annual collection of a graduated income tax upon that part of the net income of all trusts and corporations in excess of \$10,000 per annum.

11. Protesting against the extension of time for the payment of the Government bonds of the Union and Central Pacific Railroad Companies; pages 43, 44.

12. In favor of the U. S. negotiating with Nicaragua and Costa Rica to acquire the right of way for the Nicaragua canal—to secure control of the construction and operation of such canal, that the same be constructed by the U. S. Government with no participation, control or ownership except by the U. S. Government; pages 48, 49.

13. That the State Constitution of California be so amended to provide for a graduated tax to be annually levied against all land holdings in this State belonging to any individual, corporation or association in excess of \$50,000 valuation, with a provision for increased rate of taxes on larger holdings; pages 46, 47, 77.

Coming to the Front.

The Sutter Farmer says: "Yuba City Grange is fast coming to the front as a first-class deliberative body. Last Saturday's session was of more than usual interest as showing decided ease and progress in which questions affecting the good of the Order are handled as well as those the general public should feel an interest in. It was a special meeting for the purpose of practicing the unwritten work of the Order by the new officers, nevertheless much other business was transacted of a promiscuous character. The membership continues to increase at a rapid rate and now numbers about 150. Among all our local and successful associations for mutual aid and improvement Yuba City Grange is the most popular and influential. Unlike many other societies, the questions that the Grange may discuss are only limited by the good of mankind, nothing being excluded except partisan politics and sectarian religion."

"Yuba City Grange has never sought to revolutionize the world or to turn it upside down in seeking redress for its grievances, be they real or imaginary. It has always gone about it in a rational way, and when grievances were found applied the remedy. In this way it has won the esteem and good-will of all."

"At the recent meeting, a novel idea was advanced by a lady member how best to bring forth new questions or latent old ones for discussion, and it was at once acted upon. The lecturer is to appoint at each meeting a member who, at the succeeding meeting, is to propound ten questions to the Grange for solution. It will be seen that whatever may affect this community it will come to light and receive due consideration."

"The Grange having recently nearly doubled in membership, it is running short of the necessary paraphernalia, and a committee was appointed to invoice the property and report their findings at the next meeting. They give notice to all members having books or other property in their possession to return the same at the next meeting, which takes place on the first Saturday of February, at which time a large class will enter upon the initiatory degrees."

Public Questions Discussed.

We find the following in the San Jose Mercury of Monday: A goodly number of farmers turned out to the regular weekly meeting of San Jose Grange yesterday. Colonel Hersey presided.

Several questions of public interest were thoroughly discussed, among which was the memorial recently acted upon by Stockton Grange, urging that Congress recognize the importance of constructing the Nicaragua canal and asking that it take "such action as will insure its speedy completion

under the control of the United States Government, with such conservative promises as will insure the citizens against high tolls or discrimination." After an interesting debate on the memorial it was indorsed. Another topic which has demanded considerable attention from the Grange is that of getting legislation that will give the widow the same rights as to community property as the widower. Resolutions favoring the movement were adopted without any opposition and ordered sent to the State legislature.

Yesterday was the first anniversary of the Young Ladies' Auxiliary, and the reports were of a most promising character. Much benevolent work has been done during the year by way of donations of fruits, clothing and flowers, and the increase in membership promises still better results for the coming year.

Colonel Philo Hersey, who was personally and intimately acquainted with the late James G. Blaine for 20 years, favored the Grange with an informal address, in which his eulogy of that great statesman was eloquent and impressive.

A committee of five, consisting of Messrs. Hersey, Adams, Worthen, Kingsbury and McGlincey, was appointed to draft appropriate resolutions, expressive of the deep respect to the memory of the dead statesman and patriot.

The following program concluded the meeting: Mrs. Lester, extract from Whittier; G. W. Worthen, reading, "An Eminent Politician;" H. Pomeroy, select reading, "An Inquisitive Child."

In the near future an interesting discussion will take place on the question as to whether the high officials of the United States Government are amply paid for their services.

OFFICE OF THE GRANGERS' BANK OF CALIFORNIA

SAN FRANCISCO, January 11th, 1893.

To the Stockholders of the Grangers' Bank of California:

DIVIDEND NO. 18.

You are hereby notified that at a meeting of the Board of Directors of the GRANGERS' BANK OF CALIFORNIA, held on the 10th inst., a Dividend of Six and one-half (6½) per cent, equal to \$5.20 per share on the stock upon which 8 installments have been paid, and \$6.50 per share upon the stock paid up in full, has been declared payable February the 9th, 1893.

A. D. LOGAN, President.

FRANK McMULLEN, Secretary.

OFFICE OF THE GRANGERS' BANK OF CALIFORNIA

SAN FRANCISCO, Jan. 11, 1893.

To the Stockholders of the Grangers' Bank of California.

NINTH ASSESSMENT.

You are hereby notified that at a meeting of the Board of Directors of the GRANGERS' BANK OF CALIFORNIA, held on the 10th inst., an assessment of 10 per cent (\$10 per share) was levied upon the Capital Stock of said Bank, payable immediately, in U. S. Gold Coin, to the Cashier, at the office of the Bank, N. W. corner California and Battery streets, San Francisco. Any stock upon which this assessment shall remain unpaid on the Ninth day of February, 1893, will be delinquent, and advertised for sale, at public auction, and unless payment is made before, will be sold on the 9th day of March, 1893, to pay said assessment, advertising and expenses of sale.

A. D. LOGAN, President.

FRANK McMULLEN, Secretary.

Horse Owners! Try

GOMBAULT'S

Caustic

Balsam



A Safe Speedy and Positive Cure

The Safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes all Bunches or Blisters from Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING. Impossible to produce scar or bluish. Every bottle sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars. THE LAWRENCE-WILLIAMS CO., Cleveland, O.

GERMEA
The Monarch of
Breakfast Foods
THE JOHN T. CUTTING CO. SOLE AGENTS

ORCHARDISTS!

Save Your Trees from Gophers
FOR ONE CENT A TREE,

BY ADDRESSING

E. H. BLACK, 114 Eddy St., San Francisco.
You had better write for particulars.

A FULLY EQUIPPED CANNERY

For the Packing of Canned Fruits, Jams, Jellies, Vegetables and Salmon, with all necessary and improved machinery. Capacity of plant, 120,000 cases. Location, San Francisco. For sale at a bargain. A splendid opportunity for a good investment.

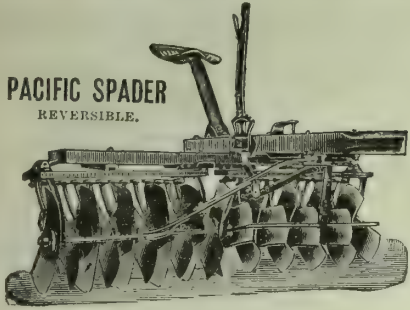
Address, "X" This Office.

Alfalfa Seed Wanted.

About 1000 pounds of best quality wanted. Write price and terms to "RANCHER," Box 2517, S. F.

THE LATEST STYLE
PULVERIZER!
THE PACIFIC SPADER!
Operated by one small Boy. No Man required.

PACIFIC SPADER
REVERSIBLE.



Spader throwing Soil from the Center.
The Pacific Spader and Vineyard Cultivator
does more work in one stroke than a Disc Harrow in ten.
Sizes, 5 1/2 to 12 feet.

TRUMAN, HOOKER & CO.,
San Francisco and Fresno.

SIZES:

No. 5D—	5 1/2-foot Spader.....	16-inch Blades
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No. 14D—	14 " " " " " " " " " "	20 " "
No. 18D—	18 " " " " " " " " " "	20 " "
No. 20D—	20 " " " " " " " " " "	20 " "
No. 24D—	24 " " " " " " " " " "	20 " "



AN OLD STYLE PULVERIZER.

Especially adapted to pulverizing "bottoms"—one
man and a small boy can operate it.

Linden, Cal., Nov. 26, 1892.

Messrs. Truman, Hooker & Co.,
San Francisco, Cal.

Gentlemen:—I was induced by your agent, Mr. I.
O. Fowler, to purchase one of your PACIFIC SPADERS,
which I have tested on some very hard land and must
say it does its work to perfection. I will say to
all who contemplate purchasing a Cultivator to take
the Pacific Spader every time. I remain
Yours very truly,

C. V. Webb.

"ASPINWALL"
POTATO-PLANTER
PLANTS
Corn,
Beans,
Ensilage,
Etc., Etc.

DISTRIBUTES
FERTILIZERS.
Absolutely Guaranteed.
It Marks. It Furrows.
It Drops. It Covers.
ALL IN ONE OPERATION.

POTATO CUTTER
A Boy Can Operate It.
Cuts Potatoes for Seed Faster
than Eight Men Can by Hand.
Will Pay for Itself In One Day.
FULLY WARRANTED.

Simple In Construction.
It consists of a series of knives
secured in an opening of the table.
The potato is placed in a pair of
hinged jaws above the knives, and by
a plunger the potato is cut at a single
stroke and the eyes divided in a most
satisfactory manner. The screen be-
low frees the seed from dirt or chips
and more thoroughly prepares the
cuttings for planting.

**CORN & BEAN
DRILL**
THE BEST AND CHEAPEST RIDING PLANTER IN AMERICA.
The price places it within
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Thoroughly practical.
Plants 10 to 12 acres per
day.
EXTRA SLIDES for planting
PEAS, BEANS, etc. with
every machine.

Furnished plain or with
fertilizer attachment. Ca-
pacity of distributing from
two hundred to one thousand
pounds per acre.
Catalogue of potato and
corn planting machinery
FREE. Address
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OUR BRAND.
Stocktonia.
Try it. It makes light, sweet and delicious
bread. You can have 1500 barrels every day.
Farmers' Union & Milling Co.
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UNION FLOUR MILLS

Better Crops Profits
Are the invariable results of using
better means. The "Planet Jr."
Labor Saving Farm Tools are the
best means ever devised for reduc-
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pletely solve the scarce help question; they are always ready
when wanted; they are never sick, tired, or lazy. It costs nothing
to keep them. They are strong, durable, and will last for years.
Our New Book for 1893 will tell you what they do and how they do it, with
illustrations and prices of each of the twenty machines. We send it Free.
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THOUSANDS OF THESE PUMPS ARE NOW IN USE ON THIS COAST.
They are made of the Very Best Material. Corrosive Washes DO NOT injure
the valves, plunger-packing or cylinder.
Your neighbor will tell you that he can spray MORE TREES IN A DAY with the Bean Pump than with any other.
DO NOT FAIL TO USE THEIR NOZZLES.
SEND FOR CIRCULARS TO
The BEAN SPRAY PUMP CO., San Jose, Cal.

**HAWKEYE
GRUB STUMP
MACHINE.**
Works on
either STANDING
TIMBER or
STUMPS.
Will pull an or-
dinary Grub
in 1 1/2 MINUTES
MAKES A
CLEAN
SWEEP
of two Acres at a sitting. A man, a boy and a horse can op-
erate it. No heavy Chains or rods to handle. The crop on a few
acres the first year will pay for the Machine. Send postal card for
Illustrated Catalogue, giving price, terms, testimonials, also full
information concerning our IXL Grubber. Address Manufs.,
JAMES MILNE & SON, SCOTCH GROVE, IOWA.

**Spray
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Fruit
Trees
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Vines**
Wormy Fruit and Leaf Blight of Apples, Pears,
Cherries and Plums prevented; also (trape and
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Acting Excelsior Spraying Outfits. Best in the
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COLUMBIAN VISITOR'S GUIDE CO.
Mention this Paper. Chicago, Ill.

Age of Orange Trees.

An exchange remarks that there has been much discussion among American horticulturists the past few years concerning the extreme age that orange trees will bear well and produce good fruit. Some maintain that an orange tree, no matter how much care is put upon it, will slowly wither and die after it has reached half a century of growth. Others have argued that about 75 years is the limit of usefulness of a well-cared-for orange tree.

Several American horticulturists, who have been traveling along the Mediterranean sea, have recently found trees over 120 years old that are still producing fruit of excellent quality. On the island of Elba, where Napoleon was banished, there is an orange grove of over 700 St. Michael orange trees that were planted by an Italian in 1781, and it produced last year over 1800 boxes of fruit, but it produced four times that quantity 25 years ago. There are several small orange orchards in southern Italy that are over 80 years old and are still productive of large quantities of fruit.

On the island of Malta, James Pellman, the famous American horticulturist, found one orange tree that there can be no doubt is 142 years old, and that yielded several boxes of fruit last year. It is even alleged that in the Azores there are orange and lemon trees over 200 years old that still bear fruit, but there is no good authority for the allegation.—New York Telegram.

HOW TO CARE FOR CLOTHES.—When the clothes are removed, the coat should be slipped over a bow-hanger—the vest may be put on it first. A coat that is worn quite steadily from day to day ought always to be hung on the back of a chair, the armholes being slipped over the back posts, the vest to be hung first in like manner. It is best to place the chair near an open window, as the exposure to air will help to soften the wrinkles. The trousers should be well shaken, to free them from dust, and then "pulled." This means that they are to be folded down where the front and back creases are, and then, holding them by the top band, the foot is placed on the bottoms on the floor and steady, gentle pressure exerted. Lay the trousers out smoothly on the bed—still folded on the creases—and fold lengthwise at the knee line, smoothing out all possible wrinkles with the hand. Put the trousers on the chair seat. In the morning the entire suit will look "rested," and the end will justify the means.

WHITEWASH AND SALT.—Kitchen salt mixed with whitewash—the result in the first instance of an accident—has been found to render the whitewash hard as varnish or cement. This was due, says T. Koller, a German scientist, to the hygroscopic action of the salt, which absorbs water and permits of the speedy combination of the lime with the carbonic acid of the atmosphere. A trial of this composition upon the brick wall of a well-hole or shaft for light—in which case it was applied with a syringe to save scaffolding—stood extremely well, and after the lapse of four years the coating was as good as ever. The use of three parts of quicklime to one of common salt is recommended.

DIAMOND-MINING PROFITS.—An astounding statement was made on Wednesday evening at the Society of Arts in the course of a paper by Bennett H. Brough on "The Mining Industries of South Africa." He said that since 1867, when the diamond-fields were first discovered, there have been exported from Cape Colony more than 50,000,000 carats of diamonds, the value of which approached £70,000,000. Their weight would exceed ten tons, and the heap of them might form a pyramid with a base nine feet square and six feet high.

It is somewhat singular that, notwithstanding the great advances made in chemistry and metallurgy, no other more satisfactory silver alloy has as yet been discovered for coining and other purposes than the alloy used 800 years ago.

The census figures show that West Virginia has more square miles of coal than Great Britain, Germany and France combined, though it stands fifth in point of annual coal production in the United States.

THERE is a drying-house for lumber in Ottawa, Can., where electricity is employed as the heating power. This is said to be the first establishment of this character in the world.

If all the locomotives and passenger and freight cars in the United States were made up into one train it would have a length of over 7,000 miles.

Seeds, Plants, Etc.

J. P. SWEENEY & CO.

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Seed Merchants.

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ALFALFA,Red and White Clover, Alsike Clover,
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ASSORTED MILLET SEED,

Onion Sets and Top Onions, Mangle and
Sugar Beets, and Carrots for Cattle
Feed. Also, All kinds ofFRUIT AND ORNAMENTAL, AND CALIFORNIA
FOREST TREE SEEDS.

ALL OF THE BEST QUALITY!

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D. W. LEWIS,
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NURSERY.PEACHES,
ROYAL APRICOTS
ORIENTAL PLUMS,
GRAPE VINES.

General Nursery Stock.

ORANGE AND LEMON TREES.

Some choice Orange and Lemon land planted and
cared for, at bedrock prices.

Address:

D. W. LEWIS,
SANGER.....CALIFORNIA.

JUNE BUDS.

Leading varieties of PRUNES, PEACHES and
ALMONDS. Clean and healthy stock. For particu-
lars address HERMAN SCHWARZ
25th & O Sts., Sacramento, Cal.ALEXANDER & HAMMON'S
RIO BONITO NURSERIES,

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A COMPLETE ASSORTMENT OF
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FRUIT TREES, NUT TREES, TABLE, RAISIN and WINE GRAPES.

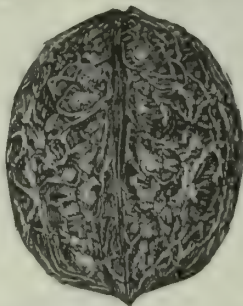
Apples, Bartlett Pears, French
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ALMONDS, PEACHES,
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NECTARINES, PRUNES,FIGS: The TRUE COMMERCIAL, WHITE ADRIATIC,
AND OTHER SORTS.KAGHAZI,
PERSIAN Soft Shell WALNUT.

THE HARDEST.

THE MOST PROLIFIC.

THE STRONGEST
GROWER.THE FINEST
FLAVORED.

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ALMONDS, June Buds of the leading varieties.

WHITE ADRIATIC FIG TREES at very low figures.

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Correspondence solicited. Send for Catalogue.

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I. X. L.A pamphlet on Almonds mailed free of charge on application. A large supply of the GOLDEN PEACH and
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PERCY W. TREAT.

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100,000 EXTRA FINE
BARTLETT PEAR TREES.Apple, Pear, Plum, Cherry, Peach, Apricot,
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and Small Fruits.

500,000 FRUIT TREES!

Orange, Lemon, Lime, Olive, Japan Persim-
mon, and all kinds of Nut-Bearing
Trees, Shade and Ornamental
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and Ornamentals.ALMONDS,
CHERRIES,
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PEARS,
PEACHES,

No Irrigation.

Free from Pests.

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ON PEACH. VERY CHEAP.

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ALMONDS, APPLES, ETC.

All first class and raised without irrigation.

New price list free on application. Correspondence
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A Large and Extra Choice Stock of

Fruit, Shade and Evergreen Trees
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The Largest and Best Stock of Camellias,
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Salesyard at Baker and Lombard Sts., San Francisco.

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Send for Price List.

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AT MONTECITO.

OLIVES, LEMONS, ORANGES

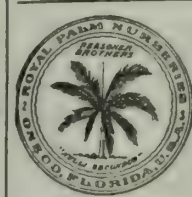
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And especially PALMS and TROPICAL FRUIT AND
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fruit-bearing tree from Java, mailed free for 30c.

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and ornamental plants and
trees. Palms, Ferns, Orange
Trees, Pineapples, Bamboos,
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where. Send stamp for new
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all about this subject.

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Orlando, Fla.

25,000 MONTEREY CYPRESS,

15,000 BLUE GUM TREES,

20,000 RED GUM TREES.

And a General Assortment of

Roses, Shrubs and Plants for Sale at bedrock
Prices.

HUTCHISON & SANBORN.

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No Trees of 1st quality can ever
be sent by mail. May-
hap you know it. By freight, prepaid if
preferred, we ship safely 4, 5, or 6-ft. trees;
2-yr. Roses of rare excellence—everything!
You actually pay less than for the puny
stuff. 1000 acres Nurseries. 20,000 acres
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Seeds, Plants, Etc.

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TRAGEDY PRUNES,
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ALSO FULL GENERAL STOCK OF

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The New Yellow Freestone Peach.

FIRST AND BEST OF EARLY YELLOW PEACHES.

RIPENS IMMEDIATELY AFTER THE ALEXANDER (White Cling), which is the earliest peach in market.

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COMPRISING A GENERAL ASSORTMENT OF

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ALSO A FINE STOCK OF

ORANGE AND LEMON TREES FOR SALE AT LOW PRICES.

C. W. REED & CO.,
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640 ACRES.

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(ESTABLISHED IN 1858.)

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Bartlett Pear Trees and French Prunes

On Myroblan Stocks, at Low Rates.

Also, a general assortment of Apple, Pear, Peach, Nectarine, Plum, Cherry, Quince, etc., grown in sandy loam, without irrigation, which gives a fine proportion of roots. I offer no trees but what are grown in my own grounds and known to be true to label and free from scale bugs. Address: W. H. PEPPER, Petaluma, Cal.

Owing to age and poor health, I will sell my place and business at a bargain. Place consists of 250 acres of land, good buildings, 50 acres in orchard, and a large Nursery Stock, together with horses, wagons and implements, complete, for carrying on the business. A good opportunity for enterprising men with capital to step into a good-paying business. For further particulars address, as above.

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French Prunes on Peach, Almond,
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Leading Varieties, in large quantities.

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All our stock is grown without irrigation and is guaranteed. Drop us a "Card," and we will send you our price list.

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SURPLUS STOCK!

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FRENCH PRUNES on Peach and Myroblan, 1 Year Old. CHERRIES, PEACHES and APPLES 1 and 2 Years Old. Also a very Large and Complete Stock of SHADE AND ORNAMENTAL TREES. The Finest Stock of ROSES in California. Write for Prices. E. GILL,

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Seeds, Plants, Etc., Continued on Page 114.

GEO. C. ROEDING, Manager.

Geographical Variation in Birds.

Lynds Jones of Oberlin, Ohio, writes to *Science* as follows:

In ornithology, geography is the father of trinomial nomenclature. Climate is one great factor in variation, and topography has not a little to do with making the climate; but geography is unquestionably the cause of variable climate, else would the polar regions be tropical instead of frigid. Topography is at best local.

The variations of a species of birds, which make of it several subspecies, are due to its geographical distribution. These varying individuals do not take the name of "forms," as in entomology, but are set apart as true subspecies, each with a more or less well-defined habitat of its own. But there is a serious difficulty in ascribing any sharp line of difference between the forms which intergrade on the outskirts of the geographical range and a corresponding difficulty in ascribing any definite geographical limit. It is not seldom that individuals of one subspecies are found far within the range of another subspecies.

It is a little singular that certain species do not vary—species which are not only found from ocean to ocean in North America, but which are nearly or quite cosmopolitan. Why this should be true of some species and not of others is still an open question. If the scorching sun of the desert regions will bleach out one species, why will it not do the same for another? The plea of adaptation of coloration for protection cannot be urged here.

Not only are colors affected, but size as well, by geographical position. This is probably more marked north and south than east and west; and yet the variation in size alone is not sufficient for a subspecific division. It is not at all strange that those individuals of a migratory species which push farthest north should possess stronger bones and muscles, and so be larger than those which were not able to fly so far. It would seem natural that the constant recurrence of such a difference would tend, in time, to form a race peculiar enough to be recognized as a subspecies. But it has not proven true thus far in the history of the world, and why should there be any change under the same conditions?

A STRONG VESSEL FOR THE ARCTIC.—Dr. Nansen's Arctic exploring ship *Fram* was launched at Laurain, Norway, on Oct. 26th, and is thus described in *Engineering*: Length on keel, 101.7 ft.; on water line, 132 ft.; on deck, 128 ft.; greatest width, 36 ft.; draft, light, 12.3 ft.; displacement, 530 tons. The keel is in two pieces, 14x14 ins., and the covering is 11 ins. thick. The keel is American oak, and the other timbers Italian oak, with the intervals between the timbers filled with a mixture of pitch, tar and sawdust. The inside lining is pitch pine from four to eight inches thick. The outer sheathing is in three layers, of three-inch oak plank, then four-inch oak and finally an "ice cover" of three to six inches of greenheart. The ship's sides will thus vary in thickness from 27 to 30½ ins., and the oak bow is four ft. thick. Various beams and cross-stays strengthen the vessel inside. The *Fram* is pointed fore and aft, and is there further protected by iron-plating. The engine is of 169 I. HP., capable of imparting a speed of six knots, and the coal supply is good for three to four months' continuous steaming. She is rigged as a three-masted schooner. The whole aim of Dr. Nansen has been to construct a strong ship that will lift if pinched between ice floes—and he seems to have succeeded in this aim as near as man can. He will start on his "drift across the North Pole" in June, 1893, sailing direct for Nova Zembla; then to the mouth of the Lena river, and northward from that point until the ice-pack renders navigation impossible.

COAL was hardly used at all 350 years ago, remarks Mr. J. E. Taylor, F. L. S. Yet since then Great Britain has consumed nearly half the stock deposited by nature in its coal cellars many millions of years ago. At the present rate of increase in consumption what will be the condition of those cellars after another 350 years? It is clearly indicated that this period will witness a marvelous development of the economic science. Coal, long before that, as a form of energy will be regarded as a somewhat antique and worked-out material. The ebbing and flowing tides, the shifting winds, the waters running to the ocean, perhaps even volcanic and earthquake energy, will have taken its place. Indeed, a line of inquiry and research now going on may possibly affect the commercial interests of the whole world within the short space of the next five years. This relates to the use of petroleum,

already being tried on steamers and locomotives of the Caspian sea and vicinity. The coal fields of the world will certainly be worked out within an historically brief period, but a distinguished Russian chemist finds grounds for believing that petroleum is still being formed by the action of water on heated metallic deposits, and that the supply will be permanent.

THE RAVAGES OF CHOLERA.—The discovery of a method that would protect an individual from cholera would be of great usefulness, for in India, the home of that disease, the average annual mortality therefrom in the cities is 3.32, and in the country 1.32 per 1000 living. The army statistics show that 2.49 per cent of the European soldiers are admitted to the hospital for cholera, while only 0.95 per cent of the native soldiers are admitted for the disease; but the mortality, 33.69 per cent for the former, 35.5 per cent for the latter, is almost equal. In the various epidemic manifestations of cholera in various parts of the world the mortality has often exceeded 50 per cent of those attacked. In 1884 and 1885 cholera was epidemic in Southern Europe, and in Spain in the latter year the official report states that there were almost 120,000 deaths. There were 51 persons affected in each 1000 living, and the mortality was 36 per cent. These statistics stimulated investigators to attempt to solve the problem of affording immunity to cholera.—From *Protective Inoculation for Cholera*, by Dr. S. T. Armstrong, in the *Popular Science Monthly*.

CLOSET ROOM.—Closet-room is no mere feminine fancy, but the good-sense of the sex. It is as necessary to a housekeeper as a cornbin is to a farmer or a toolchest to a mechanic—that she may have somewhere to put things so that they will be out of the way when one wants to move, and in the way when one wants to find them. It should be ample and well distributed, so that she may not have to be endlessly moving one thing to get another. If a farmer had his grain in such shape that he had to shovel out a bushel of oats every time he wanted a bushel of corn—and then put the oats back again—there would be sound of saw and hammer in that barn, and a new arrangement of things, if there was a tree left on his farm and a sawmill within a hundred miles.—Ex.

CATS, according to the old tradition, have nine lives, but they are not the only creatures that enjoy such a plurality. Infusoria have been dried and restored to life by moistening, after remaining inert dust for 27 years, and the drying and resuscitation have been successfully tried eleven times on one lot of rotifers. Frogs and many fishes suffer no injury from freezing solid, while, in a few cases, even warm-blooded animals have been restored to life after apparent death from freezing.

THE gross earnings of the railroads of the country last year are estimated by the statistician of the Interstate Commerce Commission at \$1,222,711,698, an increase of \$125,950,303 over the earnings of 1891. The operating expenses were \$814,722,082, an increase of \$82,834,109, which leaves an increase in net earnings of \$43,116,114.

A New Partnership

Mr. Robert Brand of Oakland, who has for the past three years manufactured and handled the Minnesota Chief Threshers on this coast, has sold an interest in the business to H. P. Crafts, also of Oakland. Mr. Crafts has ability, energy and an extended business acquaintance. He will no doubt add strength to an already well-established concern. The new firm is now erecting a large building at 521-523-525 Third St., Oakland, for the manufacture and repair of threshers, engines, horsepowers, etc. The Minnesota Chief is too well known wherever grain or beans are raised to call for comment here.

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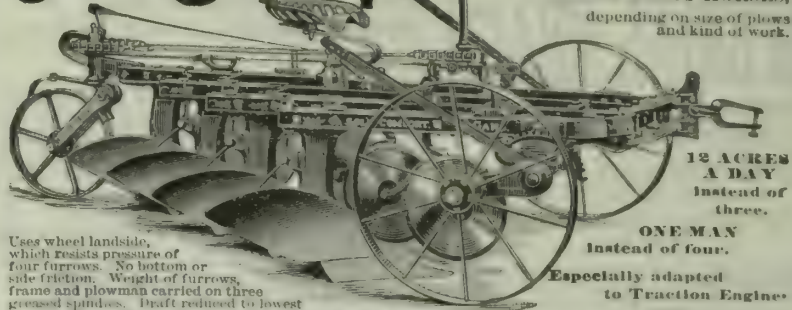
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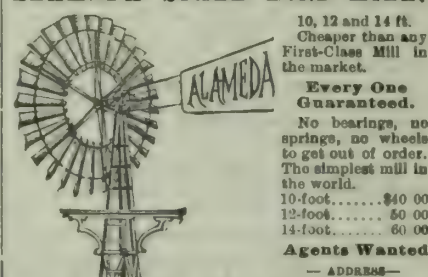


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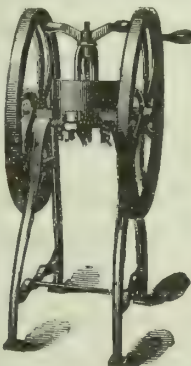


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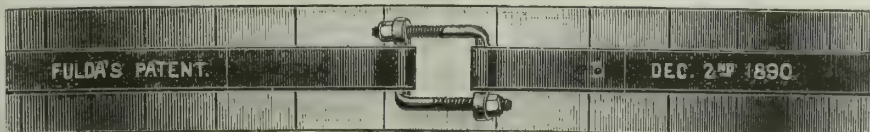
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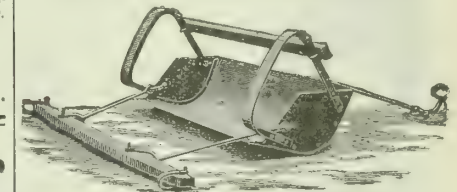
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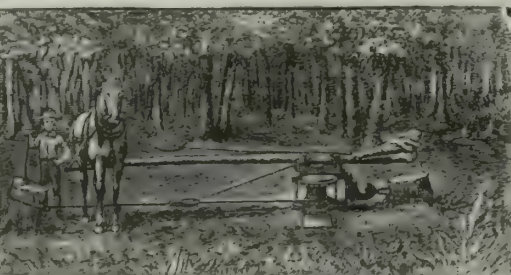
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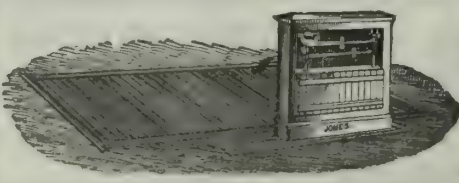
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S. F. MARKET REPORT

Market Review.

SAN FRANCISCO, Feb. 1, 1893.

The general produce markets during the week have shown improvement in some lines, weakness in others. Wheat and other grains are in about the same condition as for several weeks. Butter and eggs are down. Poultry is a little lower. Cheese is firm. Pork products are very firm and still advancing. Hay is weak. Potatoes and onions are strongly held.

Cereals.

The one feature of interest during the week in the market has been the decrease of visible stocks east of the Rocky mountains—the first report showing an actual decrease for some time. The tendency has, however, been for some weeks in that direction, and it seemed only a question of time when visible stocks would show an actual falling off. Local business is small, and foreign reports are that the market is somewhat weaker than a week since. Cargoes afloat were yesterday quoted less than at any time during the week. These, however, are minor fluctuations that arise from lack of confidence and the general weakness and dullness of the market at home and abroad. In San Francisco 20 cargoes were loaded during January. There has been some movement in the country under free offerings. It is the tax season, and holders must devise ways to meet an obligation that is as certain to come every year as death. The decrease in visible stocks east of the Rocky mountains is a feature of some encouragement.

Movements of barley are light, though there is some demand for medium and good brewing grades. It is said that a ship has just been chartered to load with barley for England. If so, surplus stocks may be lessened.

There is little doing in oats. There is no further demand for seeding, though white are fairly firm. Corn has declined, under free offerings. Rye is dull, the demand being irregular.

Fruits

The cold and stormy weather of the past week has been detrimental to the selling interest in fruits. The demand is poor, but with milder weather it would certainly be more brisk. Oranges are in plentiful supply, and prices are low. Apples are coming in well, and the demand is good. Lemons are dull and lower. Strawberries are here, but sell with difficulty. The report that cold weather has damaged a large part of the Florida orange crop has had no effect on local prices. Dispatches are to the effect that 1,000,000 boxes of the Florida yield will be unsalable, and that the Eastern demand for California fruit will be much stimulated thereby.

As to dried fruits, a local authority says: "There are no important changes to note in the dried fruit market. The market is characterized by extreme firmness. Shipments from the country are extremely light, and comparatively few goods are offered in car lots outside of raisins and prunes, while these two articles are being shipped out at a lively rate."

"The continued advance of evaporated apples East has turned several orders this way, and it is doubtful if there is more than enough stock for coast requirement now left. Prices have hardened in sympathy with the advance East, and while a few lots may be picked up at a low figure, it is difficult to get anything choice for less than 10 cents."

"The producers have profited by their experience of a year ago, and instead of refusing fair offers when fruit was dried and ready to be sold, they have disposed of it at market rates as soon as sacked. The result has demonstrated the wisdom of this policy, and generally they have received much better prices for their product than in former years, when they held it until late."

"Fruit went into consumption early at reasonable figures, and the market will be well cleaned up before the new crop is ready to be sold. The short crops East have a great deal to do with the present condition of affairs, but in nine cases out of ten the grower who sells fruit when it is ready for market makes more than the one who holds for speculation."

Provisions.

Sellers of smoked and salted pork products and lard are very firm, and prices have advanced again under brisk demand. Receipts from the East and from California are exceedingly light. The Cincinnati Price Current, a recognized authority, says: "The indications are that the winter season will show a deficiency of approximately 700,000,000 pounds in gross weight of hogs, representing about 500,000,000 pounds of product less than last year, or a decrease of 38 per cent. The indications are that the winter-packing in the West will be smaller than for corresponding months for a period of 16 years, and that the decrease, compared with the preceding year, will be without precedent in the history of the industry. The outlook seems to justify maintenance of prices, though the sentiment of uncertainty as to the future is constantly present in the trade."

In sympathy with the Eastern situation, the market here is very strong, with upward tendencies. The shortage in the East shows no signs of relief, and it may be that prices will go still higher before the pork famine is over.

Poultry and Game.

Poultry is rather dull. Dressed turkeys are a little higher, however, than a week since, but the general range of prices is a trifle less than a week since.

Game is higher in some lines. The close season begins March 1st.

Butter, Eggs and Cheese.

Butter has manifested decidedly lower tendencies. Stocks are liberal, and prices generally lower. The outlook is that prices will not rule higher for some time.

Eggs are down and the bottom has virtually dropped from under high prices. The range of quotations for the best is not above 30 cents. Cheese is firm in all lines.

Vegetables.

Potatoes are firm and sell well at quoted rates. Receipts are not heavy, and the demand is normal. Onions are much higher, having taken a decided jump during the week. Supplies are comparatively

scarce. Dealers believe that present rates (approximately) will rule from now on.

Asparagus receipts are light, and the demand good. Tomatoes are firm. Rhubarb seems to be out of the market.

A small amount of eggplant sold for 25 cents per pound. Peas are plentiful.

Pink Beans are somewhat lower. Bayos show no change. Pea and small white are firm. There are no changes in quotations from last week.

Live Stock.

Hogs are higher. Beef and mutton are steady at quotations. Lamb is firm.

Miscellaneous.

Hay continues weak and drags.

Hops are steady, and quotations are almost nominal. The Thomas' Produce Report says: "The stock on the Coast is estimated at inside of 25,000 bales and while this is about one-fourth of the crop of 1892, it is a big proportion to have on hand at this time of the year. Shipments from the United States continue to pour into the English market and are beginning to have their effect in lessening values."

Alfalfa seed has advanced. Canary seed is also up.

Wool stocks are light. There are light stocks of soft and paper-shell almonds, and walnuts. Hard-shell almonds have advanced slightly.

Honey and beeswax are scarce and strong. Feedstuffs are dull. There is no change in flour.

Overland Exports California Fruits.

The shipments of California fruit overland for December and for the year compare as follows in tons of 2000 lbs:

	For December	Jan. 1 to Dec. 31.
Canned goods, tons.....	793	35,589
Dried fruit.....	1,091	24,908
Ripe fruit.....	132	47,931
Raisins.....	3,154	21,061
Total.....	5,170	129,429
In 1891.....	7,229	125,419

Since February 1st the section of the State south of Bakersfield has been omitted from these returns. In December last year these shipments from the southern section embraced 162 tons canned goods, 50 tons dried fruit, 11 tons ripe fruit and 135 tons raisins, and during the year the same section contributed 1063 tons canned goods, 861 tons dried fruit, 3768 tons ripe fruit, 12,057 tons citrus fruit and 916 tons raisins, making a grand total of 18,574 tons. Had the shipments from the southern counties of the State been reported in the last 11 months of 1892, the total for that year would have been considerably larger. Without these shipments the total exceeds any previous year.

The Hop Trade.

During 1892 the following shipments of hops were made from California:

	1892.	1891.
Pounds—		
By rail.....	5,544,000	5,906,470
By sea.....	160,631	145,083
Totals.....	5,704,631	6,051,553

Showing a comparative decrease of 346,922 pounds for the past year. The total by sea and rail in 1890 was 5,636,325 pounds, against 6,967,004 in 1889 and 7,350,227 in 1888.

The following shows the total rail shipments from each terminal in 1892:

	Pounds.
From—	
Sacramento and East.....	3,456,000
Marysville.....	1,020,000
San Francisco.....	622,000
San Jose.....	320,000
Stockton.....	92,000
Oakland.....	34,000
Total.....	5,544,000

Against 5,906,470 pounds in 1891, 5,540,880 in 1890 and 6,686,510 in 1889.

Imports into United Kingdom.

The weekly imports of wheat and flour into the United Kingdom in January were as follows:

	Wheat, qrs.	Flour, bbls.
3d.....	215,000	209,000
10th.....	201,000	272,000
17th.....	189,000	230,000
24th.....	250,000	83,000

No report was received for the week ending yesterday. The last week given showed a very large falling off for flour and a considerable gain for wheat.

Visible Supply of Wheat.

During each week in January the visible supply of wheat in this country east of the Rocky mountains was reported as follows:

	Bushels.
7th.....	81,788,000
14th.....	82,081,000
21st.....	82,252,000
28th.....	81,438,000

For a long period and up to the week ending the 21st there was a repeated increase, but in the last week of the month the supply fell off somewhat.

Produce Exports.

Following is a statement of the values and destinations of the produce exports from San Francisco by sea for December and the year 1892:

	December.	Year 1892.
New York.....	\$ 72,900	\$ 8,549,690
Great Britain.....	1,740,000	19,162,300
Belgium.....		384,100
Germany.....		132,200
France.....		86,100
Hawaiian Islands.....	205,300	2,533,500
British Columbia.....	41,200	560,000
Mexico.....	183,400	1,398,900
China and Hongkong.....	177,900	2,693,100
Japan.....	39,900	5,080,000
South America.....	62,000	321,100
Australia.....	79,200	873,900
New Zealand.....	14,100	167,700
Navigator Islands.....	1,600	16,600
Marquesas Islands.....		254,300
Society Islands.....	2,400	3,000
Philippine Islands.....	1,900	7,900
Fanning Islands.....		4,500
Marshall Islands.....		19,500
Fiji Islands.....	600	5,200
Gilbert Islands.....		145,200
Caroline Islands.....		6,400
Central America.....		2,900
Panama.....		100,400
East Indies.....		42,900
Siberia.....		114,600
Totals.....	\$3,476,400	\$40,291,500
In 1891.....	5,984,000	54,622,100

Says the Bulletin: "The total for the last month in 1891, with a single exception, was the largest for any month in the history of the port. The best monthly total was \$7,348,600 for December, 1891. The total for the year 1892 is over \$14,000,000 less than in

1891. It is some consolation to know that the total for 1891, against which this comparison is made, was the largest, with a single exception, in the history of the port. The heaviest total was \$56,709,000 in 1892. During the past year the monthly totals have varied from \$1,931,900 in May to \$4,700,200 in November. These two months generally represent the extremes of the year, as in May usually there is little wheat to go forward, while in November the fall movement in grain is generally at its height. Of course, circumstances sometimes intervene to frustrate the rates and make June and December the pivotal months of the year.

Receipts of Wine and Brandy.

The receipts of California wine and brandy at this port in 1892 were as follows:

	Wine.	Brandy.
Months.	Gals.	Gals.
January.....	887,837	196,791
February.....	1,012,538	44,485
March.....	831,022	31,630
April.....	866,166	26,377
May.....	955,099	41,230
June.....	912,412	29,395
July.....	773,339	17,170
August.....	835,894	41,840
September.....	862,304	46,040
October.....	838,830	27,720
November.....	1,053,430	93,906
December.....	937,801	144,441
Totals.....	10,785,672	741,025
1891.....	12,810,675	701,125

Decrease..... 2,025,003
Increase..... 39,900

In 1890 the receipts were 11,229,287 gallons wine and 590,188 gallons brandy.

Receipts of Barley.

The monthly receipts of barley at this port in 1892 and 1891 were as follows:

	1892.	1891.
Months.		
January.....	112,007	130,671
February.....	79,168	114,627
March.....	218,839	113,990
April.....	174,787	126,425
May.....	59,287	152,918
June.....	109,724	191,110
July.....	384,158	314,060
August.....	545,540	162,700
September.....	480,722	394,165
October.....	297,710	501,692
November.....	176,467	269,395
December.....	126,943	116,513
Totals.....	2,765,352	2,587,256

The receipts according to sources were as follows:

	1892.	1891.
Sources.	Cts.	Cts.
California.....	2,741,159	2,409,195
Oregon, etc.....	24,193	178,061
Totals.....	2,765,352	2,587,256

In 1890 the receipts were 1,839,776 cents, including 101,847 from Oregon and Washington.

Wheat Exports.

During the 12 months ending December 31, 1892, the wheat exports were as follows:

	Cents.	Value.
To—		
Great Britain.....	9,465,088	\$13,731,266
Belgium.....	229,073	341,237
France.....	42,083	76,800
Central America.....	25,775	39,875
Hawaiian Islands.....	7,729	11,842
Australia.....	1,538	2,170
Mexico.....	900	1,266
Tahiti.....	528	792
British Columbia.....	103	107
Totals.....	9,762,816	\$14,254,905

1891..... 16,947,917
1890..... 13,014,306
1889..... 12,115,075
1888..... 11,763,436

The exports last year were 7,185,101 cents less than in 1891, and there was a comparative decrease of \$13,069,046 in value. The shipments to Great Britain were larger in 1892, but in 1891 France took the lead with 7,916,294 cents, and 1,088,430 cents went to Belgium in that year. The heavy demand from France in 1891 made that year a very exceptional one in the history of the wheat trade of this port.

Breadstuffs on Passage.

The quantities of wheat and flour on passage for Europe during each week in January were as follows:

	United Kingdom.	Continent.
Week ending—		
3d, quarters.....	2,733,000	712,000
10th.....	2,689,000	637,000
17th.....	2,719,000	495,000
24th.....	2,447,000	454,000
31st.....	2,772,000	449,000

There was a steady falling off for the Continent during the month. The quantities afloat for the United Kingdom showed weekly variations ranging from 30,000 to 128,000 quarters.

Produce Receipts.

Receipts of produce from all sources at this port for 7 days ending February 1, 1893, were as follows:

	United Kingdom.	Continent.
Flour, qrs.	167,568	Wool, bbls. 58
Wheat, cts.	180,165	Hay, ton 808
Barley, ".....	21,787	Straw, "..... 10
Rye, ".....		Wine, gals 216,594
Oats, ".....	10,991	Brandy, "..... 2,300
Corn, ".....	13,769	Raisins, bxs 1,545
Butter, cts.	514	Honey, cks 449
do bxs.....		Peanut, cks 449
Eggs, doz.....	35,160	Walnuts "..... 449
Beans, cts.	8,513	Almonds "..... 449
Potatoes, cts.	24,348	Mustard "..... 449
Onions, ".....	1,967	Flaxseed "..... 449
Brass, cts.	10,789	Popcorn "..... 449
Buckwheat ".....		Broom corn, bbls. 431
Middlings ".....	2,454	Leather, rolls..... 268
Screenings ".....		Tallow, cts. 3,396
Chicory, bbls.		Hides "..... 3,396
Hops, bbls.....		Pelts "..... 3,396

Markets by Telegraph.

The British Grain Trade.

LONDON, January 30.—The Mark Lane Express says: English wheat in London advanced 9d per quarter. Sales have fallen off. The rise is assigned exclusively to quality. Foreign wheat is weak. At Liverpool 1d per cental less is accepted both for Californian and American red winter. Home deliveries of wheat and flour for the week amounted to 180,000 quarters. Russia is said to have 1,000,000 quarters of maize, which will be for sale when spring shipments are resumed.

California Products at Chicago.

CHICAGO, Jan. 31.—California dried fruits are ruling steady. There continues a steady demand for prunes, also a good demand for apricots and fair inquiry for raisins. Of prunes and apricots the supply is small; of raisins it is fair, but offerings of the latter are much less than some time ago. Raisins—London prices, 3-crown, 1/2 box, 1/4 @ 1/60; do 3-crown, fancy, 1/75 @ 1/85; loose Muscatels, 3-crown, according to quality, 1/1 @ 1/25; 4-crown, sds., 1/2 @ 1/65; 5-crown, 1/2 @ 1/65; 2-crown, 3/4 @ 1/65; seedlings, accord-

ing to condition and quality, 3/4 @ 1/65. Prunes—4 to 50 to the pound, in sacks, 12 1/2 @ 1/65; 50 to 80, 12 1/2 @ 1/65; 80 to 100, 11 1/2 @ 1/65; 100 to 120, 9 1/2 @ 1/65. Apricots—New, choice to fancy, sacks, 1/2 @ 1/65; new, fair to good, 1/4 @ 1/65. Peaches—Peeled, 25 lb boxes, 1/2 @ 1/65; 20 @ 2/25; peeled, sacks, 19 @ 2/25; unpeeled, 11 @ 1/65. Nectarines—Red, sacks, 1/2 @ 1/65; white, 9 @ 1/65. California Oranges—Seedlings, 1/2 box, 1/75 @ 2/25; Navels, 2/75 @ 3/25; Navels, fancy Redlands, 3/50 @ 4/25.

Grain Futures.

Liverpool.

The following are the closing prices paid for wheat options per cwt. for the past week:

	Jan.	Feb.	Mar.	April.	May.	June.
Thursday.....	5 1/2 d	5 1/2 d	6 0/0 d	6 0/0 d	6 0/0 d	6 3/4 d
Friday.....	5 1/2 d	5 1/2 d	6 0/0 d	6 0/0 d	6 0/0 d	6 3/4 d
Saturday.....	5 1/2 d	5 1/2 d	6 0/0 d	6 0/0 d	6 0/0 d	6 3/4 d
Sunday.....	5 1/2 d	5 1/2 d	6 0/0 d	6 0/0 d	6 0/0 d	6 3/4 d
Tuesday.....	5 0/0 d	5 1/2 d	6 0/0 d	6 0/0 d	6 0/0 d	6 3/4 d

The following are the prices for California cargoes for off coast, nearly due and prompt shipments for the past week:

	O. C.	P. S.	N. D.	Market for P. S.
Thursday.....	31 3/4 d	31 3/4 d	31 3/4 d	Quiet
Friday.....	31 3/4 d	31 3/4 d	31 3/4 d	Quiet
Saturday.....	31 3/4 d	31 3/4 d	31 3/4 d	Quiet
Sunday.....	31 3/4 d	31 3/4 d	31 3/4 d	Quiet
Tuesday.....	31 3/4 d	31 3/4 d	31 3/4 d	Weak
Wednesday.....	31 3/4 d	31 3/4 d	31 3/4 d	Weaker

To-day's cablegram is as follows:
LIVERPOOL, Feb. 1.—Wheat rather easier. 10 California spot lots, 68 1/2 d; off coast, 30s 9 1/2 d; just shipped, 31s 6 1/2 d; nearly

General Produce.

Extra choice in good packages fetch an advance on top quotations, while very poor grades sell less than the lower quotations.

Table with 2 columns: Item and Price. Includes BEANS AND PEAS, BUTTER, EGGS, FEED, and GRAIN.

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A Chance for Inventors.

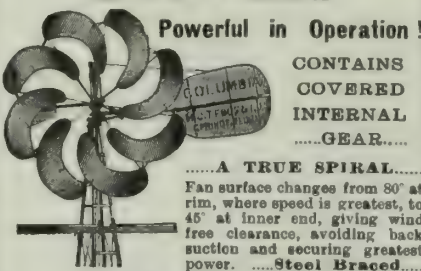
The Government of India is offering a number of valuable prizes for the best designs or models of a cart suitable for military requirements...

Complimentary Samples.

Persons receiving this paper marked are requested to examine its contents, terms of subscription, and give it their own patronage...

COLUMBIA Steel Windmill.

NEW IN PRINCIPLE. BEAUTIFUL IN APPEARANCE.



8-Foot, \$45. BUCKEYE PUMPS. FRANK BROS., Main St. S. F.

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HEALD'S BUSINESS COLLEGE, 24 POST ST. S. F. FOR SEVENTY-FIVE DOLLARS THIS College instructs in Shorthand, Type Writing, Book-keeping, Telegraphy, Penmanship, Drawing, all the English branches, and everything pertaining to business for six full months.

JACKS! Imported and California, FOR SALE. None For Rent! L. U. SHIPPEE, - - - STOCKTON, CAL.

WANTED: A Thoroughbred Kentucky Jack. Give price and full particulars. H. G. HARVEY, Hueneme, Cal.

ALNEER'S SEEDS. RELIABLE. If you want Pure Fresh Seeds Cheap, direct from the grower, send for our Beautiful Illustrated Catalogue mailed Free.

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THE RAISIN INDUSTRY. A PRACTICAL TREATISE ON THE RAISIN GRAPES, THEIR HISTORY, CULTURE AND CURING. By GUSTAV EISEN.

MEXICAN PHOSPHATE AND SULPHUR CO. SEASON OF 1893. NITROGENOUS SUPERPHOSPHATE AS AN EFFECTIVE FERTILIZER IT STANDS UNRIVALED.

GUNS SENT ON TRIAL. OLD GUNS TAKEN IN EXCHANGE. GEO. W. SHREVE, 526 KEARNY STREET, SAN FRANCISCO.

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ONE hundred and nine thousand locomotives are at present running on the earth. Europe has 63,000, America 40,000, Asia 3,300, Australia 2,000, and Africa 700. In Europe, Great Britain and Ireland take premier position with 17,000 engines.

Seeds, Plants, Etc.

CHOICE NURSERY STOCK.

French and Tragedy Prunes.
L. X. L., Nonpareil and Ne Plus Ultra Almonds.
Foster, Mary's Choice, Susquehanna, Salway, Muir and Nichol Cling Peaches—ALL NUMBER ONE. One-year-olds on peach roots—4 to 6 feet.
For further particulars, address:

A. T. HATCH,
Room 42 Flood Building.....SAN FRANCISCO, CAL.

OLIVE TREES

For sale at bed-rock prices. We are again in the market with Clean, Healthy stock, grown entirely without irrigation.

WILLIAM SICKERT,
Cañada Nursery, Redwood City, Cal.

OLIVE TREES FOR SALE.

Eleven years experience has taught me how to PROPERLY root the Olive. No artificial heat used.
Address

W. ALSTON-HAYNE, Jr.,
Montecito P. O., Santa Barbara Co., Cal.

FOR SALE.

4000 to 6000 healthy unirrigated

Peach Seedlings!

Must be sold for land clearing. Address

Lock Box 994, Winters, Yolo County, Cal.

.....VERY FINE.....
Vitus Californica Seedlings,

Two years old.

THE ONLY VINES PHYLLOXERA PROOF
Ten Dollars per Thousand.

C. MOTTIER, Box 8, Middletown,
Lake County, California.

FRANK KUNZ,

PROPRIETOR OF THE UNION NURSERY,
2129 Tenth St., Sacramento,

HAS FOR SALE A FINE LOT OF OLIVES,
Grown in the open ground, namely: MANZANILLO or Queen's Olive, NEVADILLO BLANCO, PICHOLINE, Etc.

MIKADO PLUMS.

(A JAPANESE VARIETY—NEW HERE.)

If you want a new plum, large in size, very prolific bearer, bright cherry red, ripens early in June, splendid shipper, flavor of the most exquisite redolence impossible to describe, send to

BOX 84, WINTERS, YOLO COUNTY, CAL
G. W. HINCLAY.
Choice trees, by mail postpaid, 50 cents each. Dormant buds, half price.

A FEW HUNDRED

Peach, Prune and Apricot Trees

FOR SALE

At \$5 to \$8 per 100. Choice varieties, June buds on yearlings.
K. T. SUTTON, Yuba City, Cal.

WELL ROOTED GRAPE VINES!

And Free from Insect Pests.

FLAME TOKAY, EMPEROR, CORNICHON, BLACK FERRARA, BLACK MOROCCO, CATAWBA, ISABELLA, BLUE MALVOISE, MUSCAT.

Price per 1000, \$12.

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Seeds, Plants, Etc.

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In Variety.

Prices and a Pamphlet on Olive Culture in California Mailed Free.

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A general line of
Home-grown Nursery Stock.

Write for prices.

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Established 1850.

APPLE TREES

for Nurserymen, dealers, or commercial planters, in car loads or box lots.
See our prices before buying. They are very low.

ROOT GRAFTS

Apple Grafts at \$3.50 per thousand.
Prune Grafts (on Mariana Stocks) at \$9 per m.
Pear Grafts at \$8.00 per m.
All first class and best of material used. F. O. D.

APPLE SEEDLINGS.

No. 1, graded 3-16th, and all up at \$4.10 per m. and Pear Stocks, same grade, at \$7.50 per m. f.o.b. Free of disease. We are strictly wholesalers, and grow nothing but the above stock. Our trade has grown to immense proportions (second to none) through the merits of our goods.
Send for samples. For full particulars, address

H. C. GRAVES & SONS, Lee's Summit, Mo.



SEEDS Fresh! Reliable! Purity & Strong Germinating Qualities. Only 2, 3 and 4c per large pkts. 5,000,000 NOVELTY EXTRAS with orders this year. Beautiful Illustrated Seed and Plant Catalogue FREE to all who address at once H. W. BUCKBEE, Rockford Seed Farms, No. 235 Main St., Rockford, Ill.



FREE CATALOGUE, SEEDS, PLANTS, BULBS, Etc. HOME-GROWN NORTHERN SEEDS. Money made by buying my seeds. 35 pkts \$1.00. 2c to 5c pkt. Presents with every order. Send postal card with name and address for catalogue.
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PROPRIETOR

Napa Valley Nurseries,

..... HAS STILL ON HAND.....

CLYMAM PLUM TREES.

The CLYMAN is the earliest shipping plum, as early as the "Cherry Plum," but of very superior quality. It was introduced at these nurseries and well deserves its good name.

TRAGEDY PRUNE TREES, SATSUMA BLOOD PLUM,
KELSEY JAPAN PLUM, PEACH PLUM,
DUANE'S PURPLE PLUM,

All first-class shipping varieties and the safest and best stock to plant.

FRENCH PRUNE TREES on both Peach and Myrobolan Roots.

CLING PEACHES OF SEVERAL VARIETIES.

PAPER SHELL WALNUTS, PERSIAN, Etc.,
And other stock, both useful and ornamental.
(PRICES VERY LOW PER THOUSAND.)

REMEMBER! This is not a puff ad., but a statement to Planters, calling attention to as fine a lot of trees as were ever raised in California.

All in bearing at test orchards at Sausal Fruit Farm.
All unirrigated, clean, well rooted and true to name.

ADDRESS:

LEONARD COATES, - Napa, Cal.

Two Score Years

in business ought to count for something—guarantee experience; integrity; results—make us a desirable firm to trade with.

Life— Vigor— Hardiness— Fruitfulness— The four cardinal virtues of Seeds, Roses, Plants, Trees.

are always to be found in the products of our 900 Acres, 28 Greenhouses.

Our beautiful 150-page catalogue illustrates and describes many novelties and new varieties of Fruit and Shade Trees, Roses, Flowering Plants, Seeds, Etc. It's sent free to prospective planters.

The Storrs & Harrison Co., Painesville, Ohio.



ROSES AND OTHER PLANTS THE BEST.

Largest collection of Chrysanthemums, Geraniums, Carnations and Begonias. Pure Seeds. Many novelties in Plants. Hardy Shrubs rare and valuable. With every first order of Stock unsurpassed. GIVEN AWAY! \$1.00, or more, an elegant Rose and packet of beautiful Flower Seed. Lowest prices and many great inducements offered. We guarantee delivery in first-class condition. JUST SEE!! 20 Fine Ever-blooming Roses.....for only \$1.00 what we send to 20 Chrysanthemums, fine variety..... " \$1.00 any address for only 20 Geraniums, 20 kinds..... " \$1.00 18 Carnations, all different..... " \$1.00 12 Hybrid Roses, well grown stock..... " \$1.00 12 Varieties of Begonias..... " \$1.00

Write for our new Illustrated Catalogue (the finest ever issued) and secure check for an elegant Rose and packet of Seed, Free to all applicants.
G. R. GAUSE & CO. (Successors to Hill & Co.) RICHMOND, IND.

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Has no second chance. The first supplies his needs—If he takes the wise precaution of planting

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Ferry's Seed Annual, for 1898, contains all the latest and best information about Gardens and Gardening. It is a recognized authority. Every planter should have it. Sent free on request.
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Well-Bred
ROSES

on their own roots are our specialty. We have grown and sold the best for 25 years. Our New "Guide to Rose Culture" contains all the secrets we have learned in that time about successful flower growing. We will send it to you gratis, together with a sample copy of our Monthly Magazine, "SUCCESS WITH FLOWERS," if you will send us your address.

THE DINGEE & CONARD CO.,
Rose Growers and Seedsmen,
West Grove, Pa.

WILSON'S
Common-Sense

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CATALOGUE
For 1893

SENT FREE. 116 Pages, 200 Fine Engravings. Full of useful and instructive information.

One of the Most Reliable Catalogues published. All kinds of Guaranteed Garden, Flower and Field Seeds, Fruit and Ornamental Trees, Small Fruits.

The Great FREEMAN POTATO Given Away!

Choice Roses, Flowering Plants and Bulbs.
THOROUGHbred POULTRY, Registered PIGS,
German Hares, &c., &c. Address

SAMUEL WILSON, Seed Grower, Mechanicsville, Pa.

THE MORGAN SPADING HARROW.

The Best Pulverizer in the World.

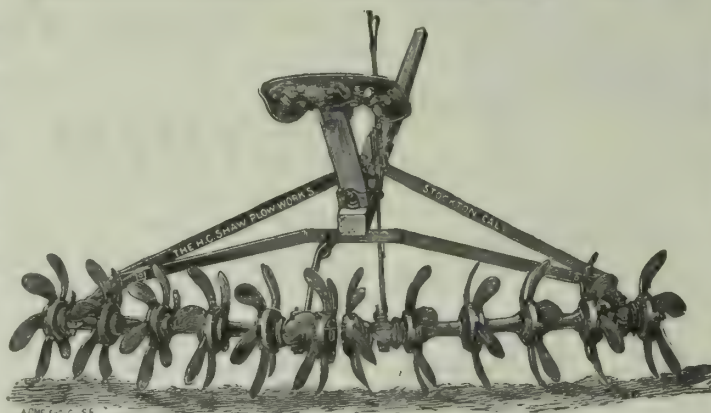
HORTICULTURISTS AND FARMERS, TRY IT.

NOTE THE FOLLOWING TESTIMONIALS FROM OUR OWN PEOPLE.

GRANDEVILLE, CAL., Dec. 25th, 1891.
Mr. James Porteous, Fresno, Cal.—Dear Sir: Your favor of 22d, asking me how I liked the Triumph Spading Harrow I used on the "Oothout Vineyard and Orchard," received. In reply would say that I have used almost all the modern implements, but as a pulverizer and cultivator combined I never saw anything to equal them. I used two two-horse and one four-horse. Yours truly,
H. H. CLARKE,
Formerly Supt. and Manager of the "Oothout Vineyard and Orchard," at Fresno, Cal.

STOCKTON, August 15, 1892.
H. C. Shaw Plow Works—Gentlemen: I have used exclusively a Morgan Spading harrow purchased from you, in cultivating an orchard of 40 acres planted to apricot trees. In February of this year, near Black Landing, in this county. By the use of this harrow the ground has been kept free from weeds and well pulverized, thereby causing a retention of moisture and a rapid and healthy growth of the trees; the branches of some of them having grown nearly six feet within six months after planting. I consider the Morgan Spading Harrow the very best implement in use for tree and vine culture. The work is much better done than it can be done with a plow and at one-fourth of the expense.
JOSEPH H. BUDD.

FRESNO, CAL., Jan. 20th, 1892.
Mr. James Porteous, Fresno, Cal.—Dear Sir: In reply to your inquiry regarding the Morgan Spading Harrow will say that it is by far the best tool I have ever seen used in a vineyard. I had the Disc Harrow, the Drader Spading, the Clark Cutaway and the Morgan Spading Harrows all at work in our vineyard last year and soon discovered that the Morgan was the boss of them all. The draft is much lighter and its work more complete, besides being the easiest handled of all others. The Morgan will be the only cultivator seen at work in our vineyard the coming season. All others will be found at rest in the fence corners. Yours truly,
S. K. LEMMON, Supt. Oakland Vineyard Co.



Especially Adapted for Orchards and Vineyards.

CONSIDERING THE IMMENSE AMOUNT OF LABOR DONE

THE DRAFT IS VERY LIGHT.

NOTE THE FOLLOWING TESTIMONIALS FROM OUR OWN PEOPLE.

FRESNO, CAL., Dec. 10th, 1891.
Mr. James Porteous, Fresno, Cal.—Dear Sir: Last winter I purchased a ten-foot Triumph Spading Harrow, and am pleased to say that I found it a most satisfactory tool. I used it in both my nursery and orchards and found that it left the ground in better shape than any cultivator I had ever used. For pulverizing rough and cloddy ground I don't believe there is an implement superior to it in the market. Yours truly,
GEO. C. ROEDING,
Manager for the Fancher Creek Nursery, Fresno, Cal.

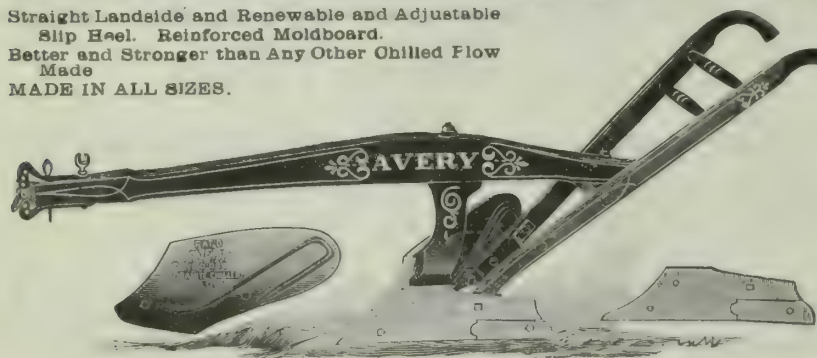
FRESNO, CAL., Dec. 19, 1891.
Mr. James Porteous, Fresno, Cal.—Dear Sir: Having used the Morgan Spading Harrow last season I can well recommend same for vineyard use; it is economical and does its work well. In heavy ground it is the best tool I have used for a pulverizer and it leaves the ground in good condition. Respectfully yours,
E. I. BABER, Manager for Eisen Vineyard, Fresno, Cal.

SACRAMENTO, CAL., Dec. 31st, 1891.
Gents:—In reply to your inquiry concerning the Morgan Spading Harrow purchased by me last spring, would say that I ordered it for the purpose of experimenting in my orchard to ascertain whether or not I could get an implement that would combine the qualities of the disc and cultivator. I find upon trial that the harrow above referred to is the most complete tool that can be used in an orchard. As a pulverizer, leveler, and cultivator, I do not hesitate to say it is the best I have ever seen. It thoroughly stirs the ground beneath the surface without opening it to the sun's rays and keeps the ground loose of sufficient depth to retain necessary surface moisture. I do not hesitate in recommending it. Very truly,
EDWIN F. SMITH,
Secretary State Agricultural Society.

BRENDEN, CAL., Dec. 17th, 1891.
Dear Sir:—Enclosed find check to pay for Morgan Spading Harrow. It is the best implement ever invented for the cultivation of the soil. Respectfully,
J. F. WARD.

AVERY GRANITE CHILLED AND STEEL PLOWS.—BEST ON EARTH.

Straight Landside and Renewable and Adjustable Slip Heel. Reinforced Moldboard. Better and Stronger than Any Other Chilled Plow Made. MADE IN ALL SIZES.



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AVERY
PLOWS,
HARROWS
AND
Cultivators.

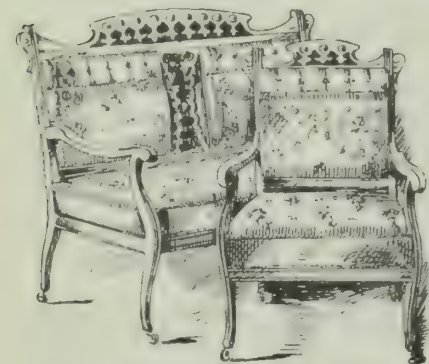
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Good Turners, THOROUGH Pulverizers. Perfect, Clean, Smooth Work in Any Soil. Just Out and Plowing their Way into Popular Favor on Solid Merit. SEND FOR COMPLETE CATALOGUE.

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ARM CHAIR - - - 9.00

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IN OUR OWN
WORKSHOPS.

An addition of \$10 on the price of the whole suite for a higher grade of covering adds much to its beauty.

CALIFORNIA FURNITURE COMPANY,

(N. P. COLE & CO.)

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FOR.....

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ROCKER - - - - - 12.00
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HOME
FURNISHING,"

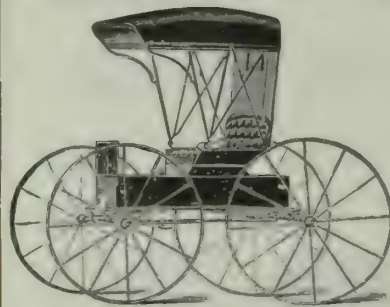
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X, X, X.



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RICE COIL SPRING BUGGY.

MONARCH OF THE ROAD.



Mitchell Farm and Header Wagons, ROAD WAGONS, SPRING WAGONS, LARGEST LINE OF VEHICLES OF ALL DESCRIPTIONS.

We have ANYTHING you want in the Implement Line.

GENUINE STAR MOLINE PLOWS, fitted with CRUCIBLE STEEL SHARES and Soft Center Moldboards, are the best. We have them all sizes, 6 to 16-in. cut. FLYING DUTCHMAN JR. SULKY PLOWS, FLYING DUTCHMAN 2, 3 & 4-FURROW GANG PLOWS.

THE OLD RELIABLE SOUTH BEND CHILLED PLOW has more friends than any other Chilled Plow made.

HARROWS---All Steel Pipe Lever Harrows.

RIDING AND WALKING CULTIVATORS, FEED CUTTERS, PUMPS.

"EXTERMINATORS."---DEATH to Morning Glory.

THE ALLISON-NEFF SPRAY PUMP.---Three Sizes, A, B and C; LATEST AND BEST. CORN, BEAN AND BEET PLANTERS; BEAN HARVESTERS.

DON'T Plow Your Orchard or Vineyard but Once During the Season. The Now Famous CLARK'S REVERSIBLE CUTAWAY DISC HARROW Will Keep the Weeds Down, Your Land Well Pulverized and Level, and at ONE-THIRD the Cost of Plowing.

SEND US YOUR ORDERS.....WRITE FOR CATALOGUE.....MENTION THIS PAPER.

ALLISON, NEFF & CO.

S. E. COR. MARKET AND MAIN STS.....SAN FRANCISCO, CAL.



California Agricultural Exhibit at Chicago.

Apprehension has from time to time been expressed lest California should devote all her time and money to the display of her productions and resources in the California building. To do this would be to be at the fair not in the fair. For no matter how magnificent may be the display in our State structure it is really a side show; it is not a part of the general exposition and its contents will not participate in the competition for awards nor in the wide publication of official reports. There was a danger that in following the requirements of our own laws and indulging too deeply in local pride and patriotism, we might be at last in the position of the man who went to the feast without a wedding garment on. Such chaps will be treated in Chicago just as they were in Judaea two thousand years ago.

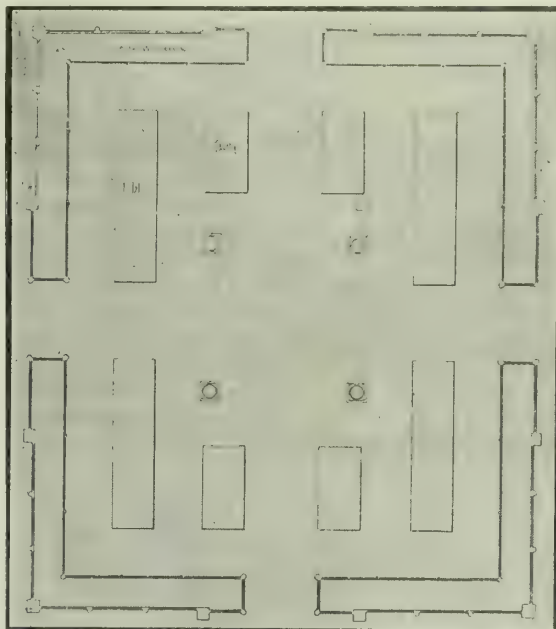
In view of these facts we are glad to give our readers proof that California will be well represented in the main Agricultural building of the Exposition, and will thus be given the privilege of beating the world in what she shows and have the satisfaction of pointing to official awards which will say so. The California World's Fair Commission has decided what shall be the style of its exhibit in the Agricultural building, and the engravings on this page display this style. The building shown in the picture is planned to cover the space allotted to California. It is 42 feet by 48 feet 6 inches. It will be 26 feet 6 inches from the floor to the top of the dome. The materials will be wood and glass, with the ornamentation of the facade in plaster. The dome and roof will be of glass and the sides will have as great a proportion of glass as possible. This will admit light freely to the interior and will also render the contents of the enclosure visible from the adjacent aisles. The ground plan shows the general arrangement of the interior. Nearest to the walls are long glass-covered show cases for the choicest products; in this central area are tables of different sizes.

The exhibit in this structure will comprise what is generally known as farm crops, and competition will be had in those classes which are open to collective exhibits. Donations of choice products are solicited by the commission for this exhibit and they will assume the cost of carriage and installation at Chicago of all which they accept for this purpose. Dr. N. J. Bird has been chosen superintendent of this exhibit and he is now actively engaged in selection of material for it.

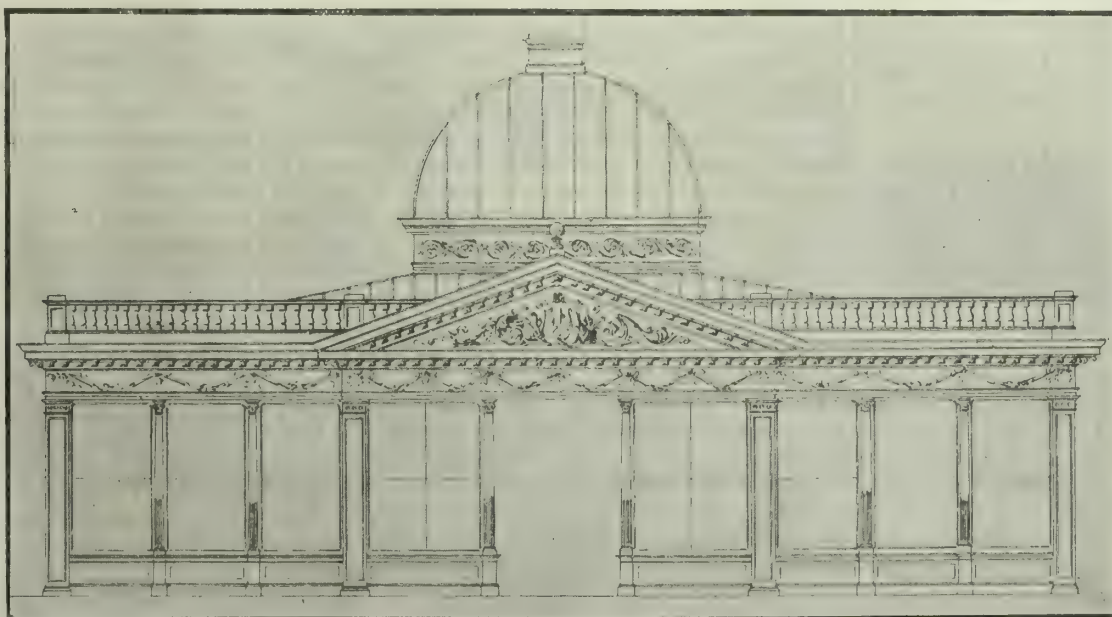
STATE SENATOR MCGOWAN thinks legislation in fences is needed. He has introduced a Senate bill defining lawful fences as follows: If made of stone, 3½ feet high, 3 feet at base and 1 foot at top. If a worm fence, to be well laid and 5 feet high. If of posts and boards, posts not more than 8 feet apart, and if intended to turn all stock, five boards, 6 inches wide; if neat cattle, horses and mules, three boards, the top at least 4½ feet high. If made of pickets, posts and rails, ditch or ditches, wire, hedge, brush, or other material, the fence must be equally strong and secure as that of posts and boards.

SENATOR BERRY has prepared a proposed amendment to the constitution, designed to relieve the legislatures of a very burdensome question which now takes up much

of their time each session. The resolution reads: "The legislature, by general and uniform laws, may provide for the formation of new counties; but that no new county shall be established which shall reduce any county to a population of less than eight thousand; nor shall a new county be formed containing a less population than five



FLOOR PLAN OF CALIFORNIA EXHIBIT.



ENCLOSURE FOR CALIFORNIA EXHIBIT IN THE AGRICULTURAL BUILDING AT THE WORLD'S FAIR.

thousand; nor shall any line thereof pass within five miles of the county seat of any county proposed to be divided. Every county which shall be enlarged or created from territory taken from any other county or counties, shall be liable for a just proportion of the existing debts and liabilities of the county or counties from which such territory shall be taken.

THE proposition to divide Butte and create the new county of Bidwell has been defeated in committee at the State Legislature. So far no county-division scheme has been successful.

CALIFORNIA vineyardists think the annexation of Hawaii means a material extension of the market for their products. Other producers have the same expectation.

THE United States Department of Agriculture proposes to do more field work in protection of crops from insect pests. A press dispatch says: "The committee has brought about a complete change in the methods of investigating insects injurious to agriculture and horticulture. Heretofore that important work has been done entirely in Washington, specimens of pests on vines or branches being sent here. These investigations have been unsatisfactory. It is now proposed to have them conducted by inspectors in nurseries and orchards, and instead of working in the houses at Washington, inspectors will be sent out in the fields." This statement has many serious errors in its few sentences, as any well-informed horticulturist knows, but if the announcement signifies that the department will do more field work in the future, that fact is acceptable.

THE controversy over the validity of Stamboul's 2:07½ record at Stockton continues to occupy much space in the daily papers. It appears that the sole reason for rejection of the record by the American Trotting Register Association is technical, in that the performance took place before 10 A. M., the rules requiring that all record trots shall be after that hour. No claim is offered that the time (2:07½) was not actually made, though John S. Kearney, who was one of the judges, charges fraud and says the actual time was 2:16. Other judges and witnesses of the effort say Kearney's purpose is not disinterested and his reputation is not good. The controversy will probably never be satisfactorily settled.

A NEW CREAMERY is about to be established at Bakersfield. It will cost \$5000. Wells, Fargo & Co. have given assurance of low rates for transportation of the product daily to San Francisco. The example of Bakersfield might be followed with profit in other parts of California. Good butter brings better prices in San Francisco the year around than in almost any other city in the United States—certainly higher than anywhere else on the Pacific coast. Prices have a wide range, it is true, but they seldom or never reach a minimum where butter must be disposed of at a loss. We import altogether too much butter and cheese from the East.

THE general sentiment in favor of better roads has led Congress to take action in recognition of it. There are two bills looking to the awakening of the people generally on this important subject.

One appropriates \$10,000 to enable the Secretary of Agriculture to make inquiries in regard to different systems of road management throughout the country and to make investigations in regard to the best methods of road-making. Also to prepare a publication on the subject suitable for distribution, and to enable the Secretary to assist agricultural colleges and agricultural stations in disseminating information.

It is published as a fact that a Pomona man brought home ten pounds of butter recently all the way from Massachusetts, in order to save the difference in the price of that commodity in New England and here. Comment would be superfluous, further than that butter brings good enough prices in this country to pay well.

PACIFIC RURAL PRESS.

BY THE DEWEY PUBLISHING CO.

Office, 220 Market St.; Elevator, 12 Front St., San Francisco., Cal.

ANNUAL SUBSCRIPTION RATE THREE DOLLARS a year. While this notice appears, all subscribers paying \$3 in advance will receive 15 months' (one year and 13 weeks) credit. For \$2 in advance, 10 months. For \$1 in advance, five months. Trial subscriptions for three months, paid in advance, each 60 cents.

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Large advertisements at favorable rates. Special or reading notices, legal advertisements, notices appearing in extraordinary type, or in particular parts of the paper, at special rates. Four insertions are rated in a month.

Our latest forms go to press Wednesday evening.

Registered at S. F. Post Office as second-class mail matter.

ANY subscriber sending an inquiry on any subject to the RURAL PRESS, with a postage stamp, will receive a reply, either through the columns of the paper or by personal letter. The answer will be given as promptly as practicable.

ALFRED HOLMAN.....General Manager

San Francisco, February 11, 1893.

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(NEW THIS ISSUE.)

Cultivators—Deere Implement Co.
 Irrigating Machinery—Perkins, Brandt & Co.
 Live Stock—Mecham & Fritch.
 Harrows—Byron Jackson.
 Souvenir Coins—World's Columbian Exposition, Chicago, Ill.
 Olives—John Cooke, East Berkeley.
 Ramie Plants and Seed—Buhach Producing and Mfg. Co., Atwater, Cal.
 Washing Machines—E. W. Melvin, Sacramento.
 Stallions and Brood Mares—Theo. Skillman, Petaluma.
 Stock Label—C. H. Dana, West Lebanon, N. H.
 Fruit Trees—F. S. Phoenix, Bloomington, Ill.
 Prune Trees—Thos. J. Davis, Portland, Or.

See Advertising Columns.

The Week.

The winter is progressing as favorably as one could wish. Rain for present uses is abundant everywhere and in some places enough for the season is already assured. From the ease with which water falls at present there is promise that even the driest parts of the State will make a good crop this year. Of course much depends upon the spring rains, but these need not now be distrusted.

The whole country eastward and northward has had a continuation of the blizzard type of weather. The mercury has been farther on the minus side than for years past at nearly all points. Personal discomfort and losses of life of man, of beast and of plant have formed the burden of the overland dispatches. Early exhibits in liquid form at the World's Fair have burst their casks and barrels; even the ink bottles in the executive offices have frozen up. The losses in the fruit regions at the East and South will, it is said, seriously reduce next season's produce. It seems likely that California will be called upon for an immense contribution to the food supply of the East next summer when the millions from all the world throng her cities. It is fortunate then for both us and for them that conditions are so favorable for the full output of desirable supplies.

The joint committee on irrigation, at the State legislature, has decided to recommend favorably the Carlson-Seymour bill for the disorganization of irrigation districts. It provides for the calling of elections on the question of disorganizing irrigation districts, on petitions signed by 50 or a majority of the property-owners in the district. Such propositions shall not be submitted to the people oftener than once in a year, and before disincorporation all outstanding indebtedness must be paid up, and all property bought in for delinquent assessments shall revert to the original owners.

Our Animal Industries.

We are glad to see that the annual report of the State Board of Agriculture, presented at the annual meeting held last week in Sacramento, places full emphasis upon the importance of the animal industries of the State and the field which invites their extension. Other matters are, of course, duly considered in the report, but these other matters, notably the fruit products, are constantly before the public eye and do not lack appreciation. The State Board of Agriculture has a plain duty to perform in securing for the animal interests such recognition as their importance and their possibilities merit. If the State Board could go even farther in this direction than it has hitherto, give the road and field qualities of the horse greater prominence in its efforts and add thereto the publication of useful reports upon the most successful lines of livestock-breeding and care, veterinary practice, etc., under the conditions which prevail in this State, the State society would have a more general support and a better reputation throughout the farming regions of the State. It plainly recognizes the importance of such things and will, we hope, accept our suggestion that it go farther in their pursuit.

The report to which we allude makes an interesting generalization on the standing of California in the blood-horse world, which we quote as follows:

The great battles for supremacy waged under the auspices of this society right here at home encouraged our breeders to go forth and meet the world with their products, and the result is that one of our great sires has, during the season just closed, achieved a world-wide reputation by having eight of his get obtain records of 2:15, or better, and only second in the list of money-winning sires of America. Another mighty sire obtained the world's stallion record, so that California has at this writing the fastest individual stallion of the world; the sire of the greatest number of extreme speed performers in the world; the sire (recently dead) that produced the greatest number of horses with trotting records of 2:30 or better; the largest thoroughbred stock farm in the world, and last, but not least, the highest-priced thoroughbred stallion in the world.

When we state as a fact that this State annually sells the greatest number of thoroughbreds in the New York market that comes from any one breeding farm, amounting in the aggregate to \$120,000, and that the sales of trotting stock aggregate \$500,000 yearly in the same market, and that California sales here at home of improved-bred stock reaches \$300,000 per annum, making an aggregate of nearly \$1,000,000, can it longer be doubted that the interest in question is of some importance to California?

This is certainly a most gratifying showing in that line of effort. Even those who believe other lines of work are more important will grant that. But the State Board is also cognizant of other lines which need promotion. The report earnestly favors more systematic and comprehensive work in the live stock interest on the part of the general Government. It approves the tendency toward the building up of great slaughtering enterprises here and the systematic extension of the local production of cured meats and the utilization of all the by-products of the abattoir. The local field for such work is notable. Our importation of hams, bacon, lard and canned meats each year from the factories of the Western and Middle States is of such magnitude as to cause one not informed to doubt the figures. There was an average of six carloads of ten tons each per day for every day in the year 1892 brought from across the Rocky mountains. To make up a home product to cut off this importation we have our vast area of alfalfa lands and our grain fields, which sadly need a better outlet than now exists for wheat.

In the dairy line, too, there is room for considerable extension if marketing is so ordered that the genuine shall not be depressed by the spurious. No country has the forage facilities for producing milk equal to ours, but we cannot increase our dairy facilities and import from 600 to 1000 tons of condensed milk into the State each year. The quantity of this great commodity used within the State, to say nothing of that needed for the territory of the Northwest and countries that lie adjacent to be furnished by ship cargo, makes it a plan most feasible at this time. There is no reason why, with our cheap forage facilities, we should not control this business for the entire country west of the Rocky mountains.

The San Francisco market alone consumes the milk of from 10,000 to 15,000 cows in their use of butter and fresh milk for daily delivery. Still we import from 2000 to 3000 tons of packed butter each season. We are thus situated, and abide the coming of others to profit by the indifference of our own people in the formation of a stock company for the development of this dormant resource.

We are glad the State Board has thus prominently called attention to these matters. It is clear that all who seek investment in California production need not follow fruit lines. It would be far better if they should turn their effort and capital into other channels. Conditions favor such investment. There is abundant suitable land available at low prices. Pure-bred cattle of all kinds were

never cheaper, and one can begin with the best blood for a fraction of the cost which would have been required a few years ago. We long to see more of this State in alfalfa. We would enjoy more breeding farms and dairy buildings. We are not afraid of the outcome of the fruit investments at all, but it will make these investments all the more secure and would stimulate activity and prosperity in all other industrial lines if the animal, as a basis of intelligent and progressive production, should receive wider attention at the hands of our people.

The Artistic in Floral Exhibitions.

There is just now much interesting discussion in horticultural journals both in the East and in Great Britain as to the desirability of artistic features in the public display of ornamental plants and flowers. The English seem to have followed in their shows rigid rules as to display of such materials and they have adopted many devices for the isolation of individual growths so that the visitor could have the best possible opportunity for determining the size, substance, form and color of each specimen. The result has been a most artificial style of exhibition which makes the display ugly in its formality and unnatural in the almost complete rejection of the natural setting of the flower—even to the extent of utterly divesting it of its own foliage. The devices consist in mounting the flowers upon boards, the stem being pulled through holes therein, leaving the flower spread upon the upper surface of the board. Another style consists in showing the flower in the funnel-shaped opening of a tube through which its stem extends to a water-holder below. In all such arrangements the visitor sees only the bare blooms arranged in parallel lines with uniform height and uniform tilt forward. Whatever may be the advantages of such arrangements for close study of the bloom, by experts, it is beyond question that the display is devoid of artistic quality and is tiresome to the visitor who comes to enjoy floral beauty rather than to study floral anatomy. The English exhibitors are beginning to discern this and the result is a demand that artistic taste and beautiful association of flower and foliage shall be better heeded in public displays.

The American flower shows have been far better than the English from this point of view. California in particular has made a good record in the artistic features of her exhibitions. This may be accounted for by reference to the way in which such efforts came into existence here. They were not the work of experts or professionals. They were planned and managed by amateurs who loved artistic effect, and in many cases reputable artists aided in the work. Its motive at first was either to display the charms of climate or to win funds for charity. For such purposes the individual characteristics and quality of a bloom were little thought of. When the State Floral Society began its exhibitions for the purpose of developing floricultural skill and disseminating better standards for judging floral excellence, the recognition of the individual growth was clearly insisted upon, but the inheritance of the old eagerness for artistic effect influenced the manner of display. The result is that California can claim for her shows a combination of artistic excellence and demonstration of varietal quality in the bloom or plant which probably is not excelled anywhere. This view was taken by the president of the State Floral Society in his annual address at the last meeting of the Society in the following words:

There is one point which I think we can claim superiority over the great exhibitions of London, and that is the artistic excellence which accompanies our display of leaf and bloom. We have much to learn in securing the highest development of merit in our flowers, but I believe we can teach something in style of exhibiting. I was made aware of this by reading an exhibitor's plea, in a leading English horticultural journal, for a little green among the flowers; for a little relief from the serried columns of pilloried roses and chrysanthemums which were so displayed that one might think them ashamed of their own foliage, or of the graceful environment which surrounded them in their garden homes. Showing flowers upon boards, or in the openings of funnels, gives, of course, superior opportunity for the exact study of the bloom in its dimensions and in its substance and texture, but, after all, it is much like searching for the beauty of the human form divine upon the dissecting table. If the public is to enjoy a flower show it must appeal to the artistic sense of the people; there must be just as much natural and artistic environment as we can secure. For this reason I believe the line of exhibiting which we are developing in our shows is creditable to our taste and is, at the same time, the surest avenue to popular favor.

We deem it important to allude to the matter prominently, because there is now a tendency to the organization of floral societies in many of our cities and larger towns, and it is likely that floral shows will be held everywhere. It is desirable of course that these shows should be more systematic than the ordinary aggregation of plants and blooms for social or charitable objects. The display upon the most approved lines of scientific floriculture should be insisted upon, and yet this can be done without sacrificing the artistic effect which may almost be said to be historic in California efforts of this kind.

From an Independent Standpoint.

The President created a sensation among the politicians at Washington on Thursday of last week by naming a Democrat to succeed the late Judge Lamar as Associate Justice of the United States Supreme Court. It had been supposed that Mr. Harrison would make the most of an opportunity to maintain Republican supremacy on the supreme bench; and that to this end he would appoint Dolph, of Oregon or some other equally radical party man. All the talk had been of some such appointment and both parties in the Senate had made ready for a contest over the confirmation. Hot words had already passed between the two sides of the chamber; and swords had been drawn for a partisan fight. It was upon this situation that the nomination of Hon. Howell E. Jackson fell. Mr. Jackson is a citizen of Tennessee; has served one term in the United States Senate; at the present time is Judge of the United States Circuit Court of his district (by appointment of President Cleveland five years ago); is a life-long Democrat, but belongs to the least partisan element of his party. He has for some years remained aloof from political affairs, holding with reference to the Democratic party a relation of general rather than specific allegiance. While nominally a Democrat, he belongs in fact to that growing class of intelligent and patriotic men who see that strict partisanship no longer provides a reasonable or even an honest rule of political action. In his personal character Judge Jackson is above reproach and even those least satisfied with his appointment admit his perfect qualification for the duties of the Supreme Bench.

It would be natural to suppose that the nomination to a judgeship, in no legitimate way related to "politics," of a man whose character and qualifications were unquestioned, and who had gained both experience and distinction by long service in judicial life, would have stopped the noisy tongues of the politicians. But not so! Representative Houck of Tennessee, a Republican, declared that in naming a Democrat the President had "betrayed the Republican party," adding, "I have nothing to say against Judge Jackson as a man. He is just, able and humane." Before the Senate in executive session, Senator Dolph protested against the appointment of Judge Jackson. He could not, he said, imagine why the President had appointed a Democrat to the vacancy when he had in the South many Republicans, any one of whom might have been chosen. Besides, there would probably be a Democratic majority on the Supreme Bench before the end of Cleveland's administration. A large majority of the Republican party, he said, would think the President had made a mistake. Among the outside group of Republican politicians, the appointment of Judge Jackson created fierce indignation, and ex-Chairman Clarkson voiced the sentiment of this class in a letter of vehement and angry criticism. Nor is this all! Even on the Democratic side, where Judge Jackson served with approval as a Senator, there were mutterings of dissatisfaction, Senator Harris declaring that the appointee was not enough of a "party man" to suit him.

These expressions imply strange misconceptions as to the purpose and function of the Supreme Court and as to the duty of the President in nominating its members. In a fairly-informed school-boy they would be discreditable; in men of affairs like Senators Dolph and Harris and Representative Houck they are amazing and shameful. In the theory of these partisan zealots, the national tribunal of last resort is a "spoils" of party politics, legitimately subject to partisan organization and domination; and the chief concern of the President in naming its members should be to make a bench "solid" in its devotion to the policies of his party. It would clearly be the duty of a court organized upon this plan to ratify the dicta of the party which a majority of its members represented, without regard to the law. It is almost needless to say that this theory carried to its logical consequences would subordinate the Supreme Court to the politicians, degrade it to a mere instrument of partisan tyranny, cheapen the quality of its membership and destroy its character and standing.

In the theory of the Constitution, and in the view of plain people whose interest in public affairs rests upon patriotic rather than partisan motives, the Supreme Court is a tribunal above politicians and properly beyond their reach. It should be absolutely blind to party considerations; absolutely devoted to the law and to the justice which law is designed to promote. Its members should be chosen upon considerations of character and ability, and wholly regardless of political motive. Extreme partisan bias should be a sufficient reason for the rejection of a candidate, no matter how well qualified he might be in other respects. We believe that the popular ideal of the

Supreme Court is fairly summed up in this outline; and that there will be general approval of President Harrison for nominating a man to whom every qualification for the judgeship is conceded, without regard to his politics. In naming for the Supreme bench a man not of his own party (Judge Field of California, a Democrat,) President Lincoln won the applause of the country. President Harrison did well to follow this noble precedent. It displays a capacity for broad-minded action which surprises his friends and will, in our judgment, command the respect and admiration even of his enemies.

The popular instinct is right in its persistent effort to remove the judiciary in all its branches from the field of partisan politics. It sees with fine wisdom that there can be no security for those rights of liberty and property for whose protection governments are organized and maintained, if courts are dominated by any rule save the law, by any motive save the spirit of justice. An unbiased and upright judiciary is one of the best elements of government; and party politics has no proper relation to it. This principle is not so fully recognized in California as in some other States; but the tendency of public sentiment is that way and the time is not far distant when extreme partisanship in a lawyer will bar him from the judicial career.

We cannot take leave of this matter of Judge Jackson's appointment without notice of the protest against its confirmation put forth by ex-Chairman J. S. Clarkson. It is entirely proper that Mr. Clarkson should speak for the professional political class because he, in his own person, sums up and represents the misinformation, the narrow mindedness, the bad temper and the moral obliquity which are the component elements of unreasoning partisanship. It was characteristic of Mr. Clarkson that he should not wait to be invited; that he should misconceive and misstate the facts; and that in the final apology for his blundersome meddling he should lay bare the poverty of his moral make-up. On the morning following Judge Jackson's nomination, Mr. Clarkson publicly characterized it as a "betrayal" on the part of the President "of the party trust and faith, and an act of perfidy little short of moral crime." Totally ignorant of the history of the country, he baldly declared that no former President had ever appointed a member of the Supreme Court from the ranks of an opposition party. The President's action he called inexcusable and indefensible, declaring that it should not only be condemned by Republicans generally but opposed by the Republican members of the Senate. On the day following this extraordinary utterance he hedged by saying that he had "only friendly feeling for the President" and that he "criticised him on party grounds" alone. The "friendly feeling" which Mr. Clarkson professes for a "traitor," guilty of "perfidy" and of "moral crime" can only be excused on a theory which allows a public man two characters, one for private and another for political uses. This distinction, which seems easy and natural enough to Mr. Clarkson, opens up a wide field of moral speculation, but it is perhaps enough to say in passing that it is a distinction which honest men cannot comprehend.

The matter of Hawaii's appeal for annexation to the United States rests practically where it did a week ago. But while the negotiation is thus slow, the crystallization of public opinion has been rapid; and within the week almost every trace of opposition to the project has vanished. Public sentiment has willed the thing done, and unquestionably it will be done, though how soon and in what form it is as yet impossible to tell. It is admitted by the envoys now at Washington that the natives had no part in the revolution, and that, if the proposition to annex were submitted to a popular vote, it would probably be defeated; but they declare that it would be absurd to thus submit the scheme, since the natives are like children, as incapable of judging what is good for their future welfare as of governing themselves. They do not ask that Hawaii be admitted into the Union as a State, because the people are not prepared to maintain and administer a State system; what they want is the application to the Islands of our territorial system or something like it with important officials selected from the white population of Hawaii, and serving under appointment from Washington.

The sudden unanimity of American sentiment in this annexation matter is due not so much to popular comprehension of all the considerations of the case, as to meddlesome objections on the part of Great Britain. There is still existent in the American mind enough of true family dislike toward England to make the Eagle screech whenever the Lion growls. America was favorably inclined toward the Kanaka proposition from the first, and when John Bull protested against it the response was like the call-to-arms alarm at Lexington. It would have been better diplomacy on the part of John Bull to have

blantly approved the annexation scheme; for in that case our people would have stopped to consider and would have seen and weighed the real objections to the proposition. As the question is now before the country, these objections will not be considered or even seen, and we shall have Hawaii not more because we want it than because England doesn't want us to have it.

In truth, the British protest against the annexation of Hawaii is curiously amusing in the light of British policy in India, in Egypt, and in numberless countries the whole world around. The right which she arrogates to herself when dealing with the little nations which from time to time get into her debt, and so under her dominion, she would deny to us in the matter of a country which of its own motion seeks our protection. Really, it is not surprising that it excites the ire of the American people, though, as a matter of fact, they would do quite as well to laugh about it; proceeding in the meantime to settle their policy toward Hawaii in their own way without regard to English protests.

A COUNTRY EXCHANGE complains that there is very little money in poultry-raising, because by the time eggs have reached a market, that hideous monster, the commission man, has swallowed all the profits. No doubt commission men are eager to make all they can, and often try to, and do, over-reach and deceive the producer as to the condition of the market. That is, some of them do. But competition among them is so keen that the seller is able generally to realize fair prices. A consignor from Petaluma, for instance, can always realize market quotations in this city, if the product is of first quality and in choice condition, and his net receipts will be the market price, less freight and the usual five per cent. commission. If he does not consign direct—and of course most do not—he ought to be well enough acquainted in his own neighborhood to find a local dealer who will buy outright and give him full ruling local prices, or consign for him to some leading point. If he cannot, his community is worse off than we think for. The difference between city and country prices, when the former are 30 cents a dozen here, we believe not to be so great that there is no profit in eggs even at that figure.

SOUTHERN California growers have demonstrated that fresh vegetables grown in this State can be profitably shipped to the East. This result has more importance than the mere fact that vegetables can be remuneratively raised here for export. It means that settlers cultivating new land for orchard purposes can make their holding return them an income the first year. In setting out new orchards there is always ample room between the rows of young trees for planting small fruits, such as berries and vegetables, without interfering with the growth or development of the orchard. The trouble in the past has been to find a ready market for such product. This has now been secured and is sufficiently extensive to make improbable any oversupply.

THE State authorities at Sacramento are having the usual trouble adjusting the income of the State to the enormous demands on the public purse. Various State institutions, State officers and others who think they have a claim on public consideration, have already asked appropriations aggregating \$15,287,177 for the two years beginning July 1, 1893. The estimated income of the State, on a five-mill tax basis, will be about \$12,758,325 for these two years. It is plain that the squeezing process will have to be resorted to. No doubt many of the appropriations asked have no merit, while others can safely be reduced.

THE next irrigation congress will be held in Los Angeles, the national executive committee having chosen that city. Fresno had hoped to secure the congress, and had petitioned the Governor and taken other measures to that end; but it appears to have been altogether out of the power of the Governor to assist in making a decision.

A CHICAGO fruit firm—Williams & Co.—writes to the *Pomona Progress*, giving this advice: "Don't be too quick about selling or contracting to sell your orange and lemon crops this season." The late freeze in Florida, and the fact that wholesale fruitdealers and speculators must have fruit to fill orders, is the basis of this suggestion.

A press dispatch says it may again become necessary to place Buenos Ayres under a state of siege, as at Santa Fe there are 3000 members of the Humboldt colony under arms and threatening an open declaration of war against the operation or the wheat tax.

THERE is money in onions nowadays, and there are strong reasons for believing good prices will prevail for some time. There appears to be a small supply in the country, and the demand for the savory vegetable is good and uniform.

Gleanings.

THEY are about to make tests for natural gas at Woodland.

WOODLAND wants a cannery, and agitation to accomplish that result has again begun.

THE Clear Lake Press has discarded its patent and will hereafter be an all-at-home publication. This is a long step in the path of progress.

The Annual Market Record, in this week's issue of the RURAL PRESS, was written by Col. J. R. Farish, a well-known authority on markets.

TULARE county has given to the world a valuable motto for Fruit Pest Exterminators: "Let us spray without ceasing." But never on your knees, allow us to add.

THE State Senate Committee has reported adversely on propositions to create Kings, Putnam and Buena Vista counties; and Tulare county now sleeps well of nights.

COOK & LANGLEY, the extensive fruit and raisin-packers, with houses in various parts of California, have tided over their financial troubles, and will continue business.

A SACRAMENTO man pretended to buy a horse for \$25, gave the owner 25 cents, and walked off with the animal. Now the pseudo purchaser is trying to devise ways and means for getting out of jail.

A FRUITGROWERS' association has been organized at Fillmore, Ventura county. The officers are: President, Mat. Atmore; vice-president, J. R. McKee; secretary, Thomas Brevetor; treasurer, A. Hiller.

THE Fresno county horticultural commissioner reports that he has recently inspected 508,000 trees. He condemned 3000 peach trees affected with root knot. Fresno county is prepared to say that rigid inspection pays.

THE traveler who takes up two whole seats in a railroad car, runs more risks of his life than any misguided pursuer of Evans and Son-tag. The price of hogs is so high that there is no telling what the average citizen will be led to do.

THE Sonoma Hop-Growers' Association has passed resolutions favoring the establishment of a cordage factory at Folsom. It may interest Sonoma hopgrowers and all others to know that the prison directors are opposed to the scheme.

SAN FRANCISCO has a new home for sick and disabled dogs. It is an establishment that will no doubt be consecrated to a brilliant future, for San Francisco has more dogs to the square inch than any other large city in the world, except Constantinople.

THERE is such a thing as being too literal. A San Francisco grocer displayed the sign "Yellow Free Peaches;" over a consignment of the canned product. Three small boys came along, read, took the peaches, and are now serving terms for petit larceny.

BRE'ER DANA, editor of the New York Sun, says there is a great market for pickled California olives, if the product is first-class. "If u see it in the Sun, it's so," to use the Sun's motto. There was eclipse when the Sun thus encouraged California olivegrowers.

THE fossilized skull and bill of some ancient creature of gigantic e have been discovered near Santa Ana. It is thought to be the bill of a primordial ichthyosaurus. If not that, perhaps it is a bill of expenses, incurred by a mythological ancestor to our present legislature.

A SANTA ANA undertaker publishes testimonials from relatives of deceased persons that their embalming-work is done in elegant style. Next we shall have a testimonial from St. Peter that work turned out by So and So, the enterprising undertakers, is the best possible preparation for a long stay in glory.

It may not be an important matter, but we venture to remonstrate mildly with the San Jose Mercury and the Vacaville Reporter for reprinting articles from the RURAL PRESS and crediting them to a very highly-esteemed contemporary. One article was about Dipped Raisins; the other, Bonds for County Roads.

THE association prices for fruit at Riverside have been fixed as follows: Riverside and Redlands Seedlings, \$1.75 per box for regular sizes; Navels, \$3 per box for regular sizes. For off sizes of all varieties, 50 cents less per box. Los Angeles Seedlings, \$1@1.25 per box; Navels, \$2@2.25. Other prices for intermediate grades.

LATEST published figures are that there are now in the State 401,415 acres planted as orchards having an aggregate of 40,000,000 trees, and the area now being prepared for planting includes 50,000 acres more. Our vineyards exceed in area those of all the rest of the Union combined, and yield an even greater proportionate product.

THE Pacific Kennel Club will hold bench shows at San Francisco May 3d to May 6th, and at Los Angeles about April 20th. From 400 to 500 dogs will be shown in each place. These are always fine shows, with many high-class animals on exhibition. It is claimed that this year, for the first time, will be shown the genuine bark of a dog-wood tree.

STOCKHOLDERS in the proposed Anaheim sugar refinery have met and voted \$400,000 bonds for construction of the proposed plant, in time to be operated for this year's beet crop. The money is ready and work is to begin at once. We trust we shall not be misunderstood if we remark that the Anaheim people have sand enough to start two sugar factories.

SWINDLERS, representing themselves as about to start a big nursery, appeared at Chico, employed a number of men for work, and then tried to borrow \$100 from a Chinaman, but he was smart and failed to bite. It is a pity tar and feathers are so costly in Chico that so rare an opportunity for their generous application was passed by on economical grounds.

THE largest acreage of trees planted during the past year was in Los Angeles county, and amounts to 8223 acres. The next heaviest planter was San Bernardino county with 8076 acres; then follows Fresno county, with 6572 acres; Butte county with 2738 acres, Orange county with 2558 acres, Tulare county with 2326 acres, and Solano county with 1881 acres.

SENATOR SEAWELL'S bill, providing for abandonment of operations on irrigation districts, and for disorganization, has been reported favorably from committee. Under its provisions districts which have works uncompleted and are unable to raise more money by bonding, may be dissolved, but all bonds remaining unpaid shall be a lien upon the property in the district, and shall be paid by taxation.

THE Oroville Mercury dares to test its excellent reputation for veracity, by telling of a marvelous spring in Butte county, near the Plumas county line, that puts to sleep for many hours all men and animals who partake thereof. Indians call it the "heap sleep" spring. It might be an excellent thing for the State to move the Legislature up that way about the first of January, every other year, and shut off on all other drinks.

AN amicable arrangement has been made between the Riverside orange-growers, packers and shippers. Nearly all of them have signed an agreement which will facilitate harmonious cooperation. Officers of the Riverside Fruit Exchange have been elected as follows: Matthew Gage, president; A. W. Hutson, secretary; A. P. Johnson, treasurer; Dr. Joseph Jarvis, S. La Rue, Oscar Ford and C. T. Belcher, executive committee. Cooperation is the life of the orange trade.

ASTER, an ex-plow horse, but of good blood, at Lodi, has been sold for \$2500 by Wall brothers to Clark Archer. Aster has a record of 2:16. It was only recently, and after hard work on a farm in front of a plow, that he showed his speed capabilities. The experience of Aster suggests that it might not be amiss to give several thousand others of our superfluous racing stock a turn on the farm. It would do the farm no harm and might do the horse good.

THE East Side Fruitgrowers' Union has also been organized in Franklin district, Santa Clara county, with the following officers:

Directors—H. S. McClay, H. L. Stevens, A. H. Stinson, G. A. Bean, P. G. Goodman, H. H. Remington and T. H. Derby. President, H. L. Stevens; vice-president, H. S. McClay; secretary, T. H. Derby; treasurer, A. H. Stinson. One hundred shares of stock in the Santa Clara County Fruit Exchange have been subscribed for. The good work goes splendidly on.

SAN FRANCISCO sportsmen have their own distinctive ideas as to what the State game laws should be. They don't like a new measure proposed by Legislator Emery, but they have met and promulgated resolutions incorporating the following suggestions instead:—It is recommended that the gauge on guns be not larger than No. 10, and that the using of decoys or beating of ponds for the purpose of alluring wild game for slaughter be prohibited. It will also be recommended that the law of trespass shall only apply to lands enclosed according to the legal fence law and that notices forbidding trespassment be posted every fifty yards apart, and that the season for deer-shooting shall be open between July 1st and September 1st, and that the killing of does shall be prohibited.

THE San Joaquin County Farmers' Alliance met last Saturday and adopted a series of resolutions, declaring that all changes in the primary election law under the Crawford bill should be in the direction of full freedom to voters and the prevention of the formation of rings; also opposing a compromise with the railroad for back taxes; also against the pensioning of schoolteachers, the Alliance regarding such measures as vicious class legislation; also favoring the extension of the voting right to women in school and municipal elections; also favoring the reduction in the expense and the number of the State militia; also against the exemption of nonbearing fruit trees and vines from taxation; also against Senate bill No. 200, providing for the cancellation of unlocated school-land warrants, and also against the creation of a State board of fiber culture.

THE editor of the Marysville Appeal is endowed with a pyrotechnic imagination. He writes equally well, and with unerring accuracy and undiminished felicity on all subjects, from poultry to poetry, from pork and pumpkins to Pumpernickel and Pekin. The dizzy eminence to which the American Porker has recently ascended has stirred his opulent fancy, and he turns himself loose in the following "Soliloquy of the American Hog," (not by himself.) "I'm the great American hog with a big H. I furnish grub for the American people and they can't get along without me. I'm a daisy I am, and take the cake. The American eagle can scream with rage but I'm the boy who can throw salt on his tail. I'm a bigger man than old Grant. Aaron Bretz says he is the biggest man in the United States but he is off for I'm the dandy, they are all talking about. I stand with my hind feet on the American continent and grunt in Europe. Oh! come off the perch and give the great American hog elbow room. Nobody's in it but me. Hip, hip, hurrah!"

A Word to Exemptionists.

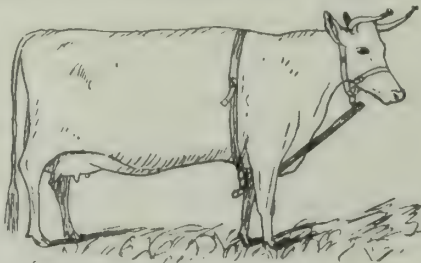
YUBA CITY, Jan. 30th, 1893.

TO THE EDITOR:—Because of the clause in the Constitution exempting growing crops from taxation there comes the customary biennial demand that other property not fully matured, be exempt from taxation until such time as it shall become productive; and as might be expected, all eyes are turned toward the proposed door of escape with the hope of being included in the fortunate crowd. Every citizen is, or should be, jealous of his rights, hence when he observes his neighbor basking in the sunshine of Paternal Government, he naturally feels himself entitled to like favors. It is therefore, not surprising to see other immature property seeking the same exit that is given to "growing crops," forgetting that the advantage enjoyed by the latter is so slight as to be almost invisible on the first Monday in March, the day it is listed. The exemption clause should be stricken from the Constitution, as its only effect seems to be to point to a weak spot in the fence for other property to escape. Unproductive fruit trees certainly have a growing value which enhances with age just as does a colt, a steer or an endless variety of property. While growing, they are like the young orchard not only unproductive of profit but are a bill of expense to the propagator which quite frequently goes beyond its ultimate value. It will be seen that the "unproductive" argument is extremely faulty. Then again, if that were the rule, it must be seen how difficult it would be to bring the growing property, as well as fruit trees and vines, to a producing or profitable standpoint. The three or four years now required might double in length and some, like the colt or the ox, might not live to the age of maturity. I cannot excuse the movement except on the single tax theory. When that is adopted our pomologists will get the relief they are demanding, but until then let us all charge up the necessary tax to the cost of existence and production, and let the grain farmers growing crops be made to share the same burden. Mr. Editor, these are my sentiments after reading "the address of the committee of the Southern California Pomological Society, to secure reform in the matter of the taxation of growing orchards." The commonwealth has now quite a large crop of tax-shirkers; let us close the doors of escape rather than enlarge them or increase their number.

EUREKA.

For a Self-Sucking Cow.

W. A. Gibson, a Calistoga subscriber, sends the following remedy to foil a self-sucking cow, with illustration: A



strap around the body just back of the forelegs, a head halter and a light pole to reach from one to the other. All joints should be loose. The illustration gives a clear explanation.

Specifications for Roads.

The Supervisors of Marin county have advertised for bids under the new road law for keeping the roads in order. The bids are asked for by districts, and the number of miles in each district is given. Following are the specifications:

All roads to be kept in a safe and passable condition at all times; to be kept well rounded up in the center with the best material to be had, so that water will not remain on any of the traveled portion thereof; to be properly ditched and drained, and all culverts must be kept open for the free passage of water, and in good repair; repair all bridges and culverts, and renew or rebuild any bridge or culvert under sixteen feet span; keep the traveled portion of the roads cleared of all brush or branches that would interfere with the comfort and safety of ordinary travel; keep all the roadways clear of thistles and cockleburrs.

Lectures for Fruitgrowers.

A series of popular lectures, beginning February 27th, will be delivered at the Leland Stanford Jr. university for the benefit of the fruitgrowers and others who may be interested. The lectures will be of a practical character, fully illustrated with specimens, and will be free, all persons interested in entomology and horticulture being cordially invited to attend.

Monday, February 27.—10:30 A. M., The Structure and Transformation of Insects, as Bearing on Applied Entomology, Professor J. H. Comstock; 11:30 A. M., Artificial Selection, President David S. Jordan; 2 P. M., The Agen (France) Prune District, Professor Emory T. Smith.

Tuesday, February 28.—10:30 A. M., Methods of Entomological Investigations and Results in Fighting Some Fruit Insects, Professor Comstock; 11:30 A. M., Natural Selection, President Jordan; 2 P. M., Foreign Markets for California Fruit, Professor Smith; 7:30 P. M., A Successful Failure, Professor Earl Barnes.

Wednesday, March 1.—10:30 A. M., Plant Lice and Scale Insects, Professor Comstock; 11:30 A. M., A New York Fruit Auction, Edward L. Goodsell; 2 P. M., Portugal Canned Apricots, etc., Professor Smith.

Thursday, March 2.—10:30 A. M., Beneficial Insects and Insecticides, Professor Comstock; 11:30 A. M., The Physical Basis of Heredity, F. M. McFarland; 2 P. M., The Jordan Almond, Professor Smith.

Friday, March 3.—10:30 A. M., Insects Infesting Stored Fruits and Stored Grain, Professor Comstock; 11:30 A. M., Habits of Our More Common Birds, Squirrels and Gophers, W. W. Price; 2 P. M., Raisin Vineyards of Spain, Professor Smith.

A collection of several thousand species of insects, representing our more common noxious and beneficial species, will be placed on exhibition. Foreign fruit packages, Spanish raisins, French sugared fruits, European and California-grown nuts, canned and dried fruits, etc., will be shown.

Rooms and board can be procured at hotels in Palo Alto, Menlo Park or Mayfield. Lunches can be had at Encinal hall. Those wishing to take the morning trains can leave San Francisco at 8:15 and San Jose at 9:12 for Menlo Park, and arrive at the university in time for the first lecture. Carriages meet all trains at Menlo Park, Palo Alto and Mayfield.

Those who contemplate attending will kindly notify Professor Comstock or Professor Smith.

The Next State Fair.

The State Board of Agriculture met at the secretary's office in Sacramento February 3. There were present Directors Boggs, Chase, Green, DeLong, Hancock, Shippee and President Cox.

After attending to matters of minor detail relating to the business of the year just closed, the old board adjourned, and the new board proceeded to organize.

The same members constitute the new board, with the exception that J. W. Wilson of Sacramento succeeds Christopher Green, and J. H. Flickinger of San Jose succeeds Jesse D. Carr.

Director John Boggs was chosen president for the ensuing year. G. W. Hancock was reelected superintendent of the park, and Hon. F. C. DeLong superintendent of the pavilion.

The board then set the day of the opening of the State Fair of 1893 for September 4th, to continue two weeks, with the usual nine days' exhibition at the park.

A Creamery Pays a Good Dividend.

A statement of business done by E. J. Etter of the Excelsior Creamery, Humboldt county, for the season beginning May 9, 1892, and ending Dec. 24, 1892, is as follows: Amount paid for milk, \$20,297.95; average paid per 100 pounds, 96½ cents; butter made, 94,770; pounds of milk required for each pound of butter, 22¼; cash received for butter, \$24,260.74; average net price per pound for butter, 25½ cents; profits on hogs, \$723.11; profits on skim milk, \$38.06; cash on hand, \$1147.93; value of wood, butter boxes, etc., on hand, \$1364.36. The creamery paid this year a 20 per cent cash dividend, and has wood enough on hand to last next season.

To Abolish the Viticultural Commission.

ST. HELENA, Feb. 7.—The Wine-Growers' Union of Napa County held a large meeting here Saturday and adopted the following:

Resolved, That we instruct our representatives in the legislature to use all honorable means to abolish the State Viticultural Commission, believing, as we do, that said commission has never been of any use or service to the producer, but, on the contrary, has been a useless expense in the way of taxation. And if they fail in abolishing said commission, that they use their best endeavor to prevent any appropriation for its support.

This resolution is receiving the approving signature of nearly every person in the valley interested in viticulture.

Roadside Trees in Irrigated Districts.

TO THE EDITOR:—What kind of deep-rooted trees would be good to put along the roadway which is alongside of a 24-foot wide irrigating canal containing water only from March to July?—READER.

This is a very important subject which we should like to answer in the light of wide experience and observation, if possible. We shall be glad to have brief notes from all readers who have trees thriving in such situations as described, giving kind of tree, age and size. Such information will be widely useful.

STEPS are being taken to put up a cannery at Visalia, Tulare county, and have it ready for operation by next June.

Review of the Year's Markets.

Condition of the Agricultural, Fruit and Produce Markets.

It is quite generally conceded by political economists that 1892 marked the turning-point in trade and commerce, and that the depression which has been the characterizing feature for all of three years past had seen its worst. This opinion appears to be based on substantial grounds, which, briefly stated, are as follows: The extraordinary crops of wheat and corn, and also of cotton, in 1891, were marketed, with the exception of cotton, at fairly remunerative prices, while the crops harvested in 1892, although not as large as those of 1891, were above an average, and which have netted a small profit notwithstanding the low prices that have ruled so far in this season. The marketing of the products gave big business to the various transportation companies, besides throwing large sums of money into circulation and giving farmers, as a rule, at the East a better financial standing. This improved condition is beginning to be reflected in an enlarging trade consequent on increasing consumption requirements. Already the market prices for wools and cotton are tending up under freer buying by manufacturers to work into goods with which to meet the demand. The improvement in these two leading products has directly benefited other industries, and as each branch improves more wage-earners are given employment, and generally at better pay.

Probably a better idea can be had of the situation by viewing the financial condition of affairs, for, with active money markets and speculation the order, everything wears a roseate hue; prices boom all along the line, with farm products coming in for their share. Never within the history of the country has money been so plenty and yet so hard to get—only gilt-edged securities commanded funds. This condition of the money markets at home and abroad had a depressing influence on trade and commerce with large operators, forced by surrounding circumstances, compelled to pursue a cautious, conservative course when not driven to the bear side. Of necessity, this bore heavily on the markets in every commodity and speculative security dealt in, and which was doubly felt when alarmists threw to the wind the direct results following a failure to legislate in favor of silver. These contentions the markets fought against throughout the past year, but toward the close a silver-lining is discernible which bids fair at no distant day to drive away the dark clouds of depression. The silver question which has hung like an incubus over finance and commerce, now bids fair to be settled, for accepted authorities on money questions are very confident that an agreement has been or will soon be arrived at which will lead to the International Monetary Convention, at its adjourned meeting, adopting a compromise by which that metal will be recognized by all commercial countries. It is said that this agreement will probably put the ratio of silver at 20 to 1 for gold. It is contended that the growing belief of a favorable action by the convention will be a certainty, is causing a more confident feeling, and as confidence grows, languishing enterprises will be galvanized into life, new ones inaugurated and all industries feel its revivifying effect.

There is another favorable view to take of the general commercial and financial situation aside from that of a probably international action on silver, viz: during the strong depression through which all countries have passed since Baring Bros. failure, securities the world over have drifted into strong hands and with better concentration has come a scaling down of expenses and the placing of the industries on which they were issued, upon a firmer financial basis with the view of leading to dividends—and dividends mean very much in restoring confidence and promoting a more progressive spirit of enterprise. We need not extend our researches in this direction beyond the railway lines in this country, which, representing as they do, many hundred billions of dollars, can be accepted as a safe index to the coming improvement. The heavy traffic of various railways in 1892, placed them in a good position to meet, without assessments, the extraordinary expenditures for the purpose of handling the exceptional traffic which they are sure to have this year during the Columbian Exposition. It is the accepted opinion that there will be a vast influx of foreigners from all civilized nations, who will see with intelligent eyes, the capacity, the resources and the advantages of the country, the seeing of which will unquestionably lead to comparisons, and it is only this that will cause large investments; for probably no where else in the world can capital be better employed. The distrusts which many entertain against our people and institutions will be dispelled. The leading commercial and financial spirits among those who come will see for themselves how this country can lose so much gold and yet not have a panic precipitated. They will also cease to wonder how nearly, and without breaking prices, this country absorbed the prodigious mass of securities sent over for sale by European holders. And in recognizing the favorable situation, Europe will again come in as a buyer, and with returning money this country will be launched on the sea of exceptional prosperity.

Turning from the country at large to this State, and the conviction forces into belief that we have well rounded the depression and are on the way to much better times. The farming industry, in all its branches, appears to be in a strong and healthy position. Experiments which have been, and are being made, to find out what products are

Stock of Grain on Hand Dec. 1, 1892.

The San Francisco Produce Exchange reports the following stocks of grain in this State on Dec. 1, 1892, in comparison with former stock-taking dates.

LOCATION.	Wheat, bls.	Wheat, cts.	Barley, cts.	Oats, cts.	Beans, sks.	Corn, cts.	Rye, cts.
San Francisco and Oakland wharf, including grain and flour afloat in harbor and in transit.	10,250	351,496	524,991	151,133			2,746
Sonoma, Humboldt, Napa, Solano, Yolo, Colusa and Glenn Cos.	17,380	2,865,120	339,610	27,386			50
Sacramento, Yuba, Sutter, Butte and Tehama Counties.	22,989	1,653,981	169,175	14,225			
Contra Costa and Alameda Counties.	11,450	2,438,230	409,700	4,130			
San Joaquin, Stanislaus, Merced, Fresno, Tulare and Kern Cos.	14,695	4,129,175	578,528	5,190			54,390
San Mateo, Santa Clara, San Benito, Santa Cruz, Monterey and San Luis Obispo Counties.	8,750	496,850	993,460	60,220			532
Santa Barbara, Ventura, Los Angeles, Orange, San Bernardino and San Diego Counties.	6,560	198,920	792,100	1,070			300
Totals	92,024	12,163,772	3,797,654	283,243			57,938
June 1, 1892	120,517	2,100,149	913,049	48,788	128,182	92,837	5,831
December 1, 1891	140,043	9,964,575	2,838,602	168,404	275,126	283,255	39,545
June 1, 1891	121,166	1,626,562	352,882	45,074	46,082	76,738	14,136
December 1, 1890	118,123	12,168,993	1,615,655	61,085	174,291	302,921	37,160
June 1, 1890	81,090	4,801,063	1,004,467	61,235	39,503	91,111	15,892
December 1, 1889	116,225	15,300,368	3,321,800	120,356	107,419	134,915	66,540
June 1, 1889	100,565	2,092,430	2,062,630	119,245	60,415	38,925	10,215
December 1, 1888	95,906	10,819,630	4,067,050	120,175	235,320	266,747	7,040
July 1, 1888	71,920	3,881,960	2,063,450	62,095	33,675	82,200	800
January 1, 1888	59,979	9,730,060	4,522,990	65,380	109,925	121,300	4,360
July 1, 1887	50,275	2,790,400	798,500	42,400	74,405	72,330	1,350

best adapted to each locality, are giving good results, for, in our State with its many climates and manifold soil, it is absolutely necessary to find out what can be the most advantageously cultivated in each locality. To this is being added improved methods of transportation and an almost certainty that lower freight rates will rule in the near future on farm products to tide-water. The extension of main lines of railways, and the building of feeders, are opening up large areas of land for cultivation, while the building up of vast systems of irrigation is putting many dry sections outside of crop failures. The increasing numbers of banks throughout the State, particularly in farming districts, give a good supply of funds for local use, and this will do no little good in the more trying times by affording accommodations to the deserving. The want of funds during harvest has crippled many farmers and made them a prey to the Shylocks that are to be found in all communities. The many auxiliaries of the farm are being given more attention, with financial benefit to those that work systematically. It is rightly said that the small things on the farm bring in, proportionately, the largest revenue.

Wheat.

The past year, or rather the latter half of the year, disappointed the many who had confidently looked for much better prices than ruled. This expectation was grounded largely on the well established statistical fact that the world's reserve had been drawn on to such an extent that it was virtually wiped out. The increasing consumption had been largely in excess of any increase in production. Besides a light reserve the crop of wheat in India was quite short, while that of Russia promised not to be up to an average, and in the United States the outlook discouraged a belief that the yield would be much above an average. As the year advanced crop prospects in Europe improved, but in this country they were not very favorable owing to heavy rains throughout the Central States. With the outlook favorable in Europe and heavy reserves of 1891 wheat and corn in this country to draw from, bear operators began to hammer the markets at home and abroad, and when the 1892-93 crop season began, prices had fallen considerably from those ruling in January, 1892. Another thing used by the bears against wheat was the revoking of the ukase by the Czar of Russia forbidding the export of wheat from that country. The close, stringent money markets abroad, with constant fears of a financial panic, were large factors in depressing wheat, as was the very low price of silver. On August 1st, 1892, the estimated carryover of wheat in America, Canada, United States, France, Belgium, Germany, Holland, Russian ports and afloat was 122,800,000 bushels, against 109,700,000 in 1891. The carryover in Italy, Spain, Portugal, India, Switzerland, Greece and southeastern Europe was from light to very light in 1892, against an average to heavy in 1891. The crop was officially reported on September 1st by the United States, Canada, India, France, Austria, Hungary and Italy at 1,366,000,000 bushels this year, against an actual yield of 1,468,000,000 bushels in 1891. The crop of 1892 of the other countries was unofficially estimated at 749,000,000 bushels, against an actual outturn of 690,000,000 bushels in 1891.

PRICE OF NO. 1 WHITE WHEAT IN THE SAN FRANCISCO MARKET FOR 27 YEARS FROM JUNE, 1864, TO JULY 1, 1892.

YEAR.	Highest.	Lowest.	Difference.	Average.
1864-65	\$5.30	\$2.30	\$3.00	\$4.15
1865-66	2.25	1.00	.45	1.97
1866-67	2.12	1.25	.87	1.76
1867-68	3.10	1.50	1.60	2.31
1868-69	2.50	1.17	1.33	1.71
1869-70	1.95	1.05	.90	1.70
1870-71	3.15	1.65	1.50	2.25
1871-72	2.85	1.52	1.33	2.29
1872-73	2.16	1.25	.91	1.66
1873-74	2.37	1.60	.77	2.02
1874-75	1.85	1.30	.55	1.60
1875-76	2.32	1.65	.67	1.96
1876-77	3.00	1.45	1.55	1.93
1877-78	2.45	1.82	.63	2.10
1878-79	1.77	1.57	.20	1.64
1879-80	2.15	1.45	.70	1.81
1880-81	1.67	1.25	.42	1.46
1881-82	1.75	1.30	.45	1.62
1882-83	2.05	1.60	.45	1.73
1883-84	1.87	1.42	.45	1.64
1884-85	1.60	1.17	.43	1.35
1885-86	1.60	1.25	.35	1.36
1886-87	2.10	1.22	.88	1.52
1887-88	2.12	1.22	.90	1.37
1888-89	1.83	1.25	.58	1.43
1889-90	1.36	1.25	.11	1.29
1890-91	1.76	1.31	.45	1.53
1891-92	1.82	1.35	.47	1.59

*Wheat collapse.

The year 1892 opened with No. 1 shipping wheat selling in our market at \$1.77½@1.80 per cental. Early in February it had dropped to \$1.60, but by the middle of March the market had advanced up to \$1.65@1.67½. By this time about every conservative farmer in this State had

sold out, and speculators were carrying the surplus. From that time there was a steady decline the remainder of the season, which went out at \$1.35@1.36½, quoted the last of June. The market fluctuated from July 1st to the middle of August between \$1.33½@1.35 and \$1.36½@1.38½, closing on August 19th at \$1.35@1.36½. From this time prices gradually settled up to Sept. 8th, when \$1.27½@1.28½ was quoted. This range continued for a fortnight, when it moved up 2½ cts., at which the market hung around to Feb. 3d, when there was a drop to \$1.27½@1.28½, and within a week there was a further reduction to \$1.25@1.26½. On Dec. 29th there was a recovery, and the year went out at \$1.27½@1.28½ quoted.

The following table gives the acreage seeded to wheat, as per county assessors' returns for four years past:

COUNTIES	1889	1890	1891	1892.
	Acre.	Acre.	Acre.	Acre.
Alameda	21,265	16,429	30,635	35,785
Alpine	456	400	400	350
Amador	4,560	3,575	3,800	3,950
Butte	92,208	73,767	91,117	96,000
Calaveras	8,500	6,500	6,500	6,400
Colusa	403,008	368,477	203,128	253,560
Contra Costa	77,915	50,255	44,502	43,365
Del Norte	60	36	.....	15
El Dorado	2,597	973	4,134	4,700
Fresno	169,512	196,904	295,150	324,000
Glenn	.....	.....	150,425	185,000
Humboldt	20,564	1,526	2,517	2,010
Inyo	399	2,316	1,379	1,797
Kern	12,000	17,000	20,000	23,000
Lake	6,220	4,200	7,950	6,650
Los Angeles	50,760	75,150	63,242	48,765
Marin	343	.....	644	543
Mariposa	639	527	479	408
Merced	240,000	177,500	230,510	227,142
Modoc	45,800	35,200	43,600	32,200
Monterey	120,000	135,000	146,000	131,000
Napa	8,633	7,462	8,385	9,685
Placer	16,249	11,147	16,037	16,120
Sacramento	78,100	55,000	81,150	80,000
San Benito	46,600	35,800	51,202	*50,000
San Bernardino	3,551	4,661	4,302	3,860
San Diego	14,026	25,145	26,038	24,476
San Joaquin	290,805	199,579	301,150	275,018
San Luis Obispo	98,385	95,617	101,656	125,750
San Mateo	1,825	1,500	2,000	2,000
Santa Barbara	71,427	54,720	55,725	38,240
Santa Clara	17,24	15,950	16,300	15,312
Santa Cruz	5,126	5,248	5,517	5,312
Shasta	14,051	2,154	13,620	16,400
Sierra	151	300	206	300
Siskiyou	9,554	13,125	16,215	16,914
Solano	57,624	43,210	83,616	83,886
Sonoma	15,820	12,250	13,460	9,740
Stanislaus	283,182	211,342	291,431	260,339
Sutter	123,920	43,412	66,414	78,889
Tehama	91,410	82,312	83,678	60,841
Trinity	10,000	100	1,200	1,500
Tulare	349,000	350,865	415,585	358,900
Tuolumne	4,000	3,500	3,600	3,900
Ventura	2,637	3,671	5,810	6,000
Yolo	155,000	103,500	149,843	198,043
Yuba	25,375	15,700	30,000	21,247
Totals	3,073,527	2,586,950	3,190,716	3,183,911

*Estimated.

The yield last year was light, averaging not more than 7½ cents to the acre. The promise for a large crop was of the most assuring character up to the most critical time, when a few days of north winds reduced the prospective yield.

The date of arrival and price paid for new-crop wheat at tide-water compare as follows since 1859:

YEAR	Month.	Price
1859	July 14	\$1.90@2.79
1860	July 3	1.50@1.62
1861	July 24	1.50@1.25
1862	July 11	1.62@1.35
1863	June 26	1.50@1.74
1864	June 9	2.80@2.00
1865	June 12	2.20@2.60
1866	June 25	1.50@1.70
1867	June 17	1.65@1.66
1868	June 18	1.90@2.86
1869	June 15	1.40@1.05
1870	June 9	1.70@1.50
1871	June 23	2.30@2.50
1872	June 10	1.80@1.68
1873	June 7 (Vall. jo)	1.75@1.80
1874	June 11	1.65@1.05
1875	June 2 (Vallejo)	1.65@1.57
1876	June 9 (Oakland)	1.70@
1877	June 2 (Vallejo)	2.40@
1878	June 13	1.70@
1879	June 20	1.85@
1880	June 24	1.00@
1881	June 7	1.25@1.40
1882	July 6	1.67@
1883	June 19	1.65@1.70
1884	June 20 (Port Costa)	1.42@
1885	June 2	1.42@
1886	June 5	1.30@
1887	June 10 (Port Costa)	1.75@
1888	June 15 (Wheatport)	1.31@
1889	May 24	1.37@
1890	May 20	1.30@
1891	May 25 (Port Costa)	1.20@
1892	May 23 (Port Costa)	1.52@

*Very inferior quality.

The fluctuation by months in California wheat car-

goes compare as follows for the past three years:

MONTH.	1890.		1891.		1892.	
	Off coast.	Just ship'd.	Off coast.	Just ship'd.	Off coast.	Just ship'd.
January	36-91	34-90 36-90	34-90 36-90	34-90 36-90	34-90 36-90	34-90 36-90
February	36-91	36-91 36-91	34-90 36-90	34-90 36-90	34-90 36-90	34-90 36-90
March	36-91	36-91 36-91	34-90 36-90	34-90 36-90	34-90 36-90	34-90 36-90
April	36-91	36-91 36-91	34-90 36-90	34-90 36-90	34-90 36-90	34-90 36-90
May	36-91	36-91 36-91	34-90 36-90	34-90 36-90	34-90 36-90	34-90 36-90
June	36-91	36-91 36-91	34-90 36-90	34-90 36-90	34-90 36-90	34-90 36-90
July	36-91	36-91 36-91	34-90 36-90	34-90 36-90	34-90 36-90	34-90 36-90
August	36-91	36-91 36-91	34-90 36-90	34-90 36-90	34-90 36-90	34-90 36-90
September	36-91	36-91 36-91	34-90 36-90	34-90 36-90	34-90 36-90	34-90 36-90
October	36-91	36-91 36-91	34-90 36-90	34-90 36-90	34-90 36-90	34-90 36-90
November	36-91	36-91 36-91	34-90 36-90	34-90 36-90	34-90 36-90	34-90 36-90
December	36-91	36-91 36-91	34-90 36-90	34-90 36-90	34-90 36-90	34-90 36-90

MONTH.	1891.		1892.		1893.	
	Off coast.	Just ship'd.	Off coast.	Just ship'd.	Off coast.	Just ship'd.
January	36-91	34-90 36-90	34-90 36-90	34-90 36-90	34-90 36-90	34-90 36-90
February	36-91	36-91 36-91	34-90 36-90	34-90 36-90	34-90 36-90	34-90 36-90
March	36-91	36-91 36-91	34-90 36-90	34-90 36-90	34-90 36-90	34-90 36-90
April	36-91	36-91 36-91	34-90 36-90	34-90 36-90	34-90 36-90	34-90 36-90
May	36-91	36-91 36-91	34-90 36-90	34-90 36-90	34-90 36-90	34-90 36-90
June	36-91	36-91 36-91	34-90 36-90	34-90 36-90	34-90 36-90	34-90 36-90
July	36-91	36-91 36-91	34-90 36-90	34-90 36-90	34-90 36-90	34-90 36-90
August	36-91	36-91 36-91	34-90 36-90	34-90 36-90	34-90 36-90	34-90 36-90
September	36-91	36-91 36-91	34-90 36-90	34-90 36-90	34-90 36-90	34-90 36-90
October	36-91	36-91 36-91	34-90 36-90	34-90 36-90	34-90 36-90	34-90 36-90
November	36-91	36-91 36-91	34-90 36-90	34-90 36-90	34-90 36-90	34-90 36-90
December	36-91	36-91 36-91	34-90 36-90	34-90 36-90	34-90 36-90	34-90 36-90

MONTH.	1891.		1892.		1893.	
	Off coast.	Just ship'd.	Off coast.	Just ship'd.	Off coast.	Just ship'd.
January	36-91	34-90 36-90	34-90 36-90	34-90 36-90	34-90 36-90	34-90 36-90
February	36-91	36-91 36-91	34-90 36-90	34-90 36-90	34-90 36-90	34-90 36-90
March	36-91	36-91 36-91	34-90 36-90	34-90 36-90	34-90 36-90	34-90 36-90
April	36-91	36-91 36-91	34-90 36-90	34-90 36-90	34-90 36-90	34-90 36-90
May	36-91	36-91 36-91	34-90 36-90	34-90 36-90	34-90 36-90	34-90 36-90
June	36-91	36-91 36-91	34-90 36-90	34-90 36-90	34-90 36-90	34-90 36-90
July	36-91	36-91 36-91	34-90 36-90	34-90 36-90	34-90 36-90	34-90 36-90
August	36-91	36-91 36-91	34-90 36-90	34-90 36-90	34-90 36-90	34-90 36-90
September	36-91	36-91 36-91	34-90 36-90	34-90 36-90	34-90 36-90	34-90 36-90
October	36-91	36-91 36-91	34-90 36-90	34-90 36-90	34-90 36-90	34-90 36-90
November	36-91	36-91 36-91	34-90 36-90	34-90 36-90	34-90 36-90	34-90 36-90
December	36-91	36-91 36-91	34-90 36-90	34-90 36-90	34-90 36-90	34-90 36-90

The wheat exports from this port in the past year aggregate as follows in cents: Great Britain, 9,455,093; Belgium, 229,093; France, 42,082; Central America, 26,074; miscellaneous, 11,516. Total, 9,763,858 against 17,149,187 cents in 1891. The monthly average value of shipments for the two years compare as follows:

MONTH.	1891.	1892.	MONTH.	1891.	1892.
January	\$1.36	\$1.75	July	\$1.69	\$1.40
February	1.87	1.64	August	1.05	1.57
March	1.49	1.62	September	1.68	1.51
April	1.55	1.64	October	1.68	1.85
May	1.71	1.67	November	1.78	1.83
June	1.67	1.42	December	1.77	1.37

Reducing the flour which was exported to wheat, and the result is as follows in cents: 1892, 13,109,400; 1891, 20,856,100; 1890, 16,604,000.

The latest authentic compilation of advices up to December 30, 1892, for the crop season of 1893, we get as follows from the Liverpool Corn Trade News:

UNITED STATES—Acreage, 26,500,000 (winter crop). The winter crop presents a fairly satisfactory appearance, the latest official estimate being 87.4 against 85.3 a year ago and 98.4 in December, 1890. Acreage likely to be reduced.

CANADA—Acreage, 950,000 (Ontario winter crop). Fair prospects. Acreage likely to be reduced.

FRANCE—Acreage, 17,300,000. Growers in general express themselves satisfied with the condition of the growing crop, but more reasonable weather is desirable in order to check vegetation and kill off the grubs, which are already doing considerable damage in some districts.

RUSSIA—Acreage, 6,500,000 (winter crop). The crop has gone into winter quarters in exceptionally good form, after starting rather badly, particularly in the southwestern districts.

INDIA—Acreage, 26,000,000. Crop reported as doing fairly well; no complaints, nor any reason for congratulation.

ITALY—Acreage, 11,000,000. Official advices are to the effect that the condition is highly unsatisfactory.

AUSTRIA-HUNGARY—Acreage, 10,000,000. Milder weather after a great snowfall. Crops at present in normal condition.

GERMANY—Acreage, 6,000,000. Snow disappeared; crop reports satisfactory, except in Saxony, where drought interfered with sowing.

SPAIN—Acreage, 6,000,000. Condition of the crop is satisfactory.

AUSTRALASIA—Acreage, 3,500,000. Fine crop in south Australia and Victoria, but damaged at harvest-time by storms. New Zealand, good prospects, area curtailed. The total output was about 4,000,000 bushels more than at the last harvest.

ARGENTINE—Acreage, 3,500,000. Wheat harvest in full swing in the earlier provinces. Conditions excellent.

CHILE—Acreage, 2,000,000. Good prospects for wheat, but a drought caused a failure of the barley crop. Wheat crop described as a month late.

ROMANIA—Acreage, 4,000,000. The winter crop well protected by snow. Area reported as very curtailed in parts.

BULGARIA—Acreage, 1,800,000. Crop prospects normal.

ALGERIA—Acreage, 3,000,000. The wheat crop was seriously jeopardized by drought, but timely rains have relieved the situation somewhat. Further reports anxiously expected.

UNITED KINGDOM—Acreage, 2,000,000. Agricultural work is, as a whole, well advanced, but the area promises to show a falling off. Summing up the crop reports in a few words, we would say that prospects are above an average on a curtailed acreage, and that in this month the mild weather is abnormal and unfavorable.

Flour.

The market opened the year at high prices, which ruled up to and including February, when it began to shade and closed the year at lower prices than before known. The market was unfavorably influenced by strong local, Oregon and Washington competition and also by a line of steamers put on up north for China, diverting a large export trade from us. A number of leading millers formed a trust in the fall and to force others in, it is said, the manager of the trust sold flour at lower prices than it should have been placed. The exports from San Francisco last year were as follows, in barrels:

DESTINATION	Bls.	DESTINATION	Bls.
Great Britain	385,374	Mexico	9,893
China and Hong Kong	380,510	Panama	13,456
Japan	29,397	Australia	748
British Columbia	1,066	Siberia	9,232
Hawaiian Islands	54,000	Miscellaneous	993
South America	29,141	Total	1,116,195
Society Islands	10,000		
Philippine Islands	6,750		
Central America	176,650	to 1891	1,285,649

The monthly average values of the flour exported compare as follows:

MONTH.	1891.	1892.	MONTH.	1891.	1892.
January	\$4.00	\$5.00	July	\$4.25	\$4.25
February	4.08	5.00	August	4.78	4.09
March	4.10	4.70	September	4.76	4.00
April	4.70	4.60	October	4.96	3.81
May	5.00	4.30	November	4.92	3.76
June	6.10	4.11	December	5.00	3.71

Barley.
The acreage seeded to barley, as returned by county assessors, compare for the past four years as follows:

COUNTIES.	1889.		1890.		1891.		1892.	
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
Alameda	20,987	20,415	63,432	67,932				
Alpine	460	400	400	50				
Amador	12,516	10,980	19,000	12,520				
Butte	24,619	19,721	25,800	26,000				
Calaveras	1,100	250	3,000	3,300				
Colusa	48,833	23,022	26,925	30,920				
Contra Costa	42,270	30,540	28,460	27,376				
Del Norte	300	164	320	43				
El Dorado	2,002	580	1,606	1,640				
Fresno	36,242	34,471	40,250	40,000				
Glenn	19,450	1,613	12,661	29,109				
Humboldt	571	451	2,669	1,970				
Inyo	25,000	8,000	4,901	444				
Kern	3,270	2,600	3,100	4,025				
Lake	35,300	34,170	33,134	38,328				
Los Angeles	417	295	295	297				
Mariposa	5,078	1,802	1,822	4,080				
Mered	52,000	25,000	36,650	36,000				
Modoc	33,000	32,100	31,600	30,300				
Monterey	75,000	60,000	80,000	75,000				
Napa	5,847	6,374	5,935	6,000				
Nevada	587		160	160				
Orange	19,760	50,000	30,000	30,000				
Placer	9,670	17,118	10,346	11,662				
Sacramento	38,460	26,725	34,215	45,000				
San Benito	16,915	13,680	15,140	15,000				
San Bernardino	108,561	93,450	91,260	90,450				
San Diego	30,447	27,354	41,066	48,719				
San Joaquin	108,920	63,049	68,120	74,142				
San Luis Obispo	48,300	51,429	75,300	89,000				
San Mateo	3,720	3,000	3,500					
Santa Barbara	38,149	32,865	38,340	31,690				
Santa Clara	20,370	18,550	17,320	16,195				
Santa Cruz	3,110	3,236	3,292	2,117				
Shasta	6,215	5,645	4,065	4,000				
Sierra	1,550	1,600	4,000	3,000				
Siskiyou	6,300	2,688	4,065	4,000				
Solano	35,201	22,510	31,059	31,350				
Sonoma	13,159	8,332						
Stanislaus	33,149	28,150	33,163	35,163				
Sutter	21,840	4,899	14,174	19,887				
Tehama	27,840	21,700	16,659	16,594				
Trinity	200	200	200	160				
Tulare	63,425	65,346	71,250	75,000				
Tuolumne	2,000	1,800	1,500	2,000				
Ventura	58,738	33,625	45,150	45,000				
Yolo	20,000	12,700	13,550	17,890				
Yuba	11,080	4,850	8,600	8,414				
Totals	1,167,627	852,902	1,118,887	1,288,796				

* Estimated.

As will be seen by the above, the acreage seeded last year was considerably larger than that of 1891, while thrashers' returns gave a heavier yield to the acre. The increased acreage was largely brought about by a belief that the higher duties on imported barley under the McKinley bill would cause better prices, but which failed to come to pass, for instead of higher prices lower have ruled. The market opened the year at the following prices: Feed, \$1.07½@1.15 per cental; brewing, \$1.12½@1.22½; Chevalier, \$1.20@1.52½. The market closed with January at 5 cts. per cental below the opening. In the first week of February prices were still lower, the range being, except for Chevalier, fully 15 cents below the January opening. At the decline the market hung into March, when it strengthened, and by April 13th fully 7½ cts. had been recovered. The advance only held for about a week, when quotations ranged 3½ cts. less. From this figure the market gradually settled, and by July feed was quoted at 87½ to 95 cents, brewing \$1 to \$1.12½. The market hung around the last ranges up to the last of August, when 1½ cts. lower quotations were given. By September there was a further decline, which carried feed down to 80 to 87½ cts., and by the middle of October the range was 71½ to 86½ cts. At this latter range the market hung around for a short time, when it began to strengthen, and by the last of November an advance of 3½ cts. was established on the lower grades and from 2½ cts. on the more choice.

The consumption of feed in this State has grown to very large proportions and promises a steady increase in the future or as long as horticulture and auxiliary farming expands. Although the crop in 1892 was very considerably larger than was that in 1891, yet the stock on hand on December 1st did not show as large an increase as had been expected. A lowering of freights to the East around the Horn caused free shipments to New York while lower rail freights eastward induced, in December, shipments overland. The exports compare in cents as follows:

MONTHS.	1889.		1890.		1891.		1892.	
	By Sea.	By Rail.	By Sea.	By Rail.	By Sea.	By Rail.	By Sea.	By Rail.
January.	28,505	20,329	33,319	10,960	31,034	10,646		
February.	33,918	10,833	11,659	1,684	14,751	10,672		
March.	13,812	2,873	18,023	308	13,006	108,678		
April.	14,109	4,004	19,916	.....	22,147	93,170		
May.	18,310	.....	17,006	.....	23,498	12,317		
June.	20,672	3,374	15,108	.....	10,119	26,571		
July.	41,685	17,335	27,735	.....	137,319	79,242		
August.	125,993	7,127	40,523	.....	23,667	141,573		
September.	234,880	26,077	18,516	.....	160,997	305,519		
October.	201,628	51,600	96,301	.....	271,767	99,209		
November.	83,978	14,739	18,035	.....	146,064	147,559		
December.	16,244	4,675	23,034	.....	70,764	124,703		

tember the advance was lost. From this on the market began to set still lower, and by the end of December it was heavy at \$1.07½ to 1.10 for white; \$1.00 to \$1.03¾ for large yellow, and \$1.07½ to 1.10 for small.

The market was subjected to the demand from Mexico. The exceptionally small crop in that country caused the Mexican Government to take off the duty, and with this off, there was a brisk demand at times which caused our market to respond. The call was chiefly for white, owing to its being drier and less heating. With rains in Mexico insuring a good crop, the demand from that country set off, and without an export, call prices with us receded to around their normal ranges. The consumption in this State is said to be steadily increasing.

Rye.

The very large export demand for Europe noted in the last Annual Review had about exhausted itself with 1891, and although on January 2d the market was quoted at \$1.75@1.80, yet there was an absence of life, and before the end of the month quotations had dropped fully 15 cents, at which the market hung to the middle of April, when it began to set off. There was a gradual receding in price up to about when the new season supply came in. During the last four months of the year the market has fluctuated slightly. The demand was largely local, which it does not take much to supply. The supply in this State is light, yet the market is weak.

Hay.

The acreage devoted to hay, as reported by county assessors, compares as follows:

COUNTIES.	1891.	1892.
	Acres.	Acres.
Alameda.....	92,344	97,357
Alpine.....	250	150
Amador.....	7,000	7,600
Butte.....	11,000	.....
Calaveras.....	9,500	10,315
Colusa.....	8,696	7,356
Contra Costa.....	48,40	51,413
Del Norte.....	135	1,166
El Dorado.....	4,927	5,700
Glenn.....	.....	12,746
Humboldt.....	25,257	20,559
Inyo.....	6,272	7,002
Kern.....	.....	1,500
Lake.....	.....	5,980
Los Angeles.....	13,300	25,005
Marin.....	10,120	11,015
Mariposa.....	6,330	10,600
Merced.....	11,300	4,980
Modoc.....	107,000	107,390
Monterey.....	20,000	20,000
Napa.....	18,765	17,445
Nevada.....	4,289	1,785
Orange.....	.....	20,000
Placer.....	9,845	11,297
San Bernardino.....	33,205	31,240
San Diego.....	18,762	25,647
San Luis Obispo.....	39,62	45,320
Sacramento.....	.....	45,000
San Mateo.....	10,500	11,100
Santa Barbara.....	18,600	15,790
Santa Clara.....	35,178	34,985
Santa Cruz.....	5,235	5,212
Shasta.....	11,498	12,790
Sierra.....	.....	20,800
Siskiyou.....	52,686	53,900
Sonoma.....	8,470	8,965
Stanislaus.....	1,500	1,800
Sutter.....	4,655	8,421
Tehama.....	15,466	17,912
Trinity.....	3,500	4,100
Tulare.....	.....	25,000
Tuolumne.....	.....	1,200
Yolo.....	11,590	12,200
Yuba.....	10,000	10,130
Total.....	680,851	841,058

Some of the counties which reported in 1892 did not make any return in 1891, but granting a liberal allowance to each, even then there would be a large increase in 1892 over 1891. The high prices which ruled in 1891 and the fore part of 1892 induced more attention to hay. The consumption in this State has increased enormously, owing to more work animals being used by horticulturists and for railroad building and other purposes. The establishing of creameries causes more attention to be given to the feeding and care of cows, which naturally calls for more hay. The very heavy crop in 1892 caused lower prices to rule. The lower prices caused more feeding during cold spells, and consequently there will probably be less to carry over into the next season than is now expected.

Garden Truck.

There is a steady increase in the acreage devoted to garden truck. The growth of the industry warrants the assertion that in favorable seasons early kinds will find a quick market at the East, but much will depend on railway charges and the kind of cars used. In the southern part of the State large quantities, it is said, were marketed East the fore part of 1892. In this gardeners were aided by cheaper freight rates and improved transportation facilities. This will be still further improved in 1893. The growing of vegetables is being reduced to a science by those largely engaged in the industry, and with the best results.

Onions.

The market opened in January at 60 cts. to \$1.20, but soon afterward advanced until it reached \$1.50 to \$2.50 for choice. At these figures it held to about June, when, with liberal supplies of choice new coming in, prices gave way and by August sales were made as low as 30 to 40 cts. The crop was very large, both in this State and up north, and so there was not much shipping demand until toward the close of November, the market was slow to recover. The production of onions in this State has increased to such an extent that outside markets must be secured to make the industry pay. It is quite generally conceded that before the spring months of 1893 pass there will be an enlarged demand from the East, and as the supply of choice good keepers is light, better prices are expected to rule before May. Besides this, cold, unseasonable weather is very apt to make the new crop backward.

Potatoes.

The market the past year did not show much change until the new crop came in suitable for distant shipments or

keeping, when prices sagged off from 20 to 30 per cent over January rates. The low prices in July and up to the fall months induced considerable of a shipping demand, and in the latter months the market shaped in the interest of sellers until before the year closed there was an advance of from 50 to 75 per cent on the lowest reported sales. The advance outside of a shipping demand was aided by high water in the Sacramento river drowning out some of the land, cold weather frosting considerable, and that small supplies at the East would call for liberal shipments from here in the spring months. The cold weather also puts the new crop back, which also has an influence. The establishing of several potato-starch factories calls for large quantities of potatoes. The general run of potatoes in 1892 was not good, and in consequence the more choice were in demand. Oregon sent us considerable, but the quality was below an average. The outlook favors a large increase in the acreage for 1893, owing to a large demand expected from the East.

Butter.

Receipts of butter at this port compare as follows:

YEAR.	California	Eastern.	Totals
	Pounds.	Pounds.	Pounds.
1892.....	13,054,300	1,290,700	14,255,000
1891.....	10,484,900	1,580,900	12,065,800
1890.....	11,491,500	1,067,700	12,559,200
1889.....	11,098,600	1,325,000	12,423,600
1888.....	8,376,700	3,197,500	11,574,200
1887.....	9,547,100	783,600	10,330,700
1886.....	9,979,200	627,800	10,607,000
1885.....	8,019,600	494,400	8,514,000

*Oregon 422,300 lbs., not included.

As will be seen, California continues to lead, and it is only a question of one or more years before our trade will be met by us, besides which we may have a surplus at times for shipment, as has been often stated in the RURAL PRESS. The butter industry on this coast has been revolutionized by the introduction of creameries—individually, incorporated and cooperative. The butter turned out appears to give better satisfaction and commands a higher range of values than does dairy. There was one thing that was instrumental in keeping large quantities of Eastern creamery out of our market, viz., the poor season in the central States for the dairy interest. Heavy rains, which extended well into the summer months, made the roads almost impassable and interrupted dairying, and in consequence the outturn east of the Rocky mountains was quite light, and the markets did not go as low as usual. With the fall and winter months prices on the Atlantic coast and at the large distributive centers in the central States stiffened and the range of values by the end of the year was about the parity of our market. The outlook warrants the assertion that we will be able to ship considerable quantities East in the spring months. The course of our market was a repetition of former seasons. When values dropped to the lowest figures there was an extraordinary packing and pickling for the fall and winter trade. The very large supply of pickled butter held heavy on the market the past fall and prevented prices from going as high as they would have done under ordinary circumstances. The early rains also made good pasture in the southern counties, which started up those dairies and gave us liberal supplies of fresh. The outlook favors low prices owing to good pasture and more cows being milked.

Cheese.

Receipts at this port the past eight years compare as follows:

YEAR.	California	Eastern.	Total.
	Pounds.	Pounds.	Pounds.
1892.....	4,964,900	2,397,100	7,362,000
1891.....	4,427,800	1,820,500	6,298,300
1890.....	5,146,400	1,672,500	6,818,900
1889.....	4,272,000	1,155,200	5,427,200
1888.....	3,321,700	1,614,300	4,936,000
1887.....	3,989,400	968,400	4,957,800
1886.....	4,070,900	548,100	4,619,000
1885.....	3,857,500	471,000	4,328,500

* 135,900 pounds from Oregon not included.

The receipts of Eastern at this point were largely in excess of any former year, but notwithstanding which the market held to fairly firm prices. The consumption on this coast has increased, and although receipts were large, yet the stocks at the end of the year were not above an average. From all we can learn, more cheese will be turned out in 1893 from our dairies.

Eggs.

Receipts the past eight years compare as follows:

YEAR.	California	Eastern.	Total.
	Dozens.	Dozens.	Dozens.
1892.....	1,856,555	3,444,490	5,301,048
1891.....	2,156,288	4,525,000	6,681,288
1890.....	2,479,888	3,602,500	6,082,388
1889.....	2,660,993	4,210,300	6,871,293
1888.....	2,210,015	3,168,741	5,378,756
1887.....	1,391,745	1,736,335	3,127,080
1886.....	1,683,200	2,192,900	3,876,100
1885.....	2,778,280	1,154,090	3,932,370

As will be seen by the above, the receipts of both California and Eastern fell off very materially, but notwithstanding which our market fluctuated and prices ruled very much as they did in 1891. Bakers and restaurant men prefer Eastern eggs to Californian, claiming that they have more meat—two equaling three Californian. While bakers like yellow eggs best, families prefer large white. The cheaper class of bakers confine their purchases, as do a large class of Chinamen, to shaly eggs. To make them better and not smell, a drop or so of ammonia is used with each dozen broken up for cooking. In view of the very large importation (only about one-half comes to this city) of Eastern eggs, it is passing strange that more attention is not given to the poultry business, but it is said that the industry is increasing and will in the near future assume much larger proportions.

Hops.

The overland shipments in last year aggregated as follows in pounds: From Sacramento, 3,456,000; Marysville, 1,020,000; San Francisco, 622,000; San Jose, 320,000; Stockton, 92,000; Oakland, —. The shipments from the southern part of the State cannot be had up to this writing. The total shipments from the central and northern part of the State aggregated last year 5,544,000 pounds, against 5,906,470 pounds in 1891, and 5,540,880 pounds in 1890. The exports from this port last year aggregate 160,631 pounds, of which 82,367 pounds went to Australasia and 42,593 pounds to Calcutta. The market ruled high and strong for 1891 crop, from the opening of the year up to the time when supplies were exhausted. The range for choice to gilt-edged ranged from 24 to 30 cents, and lower grades proportionately lower. The strength of the market was due to Eastern and European markets being almost bare of stock, and brewers short of supplies had to bid up. The new-crop or 1892 hops were contracted at from 17 to 22 cents in July and August, but buyers lowered bids fully two cents. The cause of the lower bids was said to be due to good crop prospects in Europe, at the East and on this coast. This bear pressure has been a characterizing feature of the market for years past and should not have excited fears, yet it did, for many growers sold notwithstanding data regarding crops at home and abroad were given in the RURAL PRESS, which showed that, while the aggregate yield the world over was larger in 1892 than in 1891, yet, owing to no carryover, the outlook favored the belief that before the end of the year higher prices would obtain, with still better prices the forepart of 1893. This opinion was proven correct, for before the close of December choice to gilt-edged hops sold in our market at 20 to 22 cents. Pacific coast (Oregon, Washington and California) are quoted regularly in English trade papers. The stock now on this coast of 1892 hops is placed at about 25,000 bales.

Oranges.

With July the season of 1891-92 ended. From the southern part of the State the shipments aggregated in round numbers 2800 carloads, against 4600 carloads during the season of 1890-91. From other parts of the State we have no data of the shipments, but they were in excess of the quantity shipped the preceding season. The quality of the fruit grown in Yuba and Butte counties was excellent, and, as usual, came in earlier than did oranges grown elsewhere. The oranges marketed from the southern part of the State were, with the exception of those sent from Redlands and Highland, in San Bernardino county, and two or more other favored localities, more or less frosted, and consequently were very poor and unmarketable, as far as quality was concerned. The marketing of the trashy stuff had a demoralizing effect and caused even the more choice to feel its unfavorable influence. Had all the frosted oranges been destroyed, it would have been far better for the industry, not to say anything of much better prices for the merchantable fruit. If the season of 1891-92 had been favorable to the growing crop in the southern part of the State, there is not the least doubt but the shipments would have been all of 5600 carloads, and they would have been marketed at fairly remunerative prices. This opinion is grounded upon the favor with which the fruit had been previously received in the East. The growing crop promises to be above an average in yield, and, if not injured by frost, of good size and of superior quality. Of the 2800 carloads of oranges shipped from the southern part of the State, Riverside contributed, or at least that place is credited with, 1406, equal to 402,030 boxes. This was only 40 boxes short of the quantity shipped during the season of 1890-91, which goes far to substantiate the statement that if the season had been favorable to the growing crop, the quantity for shipment would have been all of what we claim—5600 carloads. There was a large increase of trees which came into bearing, that largely offset the lessened quantity of fruit to the tree which was marketed.

The orange crop for the season of 1892-93 is a full yield, and will take, so it is said, fully 6500 cars to move it. The quality, it is contended, will be above an average. The cold weather at the East, combined with strong competition from Florida, is against shipments from this State. Very few will go forward from here before March. A large portion of the crop in Florida was frosted, and in consequence the supply of choice from that State will be light. The introduction of Florida oranges in England has been made under favorable auspices.

Deciduous Fruit.

To Charles M. Cogan, secretary State Board of Equalization, the writer is indebted for a copy of his report for 1891 and 1892, from which the following footings of fruit trees in this State are taken. Apricot, 2,044,194; cherry, 354,160; fig, 360,848; apple, 1,462,460; olive, 372,880; orange, 2,953,456; peach, 3,354,974; pear, 1,402,894; French prune, 1,546,993; other prunes, 615,822; lemon, 322,655. In the above the following counties are not represented: Humboldt, Lassen, Mendocino, Modoc, Mono, Monterey, Napa, San Benito, Santa Clara, Shasta, Siskiyou and Yolo. Santa Clara county is a large producer of prunes, cherries, etc., Humboldt of apples, pears, prunes, and Siskiyou of apples. It is to be regretted that the above-named counties failed to report the number of each kind of fruit trees, but as it is, from those giving returns, a fair idea can be had of this leading and growing industry.

Probably never before have fruitgrowers in this State enjoyed so good a season as that in 1892. The crops of all kinds were from fair to good, with the apricot and prune the smallest. The falling off in these fruits was due largely to a succession of two dry winters. Although the yield was light to the tree, yet the higher price paid for the fruit more than offset the lessened yield. The higher prices which ruled for fruit was due to strong competitive buying by canners, driers, dealers and shippers. The improved market was brought about by light fruit crops at the East and abroad. The small crops at the East were due to late frosts and cool nights during the period of early bloom in

the Atlantic coast States, and excessive rains, which robbed the blossoms of the pollen or beat off both bloom and young fruit, in portions of the Ohio and Missouri valleys. To this was added a drouth in the Delaware peninsula and increasing ravages of insects and blights. Of the small fruit at the East, blackberries were fullest crop; currants far from abundant, while strawberries, raspberries and gooseberries were a little over five-eighths of a crop. Of the peach crop the small orchards of southern New England gave a full average yield, while in New York and in the Delaware peninsula it was from 40 to 50 per cent of an average. Georgia had a very large peach crop, due to more trees coming into bearing and improved methods of cultivation. The Carolinas had a short crop. In the Missouri valley States the yield was about one half of an average. The pear crop East was not more than 75 per cent of an average. The apple crop in 1891 was an enormous one and admitted of heavy exporting, both green and dried, to Great Britain. In 1892 it was about 60 per cent of an average crop. There was a large crop in Nova Scotia and nearly as good in Maine. In southern New England it was poor. In New York it was very poor, as it was in Kansas, in the Ontario region across the lakes, in Ohio, Michigan, Missouri and Arkansas; but in Minnesota and the northwest the crop was fairly good. In England, Germany, France and Italy the crops were short by from 25 to 45 per cent.

It is to be regretted that the Santa Fe railroad system in this State does not find it convenient to give to the public monthly statements of California products sent east over its lines. In consequence of this failure, statements of shipments out of the State only cover those carried by the Southern Pacific railroad, which in 1892 was as follows (omitting Los Angeles and Colton):

YEARS.	Green Fruit.	Dried Fruit.	Canned Goods.	Raisins.
1892, tons.	46,829	24,826	35,103	29,841
1891, tons.	37,886	28,117	22,251	17,436
Increase, tons.	8,943	6,709	12,852	12,405
Decrease, tons.		3,291		

The shipments from each terminal during the year were as follows:

San Francisco—Canned goods, 14,825 tons; dried fruit, 3,728; green fruit, 256; raisins, 477.

Oakland—Canned goods, 2003 tons; dried fruit, 119; green fruit, 1545.

San Jose—Canned goods, 7861 tons; dried fruit, 9384; green fruit, 7006; raisins, 24.

Stockton—Canned goods, 1620 tons; dried fruit, 5237; green fruit, 5633; raisins, 19,435.

Sacramento and East—Canned goods, 7100 tons; dried fruit, 4621; green fruit, 30,332; raisins, 746.

Marysville—Canned goods, 1754 tons; dried fruit, 1737; green fruit, 1927; raisins, 162.

Under the head of green fruits are included all deciduous and citrus varieties.

Perhaps the most important event connected with the deciduous fruit interest occurring during the season of 1892 was the successful inauguration of shipments to England. Several hundred tons of assorted fruit were shipped thither, being carried in refrigerator cars on passenger time to New York city, there transferred to cold rooms on Atlantic lines and hurried to Liverpool. The time of transit from California to the destination was reduced to 15 days. The fruit arrived in uniformly fair condition, and after the characteristic conservatism of English dealers was overcome it brought good prices, being offered at auction, as is customary with such matters in that country. It appears, however, that the transportation charges consumed a large share of the returns, and while those making the shipments are convinced of the feasibility of making a permanent business of such dealings, they claim that a material reduction in the cost of transportation must be made if it is expected that such shipments shall attain very large proportions. The failure of the peach and other fruit crops in a large portion of the East necessitated dependence upon California for supplies, and, as in 1890, this led to the maintenance of rates at a high standard. Uniformly good prices were realized by all orchardists who kept abreast with the times and were posted on the trend of events in horticultural matters.

Dried Fruit.

In the RURAL PRESS of July 23d an editorial review of the situation was given, from which the following is excerpted:

The position of the RURAL PRESS on the dried-fruit situation has been completely verified. Our conclusions were based on the outlook favoring a very small crop of fruit at the East, and also that the enormous consumption induced by low prices during the season just closed would cause the market to be bare of the 1891 curing by July of this year. The very high prices which ruled during the season of 1890-91 restricted the consumption and entailed heavy losses on those who had bought with the expectation of unloading before the season closed. In July, 1891, dealers from Omaha to New York, and even in the cities beyond New York, were loaded with the dried product of 1890. To add still further to their demoralization, the crop of green fruit in all sections was very large, larger than ever before produced. Largely increased quantities had to be dried, which gave an enormous supply. This, owing to the conservatism of buyers, had to be worked off at low prices. Unnecessarily low prices were made just before and after the midwinter holidays, owing to a scare on the part of both buyers and sellers. The low prices placed the product within the reach of all, which, as stated above, resulted in the surplus going into consumption, and the product of the 1892 curing coming in on a bare and hungry market, with families at the East having less preserved fruits than for years, if ever before. This, of course, will conspire in promoting a demand from those who could have been content with what they had preserved. It does not require, we think, a further presentation of the favorable situation or of argument to prove that a higher range of values should exist during the next 12 months, yet if

they be forced to too high figures, consumption will be restricted and the last holders meet with heavy losses.

It is almost needless to say that the production of higher values made at that early date has been more than verified. By the end of December, 1892, the prices for about every variety sold at an advance of from 100 to 300 per cent over the prices ruling in the month of January. The year went out with the supply of prunes, apricots and nectarines about exhausted, and peaches and apples meeting with a large demand and the outlook pointing to the supply being soon exhausted. It is quite generally conceded that the consumption during the Columbian Exposition will be very large. Owing to small crops at the East, the pack of dried fruit was shorter than known for years, which caused our market to be drawn on quite heavily.

Raisins.

The raisin industry continues to forge ahead, for each year adds new acreage to the large number now reported. According to county assessors' returns the acreage devoted to wine, raisin and table grapes on March 1, 1892, aggregated as follows: Table, 16,383½; raisin, 50,942; wine, 64,749½. Total, 162,080 acres. This is an increase over the returns of 1891 of a little over 10,000 acres. Raisin and table grapes show a gain, while wine grapes fell off.

Early in the season leading raisin-growers in Fresno and Tulare combined for the purpose of protecting the industry against the rapacity of Eastern speculators. As the combination increased in numbers, operators at the East and their agents on this coast combined to fight the movement. They sold at very low prices, for future delivery, the more choice grades of California raisins, and also caused to be imported into New York increased quantities of foreign, which were placed at about cost, and in many instances below cost. The sales of futures and the offerings of foreign caused large distributors to keep out of the market, and allowed operators to pick up all outside packs at their own figures, but the raisin-growers' combination, so far as the writer knows, held firm at their agreed schedule of prices, and, to get favorite brands, distributors at the East and on this coast had to pay full figures. That the raisin-growers' combination, if continued, will prove a success, there are no just grounds to doubt. Notwithstanding the strong fight made against growers, the market closed the year fairly strong with an advancing tendency. Those who keep informed on the situation are quite confident that much better prices will obtain before the spring months pass. This opinion is grounded largely on the heavy increased consumption due to the low prices at which the product was placed, and also to the small stocks, comparatively, held on this coast and at the East. The high prices which have obtained for other dried fruit turned consumers largely to raisins, with the result as given above. From a contemporary's statistical review of the industry up to January 1, 1893, the following is taken:

Up to the present time the actual amount of raisins shipped from the State by both lines of transcontinental railroads was 47,162,000 pounds, or 2,358,100 boxes of 20 pounds each. There are at least 500,000 boxes remaining in stock in this State, which would bring the total output up to 2,858,100 boxes. No account is taken of the export trade by sea, which reaches a considerable amount, increasing quantities being yearly shipped to Australia, to Central and South American points and to British Columbian points. Scarcely a vessel leaves this port now which does not carry greater or smaller quantities of California raisins. It is entirely safe, at all events, to put the total crop at the figure given. The statistics of this industry since it first obtained commercial importance in California are as follows:

YEAR.	Boxes.	Pounds.
1873.	6,000	120,000
1874.	9,000	180,000
1875.	11,000	220,000
1876.	19,000	380,000
1877.	32,000	640,000
1878.	48,000	960,000
1879.	65,000	1,300,000
1880.	75,000	1,500,000
1881.	90,000	1,800,000
1882.	115,000	2,300,000
1883.	125,000	2,500,000
1884.	175,000	3,500,000
1885.	475,000	9,500,000
1886.	703,000	14,060,000
1887.	800,000	16,000,000
1888.	1,250,000	25,000,000
1889.	1,633,900	32,678,000
1890.	2,341,463	46,829,260
1891.	2,641,500	52,830,000
1892.	8,258,100	165,162,000

Wine.

The vintage for three years past compares as follows:

COUNTY.	1892.	1891.	1890.
Napa.	2,250,000	4,000,000	6,500,000
Sonoma.	2,750,000	2,750,000	3,500,000
Alameda.	1,100,000	1,250,000	1,500,000
Santa Clara.	2,250,000	4,500,000	4,000,000
Santa Cruz.	250,000	250,000	250,000
Fresno.	1,000,000	1,000,000	1,000,000
Los Angeles.	500,000	500,000	600,000
San Joaquin.	500,000	500,000	500,000
All other.	1,000,000	1,000,000	1,000,000
Total.	11,600,000	15,750,000	18,850,000

The reduction in the 1892 output has been due to familiar reasons—heat, bad weather in the time of flowering, producing *coulure*, restriction in the acreage and phylloxera. Some growers have dried their grapes, owing to the poor condition of the wine market. Remarkable on the market, Winfield Scott, secretary of the Board of State Viticultural Commissioners, reports that the viticultural industry of California is in a peculiar state. As far as the wine market is concerned, there are three conditions existing, which would seem to be incompatible. These are: 1st. Increasing consumption. 2d. Decreasing production. 3d. Low prices. That this condition can exist at all is due largely to the fact that for five years we have had a period of depression in the wine market, unexampled, perhaps, in

the history of any California industry. In the period from 1880 to 1885 we had an era of planting wine-grape vineyards, and at the same time there was no commensurate development of the American market. At that time it was fondly believed that a market would be found whenever the wine was ready for shipment, and that almost any variety of grape could be depended upon in any section to produce a good wine and to return a fair profit to the grower. How rude the awakening has been we all know. When the great acreage of vines set out in the years specified came into bearing, the problem of disposing of the wine became a vital one. Under strict competition, prices receded year by year until 1891, which time marks perhaps the lowest ebb of the business. But at the same time, consequent upon this competition and low prices, the demand from the American market grew steadily, and in fact most surprisingly.

The market advanced the latter half of the year under an enlarged demand and stronger holding. It is quite generally conceded that the Columbian Exposition will introduce our wines to a large class of European consumers and with favorable results. The tabulated statistics of the exports from San Francisco in 1892 show that the consumption demand is enlarging and extended. The exports were as follows:

DOMESTIC.			
To	Gallons.	Cases.	
New York.	4,231,627	2,220	
Pennsylvania.	14,578	37	
New Jersey.	8,547	6	
Maryland.	3,690		
Massachusetts.	2,392	124	
Washington, D. C.	1,836		
Maine.	605		
Rhode Island.	719		
South Carolina.	410		
Ohio.	202		
Georgia.	153		
Connecticut.	110		
Vermont.	50	10	
Illinois.	40	36	
Kentucky.	15		
Total Eastern.	4,284,357	2,442	
FOREIGN.			
Hawaiian Islands.	116,788	721	
Central America.	108,110	8,436	
England.	81,378	6	
Mexico.	77,046	824	
Germany.	54,440	111	
Japan.	37,751	222	
Society Islands.	17,116	10	
British Columbia.	18,448	332	
Panama.	10,778	31	
China.	5,632	54	
Sweden.	1,650		
Holland.	1,641		
Switzerland.	1,201		
New Zealand.	1,120	38	
Ecuador.	1,116	14	
Marquesas Islands.	1,099		
Asiatic Russia.	1,035		
Samoa Islands.	702	47	
Marshall Islands.	575		
France.	225	5	
Belgium.	208	5	
Peru.	73		
India.	70		
Australia.	50	40	
Gilbert Islands.	43		
Total Foreign.	532,815	10,905	

The total by sea and rail for 1892 is the largest on record. For a series of years the shipments compare as follows:

YEAR.	Gallons by Sea.	Rail.	Totals.
1892.	4,810,530	6,422,994	11,233,524
1891.	4,047,102	5,746,776	9,793,878
1890.	4,184,506	4,044,512	8,229,018
1889.	3,331,225	4,845,450	8,176,675
1888.	3,380,762	3,947,348	7,328,110
1887.	1,917,822	4,616,787	6,534,609

HORTICULTURE.

Pruning the French Prune

TO THE EDITOR:—I have seen a variety of arguments and discussions in the RURAL PRESS, from time to time, under the head of tree-pruning. That much-abused and indispensable operation can be characterized by a modification of an old maxim: Spare the knife and ruin the tree, but it can be overdone, as in the case of any other good thing, and most unreasonably so. For instance, an eccentric adviser proclaims that one should keep his shears in good condition, and prune, prune, and continue pruning every year for time eternal.

Having never seen anything in print that exactly conforms with my ideas of how to prune a tree, particularly the prune, to receive the best results, this article is dictated. The first and quite important thing is to procure a good, first-class tree, which, in my judgment, is one from three to four feet in height, and never those very large ones that some nurserymen try to impress on their patrons as being the most desirable for planting, because of their large size, etc. So the unfortunate victim plunks up his 25 cents per tree, and receives a large six to eight foot tree plowed out with those patent tree-diggers, that cut or rather break all roots off seven or eight inches from their starting point, and goes home highly pleased with his purchase. Now, if you look at the trunk, a foot or two above the ground, right where the future head will have to be formed, you will find, in nine cases out of ten, that there are no well-developed buds there. This alone is enough to condemn the tree; and then, it is reasonable that a tree with a large top must have correspondingly large roots, so when this speedy, death-dealing device is propelled along by six or eight strong horses, cutting off all those large roots that characterize a large tree, in such close proximity to the trunk, it is plainly evident that the shock will be a great deal more severe on a large tree than on a small one. The roots being smaller on the small one, more fibrous roots will be obtained, and

everybody agrees that they are the vitality of any plant. Another point in favor of the small trees is that there are always perfect buds all the way to the ground, and that will insure a good-shaped head.

After fencing, and plowing the land thoroughly, lay it off in the triangle fashion, the trees 20 feet apart each way; then dig the holes, and don't be afraid of getting them too large, for setting a tree in a cramped hole is poor economy. Now that you have got your land ready to receive the trees, go to some reliable nurseryman, and save ten cents on each one by taking the second-class trees, those from three to four feet in height. If your land is dry, loose soil, get peach root, if deep, heavy bottom take almond (?), and for wet, cold, springy land get myrobalan. After purchasing, take them home and plant as soon as possible. When you have got them all set out, take a sharp knife and prepare to cut back. Now, as the most destructive enemy a fruit-man has to contend with is that injury common to all high-pruned trees, namely, sunburn, and as the only efficient and sure preventive is heading low, get a measure, not over 12 inches, and cut to that, and you will never be troubled by that devastating ravage.

After cutting them off to 12 inches there need be nothing done to them except to cultivate regularly through the summer. The next winter take a 14-inch measure, and measuring from where it was cut the previous spring, cut off all the larger whips, or growths, which should be from four to six, leaving all the pruner thinks are required in giving the tree a good, symmetric shape; so don't cut them off, as they never will grow if not cut, and the next year will set to fruit buds, and the year after will produce a small crop. The next summer let everything grow as before, cultivating occasionally. When time to prune, select only those that are required to give the tree the best shape, and cut to 20 or 22 inches, leaving the others, and they will pay you handsomely the fourth year. You have now got a tree that has been pruned twice, not counting the first pruning. The next summer, which will be the third, you will get enough fruit to more than compensate you for the original cost of trees. That year let everything grow, and the next winter cut to 30 inches, leaving those that are not required in shaping the tree, to bear and help fill the owner's lengthy buckskin. You now have a tree well shaped, and being full of those small limbs, is capable of producing large crops (without breaking) in the least possible time. If they had been cut out, as some men advise, you would have had a fine-shaped tree, without the slightest possibility of a crop for two years to come. If your trees grow more than three feet that year, don't cut, but wait until the winter following, and then cut the third year's growth, which will be two years old, to 30 inches. After that pruning, you can lay away your knife, as there will be little use for it, excepting where a limb is broken, etc. There will be nothing to do now, but to cultivate, harvest the crops and spend the money.

Stony Point, Sonoma Co.

Effect of Frost on Almonds.

TO THE EDITOR:—The discussion of almond growing in your issue of the 21st inst., shows the tree to be a strong, fast grower, and quick bearer, but makes no mention of the danger of destruction of the crop by late spring frosts,—a thing which we understand often happens. Can we learn through your columns how far this is true; also what is the location—hilly or otherwise—of the orchards mentioned by Mr. Treat.

A SUBSCRIBER.

Paso Robles, January 23, 1893.

The foregoing letter was referred to Mr. Percy Treat who responds as follows:

TO THE EDITOR:—I am in receipt of your favor of the 31st ult. asking me to reply to letter signed "Subscriber" which you enclose. When the almond buds are just opening, which is about now, they are liable to be killed by a heavy frost; but it takes a pretty severe one. Last night we had quite a frost here and about one-eighth to one-quarter of an inch of ice. But I notice that the almond buds, which are swollen to the bursting point almost, and are very tender consequently, have not suffered in the least. Of course, we might have it cold enough to kill them; such as the winter about four years ago, if I remember right. But even that cold weather came too early in the winter to affect the buds here.

The orchards mentioned by me are on the level plain only about four miles from the tule land of the Sacramento river. They are on land all made by Putah creek in the last 40 years. Any further information I am able to give or matters relating to almond to explain, I will gladly do so.

Davisville, Feb. 1, 1893.

PERCY TREAT.

Olive Culture in California.

(Conclusion of essay by President B. M. Lelong of the State Horticultural Society.)

LETTER FROM JOHN S. CALKINS.

POMONA, Jan. 23, 1893.

Mr. B. M. Lelong—DEAR SIR: The olive orchards at Pomona in the main have been recently planted, though there are several that are five or six years old and two or three that are older. One of the latter neglected during and after the boom, having had several different nonresident owners, was taken in hand by the late G. C. Muir, who had never handled olives before. He made that season 3000 gallons of pickled olives and several gallons of oil. The latter won the first premium at the citrus fair; the pickles sold for 75 cents to \$1 per gallon, and the returns from the three acres amounted to upward of \$2500. He thus demonstrated that even those not experienced in the business can make excellent oil and pickles with simple and cheap means, as his entire apparatus cost less than \$100.

Mr. Almstead, of New York, has a four-acre olive orchard here which commenced bearing last year. The fruit this year was bought by a local firm for five cents per pound, or about 22 cents per gallon. The returns were \$100 per acre. Had the owner made his olives into pickles himself, which is the custom among growers, he would have got 80 cents per gallon for the pickles, or nearly \$400 per acre.

Owing to the many object-lessons here showing immense profits in olive culture, the industry has become of absorbing interest. The cost of tillage is from \$10 to \$15 per acre per year, till the trees come into bearing.

The outlook for a ready market as the product increases is most encouraging. The State is a large importer of alleged olive oil and

pickled olives, the meager home output as yet being exhausted soon after it is put upon the market. Owing to the superiority of our goods, the foreign article must give place to the home product as soon as it is to be had in sufficient quantity to supply the demand.

The Mission variety has heretofore produced the oil and pickles put upon the market, but many new varieties have been imported into the State within the past few years. Of these I have nearly sixty sorts in my nurseries; a number of them are in bearing here and elsewhere in the State, namely: Nevadillo Blanco, Manzanillo, Rubra, Pendulina, Oblonga, Regalis, Uvaria, Columella and others. They promise to be very valuable acquisitions.

LETTER FROM HON. ELWOOD COOPER.

SANTA BARBARA, Jan. 22, 1893.

B. M. Lelong Esq.—Your letter of the 13th is before me. The amount realized per acre on olive trees depends so much upon the ravages of the black scale that no correct idea can be given. I wrote an article for the *Illustrated Californian*, January number 1892, page 51, from which you can draw. I have had on 15-year-old trees 54 to the acre, over 200 pounds to the tree, 8 1/2 pounds to the bottle, say 22 bottles, 1188 bottles, worth \$1, less 5 per cent, \$1129. Cost of picking and preparing, 25 per cent, \$282; net, \$847 per acre.

The following year there was no fruit. Four hundred and twenty-three dollars each year, but this was a wonderfully good year. Scale insects will prevent the trees from fruiting, and without a parasite I would advise the planting to go slow. Nothing short of kerosene emulsion, and two sprayings each year, will keep the trees in fairly good bearing condition. If fumigation is used, it will have to be done in midwinter. Prof. Coquillett has reported that the gas will not destroy the eggs. Again, so far as oilmaking is concerned, unless cottonseed-oil adulteration can be prohibited by compelling the compounders to state on the labels, the market is very limited. There is a good market for pickled olives if properly prepared. The cost of bringing olive trees into good bearing will be about the same as oranges.

Third is answered in the first.

The variety: I only plant the Mission. I have other varieties, but am trying to sell them.

5th. The obstacles are black scale and counterfeit labels, mercantile dishonesty, the absence of the knowledge by consumers of the true value of pure products. When these difficulties are overcome, the olive industry will be paramount to any other product.

6th. I cannot give you the experience of any grower except myself.

LETTER OF ALFRED WRIGHT OF POMONA.

B. M. Lelong Esq.—Your favor of January 13th came to hand in due time. I have been too busy this season to experiment with my orchard as to quantity. I only measured the fruit from one of my three-year-old Manzanillo olive trees, which yielded four gallons of olives. Some of my four-year-old Manzanillo and Nevadillo Blanco must have had five or six gallons to the tree.

When it was time for the first picking I was filling my three hot-houses with olive cuttings, which so occupied my time that I had Messrs. Thacker & Son come and pick them for pickles, which are No. 1, I assure you.

I want to state right here before I forget it, that some of the dealers and nurserymen throughout the State advertise the Nevadillo Blanco as only good for oil. I have as fine pickled olives of the Nevadillo Blanco as you or any other person ever ate.

I also made a small quantity of olive oil, which is No. 1. The cost of bringing an olive orchard into bearing. The standard price here is \$15 per acre per year, "and is what I am getting." I am selling No. 1 one-year-old Manzanillo and Nevadillo Blanco olive trees well-rooted for \$100 per thousand, "which are much better than old trees on account of having all the fibrous roots which older olive trees do not have," which can be set in orchard for three cents per tree and at \$15 per acre, per year is not expensive.

I set my first to acres April, 1888, which was too late in the season. A number of both varieties fruited quite heavily, as you will see by small photo, from branch from Manzanillo taken October, 1891. The same trees bore heavily last year also. This is all done on dry land without irrigation, and 73 feet to surface water.

3rd. You ask, does the demand for olive oil and pickled olives warrant the planting of new olive orchards?

Everything goes to indicate that this State will never grow too many olive orchards, as the present demand for pure olive oil and pickled olives is far greater than the supply. There were pickled in this valley a good many thousand gallons and not enough for home consumption; besides one wholesale house in New York sent on an order for 25,000 gallons of pickled olives, but could get none. Just as soon as we get enough grown in this State so we can ship pickled olives East by the carload, or trainloads, so soon will it pay.

"What varieties give the best returns."

My orchard is principally of the Manzanillo and Nevadillo Blanco varieties, still I have about 40 varieties in orchard in small lots, and quite a number of them are in bearing. So far as tested, I must say my preference is for the Manzanillo and Nevadillo Blanco.

This coming season I will be more particular with my orchard as to knowing what it will pay per acre.

LETTER OF REV. C. F. LOOP OF POMONA.

POMONA, Cal., Jan. 20, 1893.

B. M. Lelong Esq.—Your letter dated Jan. 13th is before me, and I assure you it gives me great pleasure to respond to your request, in aiding in the good work of deepening the interest already felt in olive culture in this State. The subject assigned you for the January meeting, "The future of the olive and olive oil," is invested with the deepest interest to every intelligent horticulturist in California.

The young man starting out in this industry now will not be liable to serious mistakes. With all available help at command, he takes a careful survey of his ground in making his location, satisfying himself with regard to its requisites, soil, climate, elevation and exposure; he then selects his trees, with reference to stature, precocity, fruitfulness, oil-producing qualities, size and delicacy of pulp. Power of resistance, as well as degree of resistance, in reference to untoward influences of wind and frost, should enter into this important problem.

Comparing the history of climatic conditions in California during the last century with the well-authenticated history of Italy covering that period, we are able to recognize and appreciate the superiority of California in the olive belt.

We read the record of severe storms, devastating frost, rapid change in temperature, with the mercury descending to 8° Fahr., causing great damage and destruction to olive trees in all parts of southern France and Italy.

After the severe frosts of 1872, a Commission was appointed to examine the extent of injury in Tuscany. In their report to the Board of Horticulture in Florence, we find the statement that they found one variety (Leccino) uninjured by frost; single trees were standing untouched in the midst of plantations once important and famous, now destroyed.

While we do not look for such severe storms and low temperature where we would locate an olive orchard in California, knowing that the tree would be killed if the mercury fell to 8° Fahr., still it is a satisfaction to know that we have on our list of imported press olives this valuable tree which withstood the severe test of frost in Italy. The olive belt of California has been free from injurious frosts this winter, the changes of temperature normal, in startling contrast to the conditions on the seaboard of the southern States, while in southern Europe, where the olive grows, blighting frosts and desolating snowstorms are prevailing as far south as Naples in Italy.

It seems reasonable, under our superior climatic conditions, to look with confidence upon the success of the olive, when we see what others have accomplished, at home and abroad and under the deepening influence of intelligent foresight in selecting location, in selecting varieties to meet our highest hopes, we apply the well known principles of vegetable physiology, causing the tree to grow develop and reproduce, under the influence of light, heat, moisture and a due supply of appropriate plant food.

It is unnecessary, however, to always follow the windings of the

beaten path. We live under favorable conditions to make departure and improvements; and the intelligent olive-grower should turn to the best account every opportunity to aid nature in this work of development and reproduction. Our hints and suggestions upon arrangement, symmetry and utility we can glean from the olive belt of the world. We can secure, through the aid of photography, pictures of trees in groups, or massed in plantation, on the Grecian Island, where Sappho sang, on the breezy hills of Palestine, on the interior plains of Damascus, on the red fields and hillsides of Malaga, under the dewy freshness and soft skies of Amalfi and Salerno in southern Italy.

With such incentives to exertion, with such an alluring prospect of success, with the best varieties, at reasonable expense at hand, from which to make your selection, with a virgin soil, warmed by the all-beholding sun, with a sea breeze grateful and invigorating alike to man and the vegetable realm, our advice is, put your hand to the plow and work with manly strength and might, as intelligent and energetic Californians are doing in other branches of horticulture, and look forward in hope to the consummation of your labors, when the olive, matchless in beauty, perfect in symmetry, color and stature, shall stand in the fairest avenue of the garden—an emblem of peace, prosperity and fruitfulness.

Under the head of practical results, my own experience may be of some benefit. In 1875, I planted about a dozen rooted cuttings of the Mission olive. The soil was a rich, gravelly loam, with perfect under drainage. The elevation was 1200 feet, with gentle exposure to the south and west. With perfect care and cultivation, the trees made a remarkable growth; no pruning being done, except to keep the stem clean. On the eighth year the trees bore what I called a full crop. From two of the largest trees I gathered 75 gallons. The olives were prepared for the table and sold by two of our grocers of Pomona, for \$75. On the ninth year no blossoms appeared. On the tenth year another full crop. Nine of the trees averaged 35 gallons of fruit. One old tree, planted in 1837, yielded 40 gallons. These olives were prepared and sold for 80 cents a gallon, bringing \$284. These ten acres were planted 33 feet apart, and stood upon one-fourth of an acre. At this rate an acre would bring an income of \$1136. Allowing one-half for expenses, we would still have over \$500 net income. Let it be well understood that in this experiment all the conditions were favorable in the highest degree. Except in the amount of water, these olives had the same care and cultivation as the orange trees growing on an adjoining lot.

Mr. George J. Mitchell of Pomona has 550 Mission trees five years old, from which he has already gathered four and one-half tons of fruit, and has in sight at least one and one-half tons more to harvest when the fruit ripens. Mr. Mitchell could have sold his crop readily for \$100 per ton, but prefers to cure the fruit himself and place it upon the market. The price of Mission olives delivered here at the curing-house is \$100 per ton.

Among those who have experimented successfully in making oil on a small scale, Mr. Harvey Hewett of Lugonia may be mentioned in this connection. Having worked carefully and successfully for four years in these experiments, Mr. Hewett is able to give valuable testimony in favor of this branch of the industry, involved in oil-making. According to his testimony, an orchard in full-bearing will pay 20 per cent, where the orchard has a commercial value of \$1000 an acre.

According to official reports, the importations of olive oil were as follows:

YEAR.	Gallons.	Value.
1881.....	384,413.....	\$480,683
1882.....	508,028.....	
1883.....	536,749.....	
1884.....	610,420.....	
1885.....	493,928.....	
1886.....	634,354.....	
1887.....	744,766.....	
1888.....	654,162.....	
1889.....	893,338.....	
1890.....	893,984.....	\$819,110
1891.....	605,509.....	\$733,489
1892.....		\$879,613

This table shows the number of gallons imported in 1890, was more than double the number imported in 1881. In 1892, the value was \$876,613, an increase over the previous year of \$143,127. Now add the amount produced and sold in California, and you have an idea of the commercial demand for olive oil in the United States.

The amount paid for imported pickled olives from Cadiz, Spain, in 1891, was \$259,410. From Marseilles, France, \$111,118. From other sources, including Italy, \$49,632. Total in 1891, \$320,163. Increase from 1890, \$108,346.

The following directions may be a benefit to those who have a few olive trees in bearing and are anxious to try the experiment of making oil: Buy an ironwood cider mill, costing \$45 or \$50, with improved press attachment. Make a bag of Russian crash the same diameter as the hoop of your press. Gather olives perfectly ripe, crush in the mill, the pulp falling into the bag in the hoop until full, tie the bag securely, then apply the press lever and commence the pressure gently at first, until nothing more can be obtained. The water of vegetation containing the oil is caught in earthen jars and carried to the cellar, and after a day or two, the oil rising to the top is skimmed off and filtered through cotton batting placed in a vessel with perforated bottom. This part of the process is repeated to insure the separation of all the particles of pulp in the oil. Everything coming in contact with the crushed fruit and oil must be absolutely clean.

After the first oil is expressed, the pulp bag may be dipped in boiling water until thoroughly heated and then returned to the press and a small quantity of second grade oil will be obtained.

If, in addition to this simple press, you incur the expense of a machine to extract the pits, before the pulp is put under the press, your work will be more satisfactory, as the pits are not desirable, for if broken, the oil from the pit would impart a different flavor to the oil of the pulp.

The varieties for oil which appear to be highly promising are Razza, Rubra, Grossio, Belmonte, Morinello, Corregiole, Infrantoi and Uvaria. The oil just made here from the Uvaria would delight the eye and palate of an expert in Lucra.

For pickling, the Ascolana and St. Agostino; the Hispania and Santa Catarina are recommended. The first two are white olives, with large and delicious pulp. The last two are remarkable for the size of the fruit, being the largest of all the imported varieties. As so many are planting the Regalis, Columella and Manzanillo for pickling, and as these trees, when bearing a full crop, give a medium-sized berry, the growers will find it necessary to raise a large olive when the time comes to displace the queen olive of Spain.

I regret not having received more answers, but those received are from men directly in the business and whose opinions are entitled to the greatest consideration.

Ten years ago there was but one brand of olive oil put up in the State, but now they number over a dozen. The production, however, is as yet somewhat small, as shown by the following figures: Total product by years—

YEAR.	Gallons.
1888.....	590
1889.....	1,142
1890.....	5,202
1891.....	11,011

Total product from 1888 to 1891.....17,945

We have not yet the figures showing the output of 1892, but know that it does not exceed that of 1891; in fact, is much below it.

In 1890 there were 893,984 gallons of olive oil imported into the United States, valued at \$819,110. Our domestic output up to 1891 was only about a two-hundredth part of

the importations of 1890. There are now 7997 acres planted in olives in the State; of these, there are 2883 acres in bearing.

My own opinion regarding this question was expressed in an article written for the *San Francisco Examiner* of Dec. 1, 1892, in which I said:

"The American taste has not yet been educated to a proper appreciation of this delicate fruit, nor learned to use the oil made therefrom, and spurious olive oils find a sale in the market on account of their low price, where the genuine article can hardly find purchasers.

"While the olive has been grown in California from the date of its earliest actual settlement by white men, so far as its production goes it is yet in the experimental stage, and while there is no question but that olives and olive oil will yet prove profitable to California growers, it would not be wise on the part of a beginner of limited means to plant it on an extensive scale for profit.

"My advice to the beginner with limited means is, don't experiment. That can be left to larger growers who have already made enough to branch out in new directions where some chances are to be taken.

"The are in this State many olivegrowers who get excellent returns from their orchards, but have to overcome numerous difficulties in preparing their products for market."

FRUIT MARKETING.

The Raisin Growers at Fresno.

The California Raisin-Growers' Association held a meeting at Fresno, beginning Wednesday of last week and lasting two days. The attendance was fair and the interest general. The chief business was the consideration of the extended report of the executive committee and discussion of the proposed raisin-growers' bill and means to secure its passage by the State legislature. Reference to these matters was made in the *RURAL PRESS* last week, and extracts printed from the report, a full synopsis of which is as follows:

The committee reports that the raisin crop for 1892 amounted to about 2700 carloads, or 42,000,000 pounds. Of this, about 1000 carloads were sold and forwarded East prior to Nov. 1, at prices which the packers assured the association would bring the grower for the greater portion 4½ cents per pound. In November several hundred carloads of the remainder were consigned to Eastern brokers, who in many instances loaned money thereon, and were sold at prices that would bring the grower about one cent per pound. Since the first day of January competition appears to have ceased, and the raisin market is slowly regaining its normal condition. Several sales have been made at advanced prices, and at the time of writing their report raisins were, in some centers, selling at 50 per cent above the prices current during the month of November.

The committee attribute the evils existing to the insane competition which exists between rival cooperative packing companies, and rival commission packers of the State, and to the practice which has hitherto prevailed of throwing the great bulk of the raisin crop of the State upon the Eastern market at one time, without regard to the consumptive demand; to the fraudulent and dishonest branding of raisins, and to the practice indulged in by many of the cooperative packers of consigning raisins to Eastern brokers and drawing upon such brokers for one-half the estimated value of the raisins, and requiring the broker to advance the freight; to the great jealousy which exists between rival packers, and also between rival brokers; to the absence of any systems of uniform marketing; to the sale by needy growers to packers who trade upon the necessity of the grower and purchase his raisins at prices varying from 1½ to 2½ cents per pound, little more than one-half the cost of production.

The report says also:

"To summarize this year's operations, we would say, that, while many of the brokers and packers honorably maintain their obligations and observe the combination price, nearly one-half of the entire pack of the State was sold at a price that would for the most part pay the grower 4½ cents a pound.

"As before stated, in the month of November the compact was broken and many packers consigned raisins East, borrowed money upon them, gave the broker permission to sell them at any price they would bring, and they were so sold at prices, which, after deducting freight, charges for packing and commission, would not net the grower one-half the amount it cost him to produce the raisins.

"For example, many carloads were sold at 3½ cents per pound. From this would have to be deducted \$1.40 a hundred pounds for freight, 37½ cents per hundred pounds, the price charged by the commission packer for packing loose raisins; and 2½ cents brokerage and commission; thus netting the grower less than 1½ cents a pound.

"Trading upon this demoralized market the Eastern broker became the buyer, purchasing largely of the raisins still unsold in the State, from the discouraged packer, and holding them for a large profit.

"Your committee have before them a list of sales made during the past few days, by which many cooperative packing houses have, through their management, succumbed to the panic thus created, and have disposed of their raisins for cash to the broker, packed and ready for delivery, at from 2¼ to 2½ cents a pound. In contemplating this state of circumstances, it should be remembered that every pound of raisins delivered at the packing house costs the farmer 2½ cents a pound to produce.

"The time has arrived when the growers should take the marketing of raisins into their own hands."

An appeal is made for funds, and the plan of organization of the State raisin-growers outlined. A bill to be presented to the legislature, authorizing the organization of the association, is submitted. A synopsis of its provisions is, the title being

"An Act to Establish a California State Raisin Growers, Packers and Brokers' Association, and prescribing the powers thereof."

Section first creates the association as a State institution, with the full powers of an incorporated body.

Section second provides that each member who shall be a grower of raisins shall have as many votes as he may have acres in bearing raisin vines in this State, one vote for each acre. The making of a false affidavit of ownership shall be deemed a felony. Packers and brokers shall be entitled to a number of votes equal to the average number of votes of a grower.

Section third provides that the association shall be organized in Kutner hall in the city of Fresno, at a date to be hereafter fixed.

Section sixth vests the association with the power to expel any member in the manner prescribed by the by-laws.

Section seventh provides for the appointment of committees of reference and arbitration, for the settlement of such matters as may be voluntarily submitted to arbitration by members or nonmembers, the chairman of each committee being vested with the power to administer oaths and to compel the attendance of witnesses.

Section eighth prescribes that when a final award shall have been rendered, an execution may issue thereon, the same as if it were a judgment rendered by the Superior Court.

Section nine authorizes the association to require oaths of office and bonds from its officers.

Under section tenth fines may be collected by action in any court of competent jurisdiction.

Section eleventh requires every package of raisins to be submitted to the official inspector, who shall place on each package the proper designation of its grade.

Section twelfth defines the duty of the inspector.

Section thirteenth provides for the punishment of counterfeiters of the official seal and brands by a fine of not less than \$100 nor more than \$1000, or by imprisonment in the county jail not exceeding one year, or by both such fine and imprisonment.

Section fourteenth provides that no raisin-grower shall consign, sell or deliver any raisins either in or out of the State of California to any person not a member of the association, without the written consent of the association.

Section fifteenth provides that no association broker or packer shall handle or sell any raisins belonging to nonmembers, without paying to the association a sum which shall be as much per acre as would equal the membership fees of the association.

Section sixteen requires every association packer and broker to enter into a bond for the faithful observance of the rules of the association.

An outline of the proposed Constitution of the association was contained in the columns of the *RURAL PRESS* December 24th.

General discussion followed the reading of the report by the secretary.

W. M. Van Normer believed it was unjust to saddle any of the blame for low prices on the cooperative packing houses.

Chairman Norris read a letter from Matthew Dean, the importer, in which Mr. Dean said: "There is no competition from Spanish raisins whatever. The competition is from within and among your own agents."

A. C. Bryan, of Kingsburg, said Dean had told him recently in New York that the difficulty in the raisin market was caused by overproduction of raisins in California.

The speaker also believed that there was overproduction.

The only way to deal with the evil was to curtail production by not converting the second crop into raisins and by shipping only the best quality of raisins, he added.

Alexander Gordon stated that the executive committee had received several hundred letters from brokers and others all over the eastern states, and every one of these persons denied that there was any overproduction.

If there was any overproduction of raisins, why, asked Mr. Gordon, has the price of raisins advanced one cent per pound recently? This would not be the case if the market was glutted or if there was overproduction.

THE PROPOSED ACT.

Upon the reading of the proposed legislative act, the various provisions were adopted, section by section.

The adoption of these sections is merely expressive of the sentiment of the association that the bill do pass the legislature.

Mr. Gordon said that the question before the association was whether the association should be perpetuated or whether it should be allowed to be scattered to the winds of heaven. He had become tired of mutual associations where 5,000 members might do wrong and each saddle the blame upon the others. He wanted a legally incorporated institution where each would be bound by law. The reason why the market was broken last season was because growers stood outside of the association and did what they pleased and they were joined by packers and brokers.

It was decided that the board of directors should be composed of nine members.

W. Applegarth feared that 6,000 raisin growers in California could not be successfully organized into one body, and he suggested that an organization of packers be effected, and in this way a method would be established by which prices could be maintained.

A member said he would be willing to start the raisin growers' association if the co-operative packers, and not less than four of the outside packing firms and 500 growers would enter the permanent organization. He would not care to go into it with fewer members than that.

It was decided to send C. C. Wright and John S. Dore to Sacramento as a committee in the interest of the bill.

The association adjourned Thursday afternoon, subject to the call of the chair.

THE STOCK YARD.

Kindness to Stock Pays.

TO THE EDITOR:—The Bible tells us that "a merciful man is merciful to his beast." In many places in this fair land of ours there are societies organized for the worthy purpose of preventing cruelty to animals. All such efforts meet with the hearty commendation of humane people. But how many of us are there, who, although we may be in full sympathy with this most praiseworthy work, nevertheless, through ignorance or inexcusable carelessness, often cause the most acute and distressing pain to dumb animals, "the speechless friends of man."

Quite generally domestic animals receive kind treatment. But if we should give the subject a little thought and attention, we would learn that our domestic animals are often subjected to torment and pain, that with little trouble we might alleviate. For instance many horses are tormented by too tight throat-straps and unnecessarily short check-reins. Through the want of proper shelter and the lack of careful and intelligent feeding, our domestic animals are often compelled to endure the torments that must necessarily accompany a poor physical condition.

But there is another side to this question. The neglect of domestic animals not only works a hardship on the animals themselves, but the owners also must suffer. For there is a complete concurrence of testimony to the effect that stock and poultry are very much more valuable to their owners when they receive thoughtful and intelligent attention than when they are neglected.

To show how thoughtlessness can cause unnecessary suffering, I beg the reader to bear with me, while I relate a recent experience of mine. I was visiting a schoolmate at his home in the country. His father is an intelligent pros-

perous farmer. Usually he uses the most scrupulous care and humane treatment in the handling of his stock. During the course of a ramble over the farm with my friend and schoolmate, I noticed a poor neglected sheep in a small field that did not seem to contain a blade of grass. The place, moreover, was wet and damp from recent heavy rains. I asked my friend how this sheep happened to be in its present neglected condition.

"Oh, that sheep is old and worthless," he answered, "and father had it turned out to die."

"But why didn't he shoot it?" I questioned.

"Well," said he, "father declared it wasn't worth the powder and shot to blow it up."

How could a man, usually kind and humane, be guilty of such cruelty?

That poor animal had in the only way within its power contributed to that man's wealth and happiness. Nobody, who has not actually experienced the horrors of starvation and exposure to inclement weather, can even imagine the indescribable suffering of that poor animal, as it patiently waited until death put an end to its misery. Although it was none of my business, subsequent contemplation of this experience has made me ashamed that I did not protest to my friend that it was his bounden duty to get his rifle and put an end to the life of that defenseless animal.

If this article induces at least one person to give his dumb animals a little more thought and attention, I have accomplished some good.

Sacramento, Cal., Jan. 27, 1893.

NOVUM.

A Good Growth in a Bull.

Mr. O. McHenry, of Modesto, recently bought of R. Ashburner, Baden, the yearling Shorthorn bull Baron Townley. He was 21 months and 25 days old when shipped from Baden, and weighed 1450 pounds, a gain of 2.17 pounds a day for 677 days, which was a good growth considering that the bull had been kept out of doors night and day till within the last few months, when he was stabled at nights only, running with a few cows during the day.

It would be useless to say that he had not been well fed from calfhood to the present time, as such a growth could not be made without good and generous feeding, especially in an animal running out of doors the greater part of his lifetime. The same food would undoubtedly have produced a greater growth and weight—we will not say better results in a breeding animal—by more care in housing, grooming, etc. The more tender the methods practiced in rearing an animal, the more of tenderness in constitutional traits will there be developed and encouraged in such animal. Should the treatment be continued long enough, or till such times as the animal shall be placed under different conditions and surroundings, inferior in regard to food and nourishment, exposure to the elements and changes of weather generally, what happens then? Well, he simply "goes to pieces." Most live-stock men know what that means, and, not a few of them, to their sorrow.

The man who buys a pampered animal for the purpose of turning out to rough it, as the saying is, and gets its own living among cattle that have become habituated to that mode of living—perhaps never having known any other—is as much to blame for buying an animal that has been raised in such an unsuitable manner for the purpose for which he wants it as is the man who knowingly sells one such, that is likely to be subjected to ordinary treatment of common cattle, without first warning the buyer as to the manner of feeding that has been used and cautioning him against making any sudden changes in the general treatment.

If such precautions were more generally taken by breeders of all kinds of pure-bred stock, there would be fewer complaints of fine-bred animals not doing well after having changed owners.

It is imperative with the breeder of pure-bred stock to put his bulls in good condition for selling, in order to dispose of them to the advantage of both himself and the buyer, giving the latter something in return for his money, wherewith he may be sure of making a satisfactory improvement on his present stock of cattle. It is also equally useless for a man to expect to better the thriving qualities of his cattle by buying half-starved and only half grown bulls to do it with. Such men are sure to lay all blame on the breed, instead of where it properly belongs, viz., want of good feed and plenty of it.

POULTRY YARD.

Too Much Money Goes East for Eggs.

The editor of the *Marysville Democrat* is an authority on poultry. He never neglects an opportunity to point out, in both general and specific ways, how poultry should be managed to bring the best results, and what methods are surest to bring good prices. In a recent paper he says:

"A young hen worth one dollar in January will produce more than one dollar's worth net of eggs before the close of the year, and then the body is worth as much for food as it was before she produced the eggs. In what other legitimate business can we invest one dollar and get as large returns? and yet this is a low estimate. At the age of eight or nine months a healthy pullet will commence to produce eggs, and if hatched in April they will lay eggs before the holidays and continue to do so through the winter months, when the price is high. In this case a hen at two years old will have produced fully 200 eggs, which will sell for at least 20 cents a dozen and net the owner fully \$3, and then have the body for meat.

"It will pay to keep hens if we give them care, and it should be made a duty, and soon will become a pleasure to care for them as well as we would a horse, a cow, or any other domestic animal.

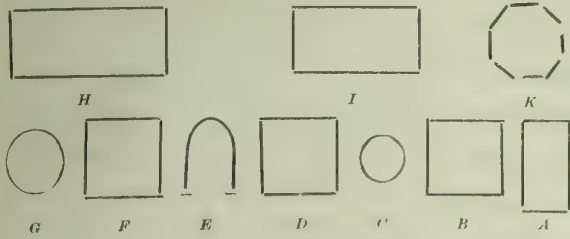
"The people of this State are sending thousands of dol-

lars away to the East to pay for eggs we consume, and also for poultry we eat, when there should be a surplus every year if the people will give the business due attention. This is of far greater importance than we think for, and there is no place in the world where the climate and facilities are better adapted than here."

THE FIELD.

Alameda County at the Citrus Fair.

Alameda county has a characteristic representation at the present Citrus and Mechanics' Fair in San Francisco. With the single exception of the citrus displays, no feature of the entire exhibition has attracted more attention or higher and more general commendation. It is artistic and useful, and shows to the best advantage the diversity, extent and value of the products of that splendid county. Its location is good and its arrangement excellent. It is to be found under the gallery to the left of the main entrance, where it occupies a ground space 20x70 feet. The displays are made largely in pyramids from 10 to 15 feet in height. The general plan of the exhibit may be discovered in the following outline:



Alameda County Exhibit.

- A.—Minerals.
B.—Jellies, canned fruits, etc.
C.—Grains and vegetables.
D.—Citrus fruit.
E.—Fruit arch in glass.
F.—Chinese shaddock tree.
G.—Fruits, vegetables, nuts, grains, etc., in glass.
H.—Wines.
I.—Wines.
J.—Wines.
K.—Wines.

Where the varieties of fruits, grain, vegetables and other things shown are so uniformly excellent, it is difficult to particularize. The whole collection, gathered largely by Mr. F. E. Emlay, gives evidence that great care was taken in the selections and that the best methods of preservation were adopted, and every preparation made for a varied and attractive showing. No special attempt was made to secure prodigies in the fruit, vegetable or cereal kingdoms; but the design was to show average specimens of the best products of the county. The effort has been highly successful, as appended details will show. The number of all varieties is 439, and the total specimens about 1500, perhaps more. The separate varieties are generally shown in several manners. Grains, for instance, appear both in glass and in sheaf. Vegetables are fresh, and in glass where possible, and so are fruits. The diversity and extent of the exhibit can best be shown by the following authentic enumeration of articles:

- | | |
|-------------------------------|--------------------------------|
| Apples, 10 varieties. | Plums, 7 varieties. |
| Apricots, 6 " | Prunes (dry), 5 varieties. |
| Asparagus, 2 " | Peaches (dry), 2 " |
| Almonds, 9 " | Apricots (dry), 2 " |
| Currents, 1 " | Peaches, 14 " |
| Borax, 4 " | Pears, 13 " |
| Corn, 4 " | Potatoes, 2 " |
| Cherries, 13 " | Peas, 2 " |
| Crab apples, 2 " | Persimmons, 2 " |
| Cucumbers, 4 " | Quinces, 4 " |
| Carob, 1 " | Rhubarb, 3 " |
| Carrots, 2 " | Squash, 7 " |
| Dates, 1 " | Salt, 3 " |
| Figs, 3 " | Tomatoes, 3 " |
| Grapes (table), 10 varieties. | Sugar (10 jars) from beet seed |
| Grapes (wine), 16 " | to sugar. |
| Hops, 1 " | Wines, 128 varieties. |
| Lemons, 2 " | Wheat, 128 " |
| Medlar, 1 " | Barley, 31 " |
| Nectarines, 2 " | Oats, 35 " |
| Olives, 2 " | Rye, 7 " |
| Vegetables, 28 " | Spelt, 9 " |
| Oranges, 7 " | |

The astonishing number of 128 varieties of wheat is displayed. The kinds are as follows:

- | WHEAT. | |
|--------------------------------|------------------------------|
| Hungarian, | Chiddam, |
| Red Goldfinder, | Carter's Prince of Wales, |
| Big White Club, | Carter's Bird Proof, |
| Missojen, | Probstier, |
| Common March, | Russian Durmer, |
| Carter's Earliest of All, | Nonette Lausanne, |
| Rye, | Fulcaster, |
| Anglo Canadian, | Palestine, |
| Red Chaff, | Carter's Standup, |
| Indian Winter, | Carter's Double Pearl, |
| Clausen, | Whittington, |
| Hallett's Original Red Winter, | Polish, |
| Nicaragua, | Red Sonora, |
| Genoese Winter, | White Club, |
| Square Sicilian, | Propot, |
| Big Long Bearded Club, | Fern of April, |
| Diamond, | Odessa, |
| Black Bearded, | Winter Raubs Black Prolific, |
| Victor, | Imp. Egyptian, |
| White Banate, | Carter's Halboun Wonder, |
| Hallett's Genealogical, | Yellow Noe, |
| Champlain, | Extra Early Oakley Winter, |
| Carter's Pride of the Market, | Carter's Queen, |
| Michigan Mixed, | Hallett's Pedigree, |
| Paine's Defiance, | Four-Rowed Sheriff Imported, |
| Mammoth, | Blue Bearded, |
| Golden Drop, | Little Chili, |
| Hunter's White, | Volo, |
| Thuringian, | Touzele, |
| Centennial Black Bearded, | Smoggi, |
| North Alerton, | Defiance, |
| Siberian, | Russian Red Bearded, |
| Brenner, | Bohemian, |
| Carter's Flour Ball, | Martin's Amber, |
| Austrian, | Bearded Club, |

- Jonquille,
Sicilian,
Pringle's Best,
Carter's Hundred Fold,
White Crimea,
Tunisian,
White Flanders,
F. Gates,
Red Sea,
Red Bearded,
Egyptian,
Hedgehog,
Currell's Prolific,
Selby's No. 1,
Proper,
Forelle,
Oregon Big White Club,
Improved,
Full Weight,
Improved Rice Winter,
Blue Glass,
Solid Strawed Poulard,
Winter,
Victoria,
Royal Australian,
Tanganrod.

Other varieties are:

- BARLEY.
Erfurt,
Berkeley Hybrid Rowed (6),
Berkeley Hybrid Rowed (2),
Manchurian,
Block Two-Rowed,
Thuringian,
Four-rowed Spring,
Small Blue Naked,
Six-rowed Winter,
Scotch Two-rowed,
Rice or Sprat,
Black Spring,
Palestine,
Italian,
Carter's Prolific,
Two-Rowed Skin Lip,
Guamlaya,
Kalina,
Annate,
Six-Rowed,
Nepaul,
Frick's Drought Proof,
Large Naked Two-rowed,
Bluish Naked,
White Australian,
Two-rowed,
Hallett's Pedigree Chevalier,
Black Six-rowed,
Chevalier,
Peacock.

- CHERRIES.
Royal Anne,
Black Tartarian,
Rockport Bigarreau,
Pontiac,
Centennial,
Golden Spanish,
Gov. Wood,
Elton,
Black Republican,
Burr's Seedling,
Morello,
Grafton,

- Kentish.
ALMONDS.
Languedoc,
Lewelling,
Brier's Seedling,
Huff's Seedling,
Standard Seedling,
King's Paper Shell,
Nonpareil,
I X L,

- WINE GRAPES.
Petit Benot,
Sauvignon Blanc,
Carignon,
Muscadelle du Bordelaise,
Burger,
White Verdal,
Orleans Riesling,
Gros Blanc d'Espagne,
Green Riesling,
Barceau,
Black Penot,
Semillon,
Grenache,
Verdot,
Mataro,

- ORANGES.
Washington Navel,
Mediterranean Sweets,
Konah,
Dwarf,
Mock,
Japanese Unshiu,

- Chinese Shaddock.
DRIED PRUNES.
German,
French,
Silver,
Fallenberg,

- Robe de Sergeant.
PEACHES.
Crawford,
Geo. IV,
Susquehanna,
Early Crawford,
Nichol's Cling,
Seller's Cling,
Orange Cling,
Mary's Choice,
Hale's Early,
Lemon Cling,
Salway,
Muir,

- Runyon's Orange Cling.
PEARS.
Prickly,
Beurre d'Anjou,
Bartlett,
Easter Beurre,
P. Barry,
Doyenne du Comice,
Winter Nelis,
Beurre Hardy,
Pound,
Howell,
Beurre Clairgeau,
Keifer's Hybrid,

- Duchesse.
SQUASH.
White Bush Seal,
Yellow Seal,
Portugal,
Iron Bark.

- WINEs.
White—
Golden Chasselas,
Riesling,
Chablis,
Moselle,
St. Julian Soriner,
Haute Sauterne,
Chateau Yquem,
Malbec,
Cabernet,
Zinfandel,
Mataro,
Linda Vista,
Sweet—
Tokay,
Muscadel,
Sherry,
Port.

One of the conspicuous features of the exhibit is an arch, whose pillars are glasses containing a fine miscellaneous display of fruits. The varieties, mixed in charming confusion, are seventy-five, filling jars seventy-six inches in length, nine inches in diameter.

A bunch of black Ferrara grapes weighing 10 pounds is to be seen in another jar. The presentation to public view of this Brobdignagian specimen is said by some people to give the strongest possible evidence that Alameda county is really the only Simon-pure promised land, and none others are genuine! The prototype of this very bunch, they claim, is the marvelous specimen brought back to the children of Israel by two of the spies sent out by the great biblical Columbus, Moses! A picture of these two ambassadors, carrying suspended on a pole between them a huge morsel of the vineyard, big as a sheep and nearly dragging the ground, is familiar to all who have studied the history of that ancient time, and noted the illustrations thereof to be found in their Sunday-school books. It can hardly be conceded, however, without more authentic and more conclusive evidence, that the views of these enthusiastic friends of Alameda county are correct.

Onions weighing three pounds each and a branch of eleven apple quinces weighing thirty-six pounds, and car-

rots weighing seven or eight pounds each are also shown.

Occupying a modest position on the floor is an iron-bark pumpkin weighing 150 pounds. This is a Lilliputian pumpkin at the side of another field squash Mr. Emblay had secured. It weighed 247 pounds and is said to have been a thing of beauty that would make the average squash pie epicure's very mouth water. It was shapely, symmetrical and altogether lovely. But rats attacked it, and it succumbed.

An interesting feature is 19 glasses showing beet sugar in its progress from the beet seed to the refined sugar product. It is from the factory at Alvarado.

A Japanese mandarin tree with fruit, and a Chinese shaddock, with its citron, are both shown growing.

A ripe watermelon that seems to have altogether overlooked the fact that winter has come and nearly gone, is entirely at home among twenty-seven other vegetable products.

There is another exhibit in a showcase, by Mr. Charles A. Wetmore, which a placard describes as "outcroppings of tertiary stratification at Cresta Blanca showing positive indications of a rich natural gas territory and valuable clay and shell rock."

There is an excellent showing of oranges and lemons, which demonstrate that Alameda is well adapted to the production of citrus fruits.

Sheaves of Chevalier barley, grey oats and wild oats have been entered in the contest for the best single display of cereal specimens. Of the barley it is said that the yield of grain—also shown in glass—is 56 bushels to the acre, a high average being 52.

A piano, manufactured by Bruen, is shown as an Alameda product. The case is of Alameda redwood.

There is a collection of wines of very choice quality. It is small, but only the first-class product is aimed to be shown.

It is the design to transfer this display to the World's Fair at Chicago, probably under charge of Mr. Emblay. Space 26x80 feet has already been allotted in the California building, larger than given any other county. A feature of the Chicago exhibit will be a topographical cast of Alameda county, showing also San Francisco bay, its various lines of steamers, Alameda's cities, with street-car lines and conspicuous buildings, its towns and the general contour and appearance of the country, and its adaptability to fruit, grain, vegetable and other products.

An important part of Alameda's collection is the silk exhibit, which is upstairs, in the gallery. Silk cocoons in profusion and in several colors are shown, with numerous beautiful specimens of silk embroidered and fine needlework. The cocoons are arranged in a unique cabinet made from the following varieties of woods, native to Alameda county:

- | | |
|-------------------|--------------------|
| Redwood (4), | Adenostoma, |
| Black oak, | California myrtle, |
| Laurel, | Wild plum, |
| Manzanita, | Wild currant, |
| Buckeye, | Common Mahonia, |
| California lilac, | Poison oak, |
| Christmas berry, | Wild cherry (2), |
| Willow, | Alder, |
| Madrone, | Sycamore, |
| Coffee berry, | Mountain pine, |
| Wild cherry, | California acacia, |
| Locust, | Saparulle, |
| | Leatherwood. |

Altogether the Alameda exhibit is a very satisfactory and exceedingly tasteful showing of the wide and varied resources of the county.

TRACK AND FARM.

A Plow Horse Becomes a Racer.

The sale of an ex-plow-horse, Aster, for \$2,500 at Lodi, last week, has attracted much attention among horsemen. He was not sold for farm purposes, but for the track, for he is very speedy, and is said to have a record of 2:16. The history of the gelding is thus told by the *Stockton Mail*. The purchaser is Clark Archer, the salesman Wall Brothers:

"Aster was raised by Ferguson of Farmington. The gelding was by Dexter Prince out of a dam of good blood. He showed no speed, and was put to plowing on Ferguson's farm. Last spring, after being shod with heavy iron at the Sunol shop, he was driven to a road cart to Lodi and tied up to the fence at the track there while the owner went inside. A race-horse driver, chancing to see the animal, got permission to try him around the track, and to the astonishment of everybody Aster showed 37½ on the last quarter, which, considering the fact that it was the finishing quarter, was better than a 2:30 gait—and this was with heavy shoes and after a drive of nearly fourteen miles. The Wall Brothers heard of the performance and purchased the horse for \$1,000. He made 2:16 in a race at Sacramento during the last State Fair. The coming season he will be sent East in search of coin.

"The fact that hard labor in the field did not hurt Aster's limbs, but on the contrary seems to have improved them, suggests a new theory regarding the training of blood stock, and that is that rough work should be made a preliminary to the training. There is no question that it would give the horse steadiness, nerve, strength, wind and endurance, all of which are requisites for the racer. A horse having such a foundation for speed would not be likely to turn out chicken-hearted. Being accustomed to heavy labor, he would look on speeding as a pastime. Of course in this preliminary training overwork would have to be guarded against carefully, for otherwise the animal's limbs might be stiffened or his lungs or some other vital organ weakened.

"At Palo Alto colts that show no speed and cannot handle their legs are put to farm work, and it has been noticed that after they get toughened up they turn out to be pretty good trotters. The experiment of giving the same kind of exercise to promising colts has never been tried."

THE HOME CIRCLE.

The Way of the World.

There sat a crow on a lofty tree,
Watching the world go by;
He saw a throng that swept along
With laughter loud and high.
"In and out through the motley route"
Pale ghosts stole on unseen,
Their hearts were longing for one sweet word
Of the love that once had been;
But never a lip there spoke their names,
Never a tear was shed;
The crow looked down from his lofty tree—
"Tis the way of the world," he said.

A singer stood in the market place,
Singing a tender lay,
But no one heeded his sorrowful face,
No one had time to say,
He turned away; he sang no more;
How could he sing in vain?
And then the world came to his door,
Bidding him sing again;
But he recked not whether they came or went,
He lay in his garret dead;
The crow looked down from his lofty tree—
"Tis the way of the world," he said.

There sat a queen by a cottage bed,
Spoke to the widow there;
Did she not know the same hard blow
The peasant had to bear?
And she kissed that humble peasant's brow,
And then she bent her knee;
"God of the widow, help her now,
As thou hast helped me."
"Now God be thanked," said the old, old crow,
As he sped from his lofty bough,
"The times are ill, but there's much good still
In the ways of the world, I trow."

—Chicago Ledger.

Pie Country.

"Now, dear Mrs. Newcombe," she said, "if you're wise

You'll give up your scruples and learn to make pies.
There's cherry and currant and apple and peach
And lemon and grape—I have rules, dear, for each—
There's raspberry, blackberry, blueberry, mince,
And pumpkin and prune, and—well, no, not quince—
But all other fruits, I am certain, will rise
To meet the demand in the making of pies.

"They are handy for breakfast, for dinner and tea,
And they're handy for lunches as all will agree;
Why, up at our house we just make it a rule
To always send pie for the children at school;
And I'm sure I don't know what our men folks
would say

If 'twere not set before them at least twice a day.
Our kneading board's worn till it really looks thin,
And mother has ordered a new rolling-pin.

"There's scarce an occasion when pie isn't nice
Unless 'tis a wedding—and Uncle James Ric,
When his Sarah was married, was really unable
To make out a meal without pie on the table;
So they brought him some mince pie his hunger to
whet,

And he said 'twas the best piece of wedding-cake
yet;

O, yes, you will find, if you open your eyes,
That the folks in this region are bound up in pies."

—Exchange.

"Unto One of the Least of These."



THREE and thirty years had Artaban passed in his wanderings. His hair, once darker than the cliffs of Zagros, was now covered with wintry snow, and his eyes were dull as embers lingering among the ashes of a spent fire. Worn and weary and ready to die, but still seeking the King, he had come for the last time to Jerusalem, the holy city. It was the day after the Passover, and the streets were thronged. A strange excitement seemed to agitate the crowds, and a secret tide was sweeping multitudes toward the northern gate of the city. Artaban joined himself to a little group of Parthians, Jewish exiles from his own country who had come up to the Temple for the feast, and asked them whether they were going. "We are going," they answered, "to a place called Golgotha, outside the city walls; for it is said that one Jesus of Nazareth, who had done many mighty and merciful works among the people, has been taken by the priests, and delivered to Pilate, and crucified on the Hill of the Skull, because he said that he was the King of the Jews." The Magian's tired heart beat more quickly as he heard again these mystic words which had led him for a lifetime over land and sea. Dark and mysterious were the tidings, for how could it be that the King should perish? But he said within himself, "The ways of God are stranger than the thoughts of man, and it may be that I shall find my King in the hands of his enemies, and offer my pearl for his ransom ere he dies."

So Artaban followed the multitude, with slow and painful steps, toward the Damascus gate. But as he passed by the door of Herod's prison, there met him a guard of Macedonian soldiers, who were dragging with them a young maiden with torn dress and disheveled hair, thrusting her with rude blows toward the dungeon. As the old man

paused to look at her with pity, she stretched forth her hand and caught the edge of his long white robe. "Have mercy on me," she cried, "and deliver me if thou canst, O my prince, for I also am one of the children of Iran. My father was a merchant of Persia, and he is dead, and I am seized for his debts to be sold as a slave. Save me from worse than death!"

Artaban trembled. It was the old conflict in his soul which had met him on the plain of Babylon and in the cottage of Bethlehem—the conflict between the desire of faith and the pity of love. He drew the pearl from his breast and laid it in the hand of the slave. "Take thy ransom, daughter; it is the last of my treasures which I had kept for the King."

While he spoke there came a great darkness over the sky, and shuddering tremors ran through the earth, heaving like the bosom of one who struggles with a mighty giant. The walls of the houses rocked to and fro. Dust clouds filled the air. The soldiers fled in dismay. But the wise man and the slave girl whom he had ransomed crouched helplessly beneath the wall. With the last thrill of the earthquake a heavy tile, loosened from the roof, fell and smote the old man on the forehead. He lay breathless and pale with the blood trickling from the wound. As the maiden bent over him to see whether he was dead, through the silence there came a voice, small and still, and very distinct, like music sounding from a long distance, in which the notes are clear, but the words are lost.

The girl turned to look if some one had spoken from the window above them, but she saw no one. Then the old man's lips began to move as if in answer, and she heard him say in the ancient Persian tongue: "Not so, my Lord! for when saw I thee hungered and fed thee? or thirsty and gave thee drink? When saw I thee a stranger and took thee in? or naked and clothed thee? When saw I thee sick or in prison, and came unto thee? Three-and-thirty years I sought thee, but I have never seen thy face nor ministered on earth to thee, my King." He ceased and the strange, sweet voice came again, and the maid understood it not. But the dying soul of Artaban heard these words, "Verily I say unto thee, inasmuch as thou hast done it unto one of the least of these, my brethren, thou hast done it unto me." A still radiance of wonder and joy rested on his white face, like the ray of dawn on the mountain-peak. One long, last breath of relief exhaled gently from his breast. His journey was ended; his treasures were accepted. The other wise man had found the King.—Henry Van Dyke, in Harper's Magazine for January.

What the Presidents Died Of.

Rutherford B. Hayes was the only man that ever held the position of President to die of heart disease. Washington expired of pneumonia, John Adams of natural decline, Thomas Jefferson of chronic diarrhea, James Madison and James Monroe of natural decline, John Quincy Adams of paralysis, Andrew Jackson of consumption, Martin Van Buren of asthmatic catarrh, William H. Harrison of pleurisy, John Tyler of a bilious attack, James K. Polk of chronic diarrhea, Zachary Taylor of bilious fever, Millard Fillmore of natural decline, Franklin Pierce of inflammation of stomach, James Buchanan of rheumatic gout, Abraham Lincoln assassinated, Andrew Johnson paralysis, U. S. Grant cancer, James A. Garfield assassinated, Chester A. Arthur Bright's disease. He was one of three Methodists to become President, Johnson and Grant being the other two.—Columbus Journal.

His Credentials.

A certain Congressman, famous principally for his untidiness, was in one of the small towns of his district making a speech. During the day a couple from up the creek saw him on the street corner.

"Who's that, Hiram?" inquired the wife, who was interested in all the sights.

"Why, Marthy," was the reply, "don't you know him? He's our Congressman."

"Ugh!" she exclaimed, upbushly, he wears a powerful dirty shirt."

"In course, in course," said her husband; "but, Marthy, he's got to do something to show he's a Congressman."—Detroit Free Press.

A Wonderful Structure.

"Now, this house," said the native of Allegheny county, Pennsylvania, pointing out a log cabin to the stranger, "is the most wonderful structure of its kind in all this country."

"What's wonderful about it?"

"It's the only log cabin west of the Allegheny mountains that Washington hasn't slept in."

Oddities of Great Men.

Swift liked to write in bed.
Charlemagne was fond of hunting.
Tamerlane was an expert chess-player.
Buffon's only amusement was walking.
Bach's favorite pastime was gardening.
Poe found his sole amusement in drinking.

Roscoe Conkling was an excellent amateur boxer.

Danton was the most noted card-player of his day.

Socrates was said to be the ugliest man of his time.

Queen Victoria, during her youth, was fond of archery.

Peter the Great liked to be carried about in a wheelbarrow.

Hesiod hated women, and took no pains to conceal the fact.

Robespierre was fond of reading poetry aloud to his friends.

Emerson declared that he composed best when walking.

Charles II. spent much time in his chemical laboratory.

Fox, the orator, found his greatest pleasure in gambling.

Vicario could not listen to the sound of a flute without fainting.

Virgil, during the summer season, filled his house with butterflies.

Confucius, it is said, was passionately fond of watermelon seeds.

Francis I. was known as the most skillful joust of his country.

Themistocles was passionately fond of dancing and flute-playing.

Barclay, author of the Argenis, in his leisure hours was a florist.

Nero was fond of music and attained great proficiency in the art.

Cato's only diversion was drinking, and he was fond of this diversion.

Samuel Richardson wrote his novels while attired in a full-dress suit.

Disiderius Erasmus was always thrown into a fever by the smell of fish.

Thomas Carlyle's most congenial recreation was smoking in his garden.

Gladstone is fond of wood-cutting, and often amuses himself in this way.

Balzac, when not at work on his novels, entertained himself sketching.

More's "Utopia" was written as an amusement and to divert his friends.

Toots from the "Ram's Horn."

Good people never love bad company.
The memory of a blessing is itself a blessing.

A man with prejudice is a man with a chain.

The trust of the heart is always the trust of love.

The man who borrows trouble always has to pay big interest.

Labor troubles are often caused by men who are trying to make a living without work.

There is no sweeter music in heaven than the song that goes up from a grateful heart.

If there is any of the hog in a man the bristles will soon begin to show when he travels.

A hog in a pen never tries to be anything else, but the one in a streetcar tries to pass off for a man.

If there had never been any slaves except those sold on the auction block every land under the sun would be free.

Gems of Thought.

The world is a comedy to those who think, a tragedy to those who feel.—Anon.

Glorious indeed is the world of God around us, but more glorious the world of God within us. There lies the Land of Song; there lies the poet's native land.—Longfellow.

Great men are they who see that spiritual is stronger than any material force; that thoughts rule the world. Men say, Ah! if a man could impart his talent, instead of his performance, what mountains of guineas would be paid! Yes, but in the measure of his absolute veracity he does impart it.—Emerson.

The unity in this web of contradictions is its great wonder. How if this unity prove to be the law of which the oppositions are but one clause? How if the perfect unity were only attainable through the freedom of the natural diversity? And what is the substance and sum of this fundamental agreement? The desire of good, the progressive conception of which marks, more than anything else, the progress of the race.—Julia Ward Howe.

Life is a succession of lessons which must be lived to be understood. All is riddle, and the key to a riddle is another riddle. There are as many pillows of illusion as flakes in a snowstorm. We wake from one dream into another dream. The toys, to be sure, are various, and are graduated in refinement to the quality of the dupe. The intellectual man requires a fine bait; the sots are easily amused. But everybody is drugged with his own frenzy, and the pageant marches at all hours, with music and banner and badge.—Emerson.

Let nothing discourage us, not even our lowness and our slowness. The call comes from on high, but it reaches us wherever and whoever we are. It reaches us, for we have all heard it. The top of the ladder is in the heavens, but its foot is on the earth, and our next step may be upward; our every step may be upward, till we reach the glory into which the great Forerunner has entered. To follow him, what does it mean, but to accept his Father as ours, his human brethren as ours, and his spirit and leading light as ours.—Rev. Charles G. Ames.

What is it that comes in that day when a man begins a Christian life? Across a resolution which may be hard or easy for him, he sets forth into a new way of living. How often I have tried to tell to you a story of that newness! How many of you have known it well out of your own experience! He who has been living alone begins to live with God. He who has been living for himself begins to live for other men. New motives are open within him; new tasks are spread before him. Old things are passed away, all things are become new.—Rt. Rev. Phillips Brooks, D. D.

Proportion of Sexes.

Over the whole world the proportion of the sexes is about equal, but in separate parts of the world it varies greatly. For instance, in this country there are 98 women to 100 men; in Europe there are rather more than 100 women to 100 men. Canada has 95 women to 100 men. In uncivilized countries the men are believed largely to outnumber the women, this on account of the fact that more men are needed to carry on the wars in which such people are constantly engaged and because of the rougher ways of living.

Color of Teeth.

Dentists say that the greatest difficulty they meet with in their work is the matching of false teeth with the natural teeth of their customers. The tooth factories supply dentists with rings upon which are strung thin metal bars, each carrying a tooth at its extremity. There are twenty-five of these sample teeth that run all the way from nearly white to a shade that is almost olive. Some of the twenty-five usually match the patient's teeth, and, at any rate, enable the dentist to match the teeth by application at the factory.

Use for old Lemons.

Never throw away pieces of old lemons after they have been squeezed with the lemon squeezer. They will come in handy for removing the stains from the hands and other articles. Dipped in salt they will scour copper kettles nicely and remove stains from brass work. They will take stains and dirt and odor from pans and kettles as nothing else will. The odor of fish and onions can thus be removed easily.

An Embarrassment of Riches.

When Senator Lamar, who had just married a young wife, was appointed Secretary of the Interior by Mr. Cleveland, his wife spent a week house-hunting, and finally found what seemed to be a suitable residence

for a cabinet officer. She drove to the Senate, of which Mr. Lamar was still a member, to tell her husband the news of her discovery. His first question was:

"What is the rent, dear?"

"Seventy-five hundred a year."

The Senator lapsed into deep thought, and the young wife said, rather nervously:

"Do you think it extravagant?"

"It is not that," returned Lamar, slowly.

"I was wondering what I should do with the other \$500 of my salary."

Some Noted Australian Nuggets.

Referring to an interesting article entitled "Gold in Nature," and mentioning a nugget of 134 pounds in weight found in "South Australia" (Victoria?), perhaps a reference to some noted Australian nuggets might be of interest. Chief among these nuggets comes the "Welcome Stranger," which contained over 2300 ounces of gold, worth about £9,200, and was found on February 5, 1869, at Muligal, near Dunolly, in Victoria. Next in rank comes the "Welcome" nugget, found on Bakery Hill, Ballarat, in the same colony, on June 11, 1878, at a depth of about 180 feet. This nugget weighed 2200 ounces in the gross, and its value was £8780. It was sold for £10,000 to a party who wanted it for show purposes, and doubtless cleared thereby the difference in cost.

It would perhaps be a little too much to say that "nuggets have family ties," but though they usually "lie low," there are at times exceptions to the rule, and when found near the surface, as in the following instances, they are not infrequently in groups. The selections referred to (found in 1870, 1871 and 1872) are taken from the record of the "Berlin" gold-field in Victoria, and do not include the many minor nuggets found in that locality.

"Precious" nugget, 1717 ounces value £6,868, Catto's Paddock, at a depth of 12 feet.

"Viscount Canterbury" nugget, 1121 ounces, value £4420, John's Paddock, at a depth of 15 feet.

"Viscountess Canterbury" nugget, 896 ounces, value £3656.

"Kum Torr" nugget, 795 ounces, value £2872, Catto's Paddock, at a depth of 12 feet.

"Needful" nugget, 249 ounces value £984 Catto's Paddock, at a depth of 12 feet.

"Crescent" nugget, 179 ounces, value £704, John's Paddock, at a depth of 2 feet.

As a rule, the richest gold-fields are not those where the largest nuggets are found, as witness the well-known Gulgong gold-field. The largest piece of gold found on this field was only 64 ounces in weight, and was so thoroughly coated with ferric oxide that the man who was forking the gravel, etc., out of the sluice-box in which it was found, was going to throw it out, but that its weight attracted his attention.

We all Have Seen Them.

People who are proud of their humility.

People who talk all the time and never say much.

People who never say much and yet speak volumes.

People who say a great deal and do very little.

People who say little and do a great deal.

People who look like giants and behave like grasshoppers.

People who look like grasshoppers and behave like giants.

People who have good clothes but very ragged morals.

People who have an idea they are religious mainly because they feel bad.

People who wouldn't kill a chicken with a hatchet, but who try their best to kill their neighbors with their tongues.—Ram's Horn

Words of Cheer.

A warm heart makes a bright face.

A happy nature is a noble heritage.

The lowly look farther than the lofty.

A good work is a happy thought matured.

It is less difficult to alter our faith than our feelings.

A light shines brightest and farthest in the darkest night.

If we notice we may find as much sunshine as shadow in life.

Kindness does not thrive garnered in a lump, but grows as it spreads.

Some lives get so tangled that only death can smooth out the snarls.

Started off Well.

"Oh, Louise!" exclaimed Miss Wallflower, "what do you think?"

"What is it?" asked Miss Wallflower's dearest friend.

"I've had three offers of marriage this week."

"And your uncle's will in your favor was only made known last week. Oh, the wonderful power of money!"

YOUNG HERKY'S COLUMN.

Uncle Jed's Journey.

I never grieved, never fussed, but lived here calm an' still,
For forty years I lived here on the hill in Pokumville.

"Don't live here like a snail," said Jim, "within yer snail shell curled;
I'll pay yer fare to go out West an' let yer see the world."

An' so I got on board the train an' whirled off like a breeze,
But all I see upon the trip was dirt an' grass an' trees;
See water, stones, an' sich-like things; sometimes a brook an' hill,
Sez I to Jim: "All these ere things I see in Pokumville."

We stopped to see Niagara falls, thet makes so much loud talk,
An' we see a mess er water kinder tumblin' from a rock.

"If you spill water from a spoon," sez I to Jim, sez I,
"Tis 'zactly the same principal"—an' Jim he couldn't deny.

An' we crossed the Rocky mountains an' Jim said, "I call this grand,"
"They're nothing," sez I, "but great hunks of rock an' dirt an' sand."

An' we come to the Pacific, an' it made Jim look profound,
But I sez, "I don't see nothin' but some water sloshin' round."

An' we went to sev'ral cities—there wus nothin' there to see.
But jess er mess er houses an' some folks like you an' me.

An' we come into Chicago—sez Jim, "how's this for high?"
Sez I, "it's jest like Pokumville—the same ol' thing," sez I.

—SAMUEL WALTER FOSS.

Nickel Sunday.

Written for the RURAL PRESS by MARY E. BAMFORD.



HERKY, whose long name was Hercules, had been learning the Golden Text for Sunday. The verse was, "Treasures of Wickedness Profit Nothing."

His mother heard him recite it, and then she explained it to him, and they talked about cheating in business, and making money dishonestly.

"O Herky," said his mother, "You are my honest boy, and I want you to grow up an honest man! The bible says 'The blessing of the Lord, it maketh rich, and he addeth no sorrow with it.' But, Herky, cheaters don't get that blessing."

Herky nodded. "There're lots of cheaters," he said, "Mr. Lyons up at the corner told me about his cheaters. He rented his farm to some folks, up country, and he came down here to his store, and stayed, and while he was here, the folks at his farm sold lots of calves and chickens to the butcher, ever so many more than the folks told Mr. Lyons about, and they kept the money all themselves, and Mr. Lyons didn't know anything about it. And, after a long, long while, he went up there, and he asked the butcher, and the butcher showed him his book, and Mr. Lyons went and told those cheater folks to go straight off away from his farm."

"It's a dreadful thing to cheat," answered his mother, going away about her work. Herky jumped from the red rocking-chair, and ran out-doors. And then his conscience said a dreadful thing to him. "You're a nice boy to be criticising cheating! What about 'Nickel Sunday'?"

Consciences have a way of remembering things so long! Herky had thought that his conscience had forgotten all about "Nickel Sunday," before this. There were five children in the Reese household, and the mother's purse was so thin that only one nickel a Sunday could come out of it for Sunday school, and of course, the same child could not have the nickel every Sunday.

"If we lived East, I could turn the nickel into pennies, and then each of you could have a penny to put in," Mrs. Reese had told her five, "but here in the West where they never use anything less than a nickel, I think you will have to take turns. You may have Nickel Sunday first, Herky, because you are the oldest. Then Durcas, then Mark, then Rose, then Lizzie Henrietta. Now remember your turns."

And they had remembered pretty well till the other Sunday. It was Lizzie Henrietta's turn. Herky knew it. Lizzie Henrietta did not know it, because she was so little that she belonged to the primary class and could not keep five weeks' turns straight in her head. The other children had had their turns, and did not pay attention. But Herky knew.

He wanted that nickel. He did not want

to wait till his Sunday for one. His Sunday-school teacher liked to have the boys bring money. And Lizzie Henrietta was so little! Who cared whether a four-years-old brought a nickel to Sunday school?

Herky did not tell his mother a lie in words about it, but he got the nickel. His mother supposed, of course, that it was Herky's turn.

Herky gave the nickel to his teacher.

"It all goes into the Sunday school anyway," Herky explained to his conscience. "What difference does it make whether Lizzie gives the nickel or whether I do?"

But here to-day was Herky's conscience accusing him of having cheated that nickel Sunday!

"I didn't," asserted Herky. "I gave it to the Sunday school all straight, so there!"

But even this did not quiet Herky's conscience.

"You cheated! You cheated five cents' worth," said that inward voice.

Herky stamped his foot and flushed with indignation.

"Five cents ain't anything!" he declared. "Just think! Those folks on Mr. Lyons' farm cheated him dollars and dollars, selling chickens and things."

But the inward voice kept on: "You cheated! Cheated your own little sister, and then gave the nickel to Sunday school!"

Herky took a piece of shoemaker's wax out of his pocket and began to chew very fast.

"Cheated! Cheated!" said his conscience.

By and by, Herky took out the piece of shoemaker's wax. To keep it safely, he stuck it under the collar of his jacket. Then he went into the house.

"This is right," said his conscience joyfully. "He is going to tell his mother about Nickel Sunday."

And Herky did tell.

"O Herky!" said his mother sorrowfully, when she heard the story. "My boy that I thought was so honest and trying to do right!"

Herky's two cheeks grew very red, and a kind of choke was in his throat.

"Don't be sorry, mother," he faltered, "I'm never going to be a cheater again."

"No," answered his mother softly, "never again, Herky, for the dear Lord, to whom we give all our Sunday-school money, knows where every nickel of it comes from. Ask Him to forgive you, Herky, and keep you from ever cheating again. He don't want any cheated nickels."

Herky nodded earnestly. Then he ran up to his own room. When he ran down again a few minutes later, he was smiling. His conscience did not trouble him any more about Nickel Sunday. Do you know why?

Fight with a California Lion.

A California lion, measuring nine feet from tip to tip, a large, vicious looking beast with powerful paws, attracted quite a crowd on Saturday last as it lay dead in a wagon in front of Jaegel's saloon. The killing of this brute was quite a thrilling episode in the life of Mr. Arbuckle, the hunter, who captured him.

About twenty miles from Redding, on Pit river, the country is wild and broken, and it was while following an old trail up a steep hill that the hunter observed the lion lying on an over-hanging limb of a large oak tree. Two hounds accompanied the hunter, but they were away on a distant hill, yelping and following a cold trail. Without waiting for his dogs, he took deliberate aim with his Winchester, sending a bullet through the animal's shoulder. The beast bounded into the brush, disappearing from view, and from the noise made by the crackling of twigs and the rustling of the dry leaves, the hunter concluded that he had fatally wounded him, and that he was in his death agony. But he soon realized that such was not the case, for on glancing around he observed the animal about twelve feet away, charging upon him with cruel ferocity. Seeing that the brute meant business, he raised his gun and fired, missing him slick and clean, and before he could take his gun from his shoulder, the animal had jumped against the end of the barrel, forcing the hunter over backwards into a pile of brush with the lion on top of him. The situation was perilous, but the hunter did not lose his presence of mind. He noticed that one of the paws of the brute had caught in the forks of a sapling, and with his left hand he grasped the paw and held it fast, while with his right hand he reached for his knife and commenced jabbing it into the animal's neck, at the same time calling lustily for his dogs. In the meantime the lion was not idle, for, notwithstanding his broken shoulder, he tore the clothes almost off the hunter. Matters were getting desperate, for the man was growing tired and weak, and could not hold the lion's

paw in the crotch of the sapling much longer; he had to let go, but just as he did so the dogs came up, and jumping upon the lion with great ferocity, the earth gave way and the hunter was pushed down a sudden depression, and the lion getting free, gave battle to the dogs, but in his weakened state from loss of blood, he was no match for them and his career soon ended.

DOMESTIC ECONOMY.

APPLE TAPIOCA PUDDING.—Soak one cup of pearl tapioca over night. Pare and core enough apples to fill a round baking-dish; fill the holes in the apples with sugar and a little cinnamon; pour the tapioca over the apples and add one quart of water. Bake an hour. Serve with cream.

CREAMY RICE PUDDING.—Wash two spoons of rice in three waters, pour over it one quart of milk, add two spoonfuls of sugar, half a cup of raisins and a little nutmeg; cook slowly and stir often. Do not let a crust form until the rice is soft. When the milk begins to be creamy do not stir it any more, but let a light brown crust form on top. Serve warm.

BREAKFAST COFFEE CAKE.—Take a piece of bread dough and add one-half cup of sugar and a tablespoonful of melted butter, then roll out an inch thick and put on a greased pie pan; brush the top with melted butter, and cover thick with cinnamon and sugar; let it rise and bake quick. Cut in long, narrow strips to serve. Eat hot or cold. It is nicely made Saturday with the other baking, to use Sunday morning for breakfast.

LEMON SAUCE.—Wet one heaping tablespoonful of flour with two of cold water, and make a smooth paste, and stir into it two cupfuls of boiling water, stirring until it thickens. Beat together two-thirds of a cupful of sugar and a heaping tablespoonful of butter and one egg, then pour over this ingredient the cooked paste, stirring constantly for one minute, or until the sugar is melted and the eggs scalded. Now set back on the stove and mix in the juice of one large lemon and half the grated peel, or the juice of two small lemons.

PORK CHOPS AND FRIED APPLES.—Season the chops with salt and pepper and a little powdered sage and sweet marjoram; dip them into a well-beaten egg, then in grated bread crumbs. Fry for 20 minutes, then put them on a hot dish. Have some sour apples cut in slices around the apple, so the core will be in the middle of each piece, about three-fourths of an inch thick; lay them in the skillet the chops were taken from and fry a nice brown. Turn them carefully so as not to break them, and serve on the chops or in a separate dish.

ANGEL CAKE.—The whites of 11 eggs are first beaten to a stiff froth and 1½ cupfuls of powdered sugar or fine granulated sugar stirred into it. Add then a teaspoonful of vanilla and one cup of flour, into which has been mixed one teaspoonful of cream of tartar. The flour and cream of tartar should be sifted four times and beaten lightly into the other mixture. Bake 40 minutes in an ungreased pan with a tube in the center. Invert the pan and allow a current of air to pass under the cake as it cools. A turk's head pan (one with a tube) should always be used.



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AGRICULTURAL NOTES.

CALIFORNIA.

Butte.

Oroville Register: John Edwards, of Thompson Flat, two miles from Oroville and near Thermalito, picked this week a ripe tomato and sent to us a sample of the winter products of this climate.

Oroville Register: W. J. Austin, of Thermalito, brought us this week samples of young beets, carrots and potatoes. While the Atlantic coast is sheeted in ice and the people of many parts of Europe are shivering with the dreadful cold, it is pleasant to think that we live in a climate where beets, carrots and new potatoes grow in midwinter, where the vegetable wagon runs daily, and where radishes, lettuce, celery, cauliflower, cabbage, China cabbage, and other vegetables grow. At the home of Wm. Smith, of Pleasant valley, green-pea vines are growing and green tomatoes, with the tomatoes yet upon the vines.

Contra Costa.

Martinez Gazette: A branch of a flourishing date palm adorns the window of W. R. Matthews' real estate office. It has a large cluster of blossoms, resembling bunches of wheat-heads.

El Dorado.

The body of Mrs. Merry, the aged wife of a rancher near Coloma, was found frozen to death in a liveoak thicket, last Sunday. She went out Friday evening to search for her cow and got lost. Searching parties were out all that night and until she was found.

Fresno.

J. B. Hill is a dairyman of Fresno, and evidently has an enemy. The other night, Mr. Hill left 36 gallons of milk to cool before delivering it to his customers, and when he went for it in the morning he found it had been doped with a quantity of soap and dirty grease. Mr. Hill will henceforth use a padlock on his milkhouse.

Inyo.

A small bird inhabits the valleys and canyons putting into Death valley, making his home in the mesquit groves abounding there. His principal occupation seems to be a war of extermination against scorpions, which he is very skillful in killing.

Kern.

The Union avenue colony contains 13,000 acres of choice land, all under cultivation.

Linn valley cor. to Californian: Owners of hogs are particularly jubilant over the high prices offered for pork. Linn's valley will furnish a good many hogs for the market this spring.

Bakersfield Californian: W. C. Baker now has 160 acres of land prepared for crops on his place, 80 of which are already seeded to barley and alfalfa. The remaining 80 will be planted to corn. This entire area is to be irrigated from a single well, the water being raised by a centrifugal pump. The 80 acres seeded to grain and alfalfa have been irrigated once.

Lake.

Clear Lake Press: Between 250 and 300 acres of prunes will be set out in the vicinity of Kelseyville.

Clear Lake Press: While in Lakeport, this week, Mr. D. M. Hanson bought from Mr. Enochus and Mr. Maybee between two and three hundred dollars' worth of fruit trees. He is setting out about 25 acres to fruits of various kinds. He already has a fine almond orchard of about 14 acres, just beginning to bear.

Los Angeles.

The Pomona orange crop is estimated at \$125,000.

The Los Angeles Herald says that a new refrigerator-car service will be put on by the Santa Fe, between Los Angeles and Albuquerque, commencing January 31st. This will allow the shipment of less than carload lots of perishable freight on the Atlantic and Pacific road.

Covina Argus: Perry Bashor is shipping strawberries to Chicago and realizing 25 cents a pound net. At these prices a few acres of strawberries are valuable property. We notice also that H. M. Houser is shipping berries and is realizing 20 cents a pound in California markets.

Pasadena Star: The fruit-cleaning machine lately invented by Messrs. Coyle and Blockburger, has been in operation for the past few days at the Santa Fe freight depot, and it is said to work very satisfactorily. It does the labor of about three men, that is, it has a capacity of 150 boxes of oranges a day.

Nevada.

Grass Valley Union: Supervisor J. F. Robinson has planted this season 350 acres to oats, barley and wheat in Penn valley, and the appearance of the crops is very encouraging, as now they have made a growth that completely covers the ground, the grain being several inches in height.

Mendocino.

Ukiah Democrat: Eighteen cars, containing over 500 head of cattle, arrived at Cloverdale last week from Arizona. They were taken to the Gillespie ranch, south of Hopland. These cattle belong to Wm. Roberts, of Ukiah, and were brought up from Arizona by a son of the owner and Ed. Stone.

Merced.

Modesto Herald: Thirty-seven of the land-owners of the Turlock irrigation district permitted their irrigation taxes to become delinquent. Negligence is the cause, most of the delinquents being nonresidents.

Modesto Herald: Garrison Turner, of the

Grange Co., estimates that there are between 40,000 and 45,000 tons of wheat still in the county, unsold. Most of it is pledged for advances, however. The crop last season aggregated a little less than 100,000 tons, so that but a fraction over one-half of the crop has been disposed of. Prices still range low, best milling wheat bringing but \$1.22 in this city.

Orange.

Peach trees were in blossom at Santa Ana January 28th.

Most of the large orange-producers in and around Tustin have disposed of their crops, selling the crop on the trees.

An Eastern gentleman, who has recently purchased property at Buena Park, has planted roses on an extensive scale. He intends to establish a perfume factory during the coming season, it is said.

Santa Ana Blade: Rabbit hunts are held nearly every week on the Alamitos ranch. At the last hunt 22 rabbits were captured. The large-eared animals are plentiful there, and excellent sport is reported.

It is expected that 5000 pounds of sugar beet seed will arrive this week at Anaheim. Gen. H. A. Pierce states that the additional amount of 54,000 pounds has been ordered by cablegram from Antwerp. The farmers take a lively interest in the beet sugar industry.

Anaheim Gazette: The enterprising farmers of Centralia will erect a large creamery at that place to consume the milk product of that section and turn it into butter. The new enterprise is in the hands of Messrs. Potter, Bowen, Foster and others of the wide-awake farmers of that section, and is certain to achieve a big success.

Santa Ana Blade: The prospects for abundant crops this year have never been more inviting than at the present time. The ground during the whole season has been in excellent condition for plowing and seeding, and the grain has an excellent stand everywhere. The fruit interests, too, are exceedingly favorable, the cold weather of this month preventing a premature swelling of the fruit buds.

Placer.

Placer Herald: Thomas Marshall, of Grass Valley, owns an 80-acre ranch near Penryn, on which he is making permanent improvements. Last year he planted a number of acres to deciduous fruits, and he informs us that this season he will set out ten acres to olives.

San Bernardino.

During January there were shipped from Ontario of oranges 3230 boxes, lemons 205 boxes.

Times Index: The rains are timely and abundant enough to satisfy the most disgruntled farmer on the face of the earth. Those who have neglected to plow and sow have made a mistake, but it is not too late to raise a crop of hay from late-sown barley. In fact, it is quite early enough to sow barley for that purpose.

Santa Clara.

Thomas Gordon, of Gilroy, claims that his wife died from the effects of bad head-cheese, bought from a local butcher. His entire family was very ill, and in all he says there were 21 persons in Gilroy taken ill in a similar manner, and all of them had eaten the head-cheese.

Solano.

A Vacaville fruitgrower lately furnished the Reporter of that town with an item showing that from ten acres of fruit he realized \$2,771.90 as the gross proceeds, but he had to pay for freight to the East \$902.61, or 30 per cent of the whole, while his net profits, after deducting all expenses, were \$562.62.

Dixon Tribune: Napoleon Vian has been troubled a great deal during the past few months from chicken-thieves. He surprised them at work one night recently, and although the fusillade he gave them from his old smooth-bore did not produce any fatalities, it scared the culprits to such an extent that they are not likely to trouble him again in the future.

Sutter.

Marysville Appeal: R. C. Kells and H. P. Stabler, two Sutter county horticultural commissioners, quarantined a shipment of peach trees consigned to Mrs. Starr from the firm of W. R. Strong & Co., Sacramento. They were infected with the "root knot," which is considered more dangerous than the scale. The commissioners are looking after all infected nursery stock that enters the county.

Sonoma.

Healdsburg Tribune: J. A. Flack, one of the proprietors of the Magnolia farm, reports a large sale of orange trees, to which a considerable number of acres are being planted around Healdsburg this year. They are principally of the Washington Navel.

Pierce Bros. have just started another batch of very fine horses from New York for the Santa Rosa stock farm, among them being Vida Wilks, for which \$9000 was paid, and she has a record of 2:18.

Petaluma Cor. Santa Rosa Democrat: The Taxidermy Club have displayed in Newburgh's show-window a specimen that is attracting a great deal of attention. It is an immense snow-white pelican, the largest of its species ever seen in this neighborhood. From tip to tip of its outstretched wings it measures nine feet, and standing erect it is over four feet in height. It was killed last week on the Petaluma Sportsman Club's preserves by the game-keeper, Steve McGovern.

Petaluma Cor. Santa Rosa Democrat: Wagon-loads of potatoes are still arriving in town. When that article of produce commands a good price it is surprising to see the quantities

that are unearthed and brought to market. It seems as if the raisers of the tuber have loads of them stowed away in unconceivable places waiting for a raise in price.

Tehama.

Sonoma Democrat: A. W. Riley has just returned from a trip to his ranch in Tehama county, where he made the sale of 4500 sheep at \$2.50 per head, to be taken to Nevada county. Mr. Riley says a great many sheep are being taken there, and that in the near future Nevada promises to become the greatest sheep country in the United States, and also that the cattle in Nevada and Eastern Oregon were never in better condition than at present.

Tulare.

Hanford Journal: Buyers are offering six cents per pound now for pork, on foot, and find it hard to obtain hogs at that figure. No doubt many a raiser in this State is now wishing he had fed his second crop of raisins to swine.

Porterville Enterprise: It is not often one sees a lemon of extraordinary size, but last Monday, Dr. P. F. Chapman showed us one which weighed 18 ounces. It had grown on a lemon tree in his garden, and without doubt is the largest ever seen.

Tulare Times: A number of San Joaquin county farmers have returned to the old method of breaking up their fields with a single plow. Three horses are used and the ground is plowed deep. By long use of the gang plow the ground has become very foul. The bad results of poor plowing may be seen in all parts of the county, and it seems that farmers ought to find out what the trouble is in the course of time.

OREGON.

N. S. Biddle of Eugene, Or., has received a patent on a wagonroad for which he claims many things, among them that it is possible to make an easy grade up the worst hills; to prevent wagon-ruts and chuck-holes; that it requires no ditching or turnpiking, and can be built at little cost. He also claims that a team of horses can draw twice as much on his road as on any other road now known.

Oregon Exchange: Is Oregon destined to be a fruit-growing rival of California? She has 100,000 acres of growing orchards and 36 nurseries with 9,000,000 growing trees, and her people think it is destined to be a great State for fruit-growing. State Senator Veatch of that State boasts that he gathered from his garden on December 1st twigs of raspberry vines upon which were blossoms and ripe berries.

The East Oregonian states that two farmers living 25 miles from Pendleton, Or., are at work thrashing wheat that grew in 1891 and 1892. Thrashing wheat in midwinter is a decided novelty. They are averaging about 200 bushels per day.

WASHINGTON.

An attempt is to be made to adopt the trellis system for growing hops in the Yakima, Wash., country, instead of allowing them to climb poles as heretofore. Some of the advantages claimed for the new system are that the hops ripen more evenly on a trellis, and that the cost of picking is greatly lessened. Besides, it is claimed that the yield will be at least a third greater.

A rancher near Spangle, Wash., was treed by a large pack of coyotes the other day. These animals have heretofore been considered too cowardly to attack a man. Cougars also have caused much annoyance this winter to parties living west of that town, one of them carrying off a young calf from a barnyard one night last week.

Chicago's Population.

There is probably no city of importance in the world that can show such rapid and wonderful growth as Chicago since its destruction by fire. To-day its population is about 1,200,000. Mr. Peter Van Schaack, one of the leading merchants of that city said in conversation, that a large number of his personal friends, as well as scores of representative men throughout the Northwest with whom he had conversed upon the subject, had found St. Jacobs Oil a pain-curing and healing remedy of the most extraordinary efficacy. It is the Great Remedy for Rheumatism, Neuralgia, Sciatica, Backache, Bruises, Burns, Swellings etc.

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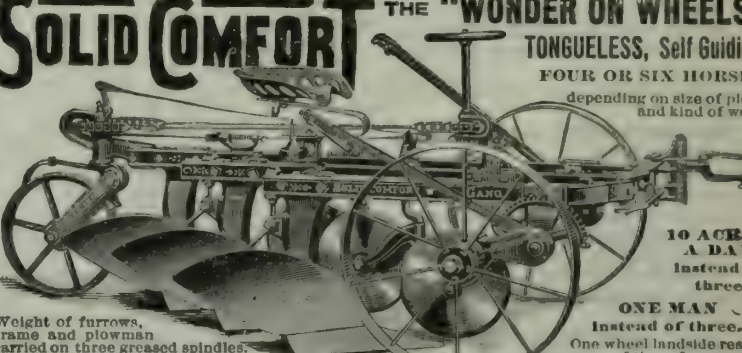
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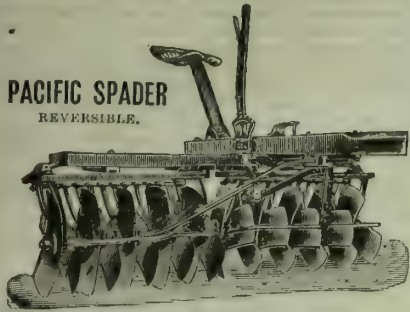
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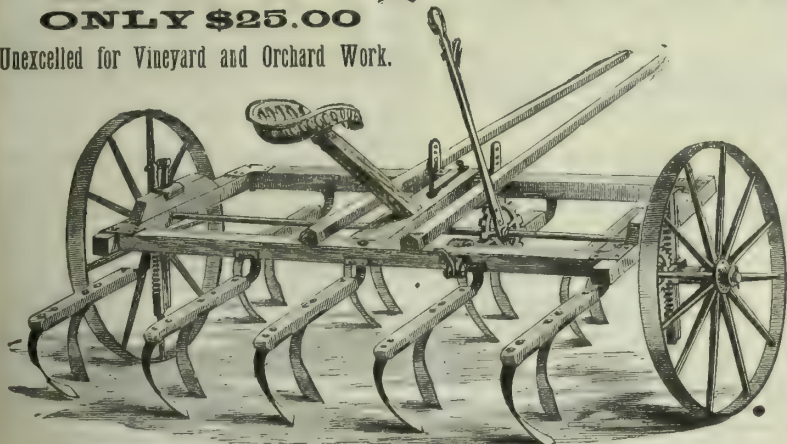
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PATRONS OF HUSBANDRY.

From the Worthy Master.

The National Grange, at its last session, held in Concord, N. H., through its committee on foreign relations, said, among other things: "Thousands upon thousands of the scum, the drift, the debris of pauperized depravity continue to come without any abatement. They are a threat to morality, an injury to our honest wage earners. The vitiate the sanctity of the ballot and sow seeds of discontent. The committee would recommend that the legislative committee urge upon Congress the enactment of such laws, or some restrictive amendments to the immigration laws, as will, in a measure, put a stop to these worthless immigrants."

There are about 9,000,000 farmers and farm-laborers, and about 27,000,000 persons who are daily engaged in some sort of agricultural work in the United States. This makes almost 50 per cent of the population of the Union. But alas! What per cent of this 27,000,000 hold the official stations to which their ability, their integrity and their numbers entitle them? Will some well-informed statistician, with his magnifying glasses, figure it, so that the farmers may know how well they are paid for their economy, industry and sobriety.

If the agricultural college is not doing the work for which it was created, where is the fault? Let farmers and their sons look to it. A broad learning for the future farmer is the only safe stone on which to build. If you want help, be sure, first of all, to help yourself. Let the college of agriculture help your boy to become a thorough student as well as a thorough farmer. Science in agriculture is much needed and will always command a good price.

How about that Farmers' Institute? Have you one in your county? It will pay to hold one, provided your farmers will attend, with note-book and pencil in hand, and with a desire to get as well as give information. There is no use of saying "I know all about farming, or stock-raising, or fruit-growing, or dairying, and therefore need no Farmers' Institute to help me." If you feel so, the Institute, or the Grange, or the Alliance, will be of little benefit, but if you want to improve, any one of these will help you.

The sheaf of wheat, from time immemorial, has been symbolic of agriculture. It is one of the almost universal emblems of the Grange. It is found in the halls, at the harvest feast, on the seals of many subordinates, and is the emblem of our goddess, Ceres. It is always welcome. The many heads in the sheaf, the many golden kernels in each head, all bound in one compact body, is emblematic of the Order, which is composed of individuals, of subordinate, Pomona and State Granges, and the National Grange. And when Ceres holds out her gentle hand, filled with the golden grain, there is always reason for thanksgiving, and there a happy people are usually found. It ought to be a great inducement to the farmers of America to know there is an Order, to which they are eligible to full membership, where the sheaf is an offering of kinship, and where man and woman, son and daughter, lover and sweetheart can meet in sweet reunion, and learn, each from the other, of the farm, the household, the library, and of all the duties of life.

San Jose Grange unanimously voted down the resolution to withdraw. We expected as much. San Jose Grange is alive and knows the full importance of acting in unity.

Cheering reports from Yuba City Grange.

Vacaville Grange expects quite a stir as soon as spring comes.

Sister McMahon of Dixon Grange, a pioneer in Grange work, is sorely afflicted. Her son, also a member of Dixon Grange, and a bright and successful business man, on whom the mother fondly relied, died in Oakland, February 1, 1893. We extend heartfelt sympathy to the bereaved relatives, on our own and on hundreds of other Patrons' behalf.

Friendship, as developed in the Grange, has made many thousands of persons happy. They have learned to know much of their fellow-beings that would not have been learned elsewhere. And this has given them a confidence in humanity that has developed into lasting friendship. Many have learned in the Grange to know "that friendship is a sacred trust."

This legislature seems inclined to dissolve the people from a Railroad Commission. Who, of all the taxpayers not stockholders in the railroad company, will feel sorry if the Commission is abolished?

Farming in California is away behind this year. Almost too much wet, foggy, rainy weather.

The several general deputies will please keep their gavel in hand and go right along with the work required.

Farmers' Institutes ought to be held everywhere. Don't wait for Harrison to retire or for Cleveland to be inaugurated, but go to work at once for the Grange.

Wanted, 25 new Granges in California in 1893. Will you help get them?

The National Grange has, very properly, left the raising of funds for a Grange Temple, to the women of the Order. There is a snug sum of \$20,000 set apart by the National Grange, which will be available only when \$30,000 has been secured from other sources. With \$50,000 it is thought a comfortable, commodious building can be erected for the Order of Patrons of Husbandry. The work of raising the \$30,000 is now in the keeping of the several committees on Woman's Work. It is to be presumed that every subordinate Grange will take hold of this with a full desire and expectation of making it a success. No effort should be spared to get all interested. There is no need of failure. But intelligent work will be demanded on the part of those in charge. California will not be behind in this good cause. "Where there is a will there is a way." Let all put a shoulder to the wheel and soon the load will be moved. Any plan that will best please your Grange, whereby a good, snug sum may be raised is the plan to adopt. Freely this State has received; let her people freely give to a good cause.

The Grange has won another victory. This time it is the Anti-Option Bill. No body, organized or otherwise, has had as much influence on Congress,

in the passage of this bill, as the Grange. If one-half the good expected to the producers of this nation results, then the Grange will have won a honor as lasting as time itself, and will pay for itself a dozen times a year. It would be a neat volume of many pages that could record all that the Grange has done for the people of America. And yet there be those who profess to ask in sincerity, "What has the Grange accomplished?" To all such let me say, study the history of your country. Look where you will, since 1865, and see the work of the Grange in the interests of humanity. If of charity, there the Grange has done its share; if of education, there too it has worked for good; if of society, no one will deny its victory; if for purity in politics, the Grange has ever been foremost. Look where you will and see the Grange banner, with its motto "For Home, for Country, for Humanity, *Eislo Perpetua*." Santa Rosa, Feb. 5, 1893.

From State Lecturer Hoffman.

A special meeting of San Joaquin Co., Pomona Grange, was held in Lodi, Feb. 2, for the purpose of hearing a report from the legislative committee and to further instruct them, and through them to the representatives in the legislature from this county upon bills in the interest of the farmers and also upon those that are detrimental to the farmers' interest, that have been presented in the legislature to this date, and other subjects, a notice of which had been given through the columns of the RURAL. The party that was to be present and show the members and people their mistake in advocating the "initiative" or "referendum," did not materialize, which was a disappointment to many of us. But, nevertheless, the sessions of the Pomona Grange of this county are becoming more interesting at each session.

The matter of the Attorney-General Hart accepting a compromise of the taxes due the State from the railroad at about 65 per cent, was taken up and discussed pro and con for two hours, and upon a vote taken upon the proposition there was only a bare majority in favor of accepting the compromise, while the other half insisted they should pay it all as other individuals have to do, and as all gentlemen do who come forward and pay their taxes without litigation. And right here let me add that it would be well that the people of each county call a mass meeting at once and memorialize their senator in Sacramento to stand by the people at this time and vote for the Reassessment Bill and the bill to declare the office of Railroad Commissioner in the several districts vacant. Let them know they are there to carry out the will of the people and not to do as they wish of their own choice.

The people in some of the counties should act at once. (I could mention some of the counties), drawing my conclusions from the speeches that were made in Sacramento three days ago, but perhaps it is not advisable to say what counties.

Many, if not all, of the subjects enumerated by the worthy secretary of the State Grange, last week in the RURAL are commendable, but I do not think there will be many that will get enrolled upon our statute books. If the farmers would organize themselves into Granges, or other reform organizations, at once discuss the questions, and if deemed best for their interests, see to it that two years hence they have a person to represent them in the legislature and guard their interests, and secondly that there be a legislature that would favor retrenchment—for it would seem from the attaches of this session that we will have to have a larger State House or divide the state. Talk about economy where there are bills now on file for appropriations amounting to over \$16,000,000.00. Where is the Governor's 50-cent limit? The State Board of Equalization will have to raise the valuation on real property and I presume, judging from the past, that the railroad would be about the same, or lowered a little perhaps.

This Grange has been visited again by the reaper. And I have had to record on our memorial page the death of a young sister of this Grange. Sister Blanche Shattuck, who departed this life December, 1892.

February the 1st, I visited West San Joaquin Grange and installed the officers. Installation was in the evening and public. Notwithstanding it was a rainy evening, the hall was full. San Joaquin Grange is holding about the same membership that they had when I visited them last, the time there were 38 to take the third and fourth degree in company with Bro. Overhiser. After the installation I made a few remarks to the objects, purposes and the benefits to be derived from being a member of the order. After which a feast; after the feast a literary programme; then the young members and their friends took possession of the hall for a little exercise, and continued I do not know how long. Fraternally, J. D. HUFFMAN.

Lodi, Cal., Feb. 5, 1893.

A Sad Meeting of Yuba City Grange.

TO THE EDITOR: The saddest meeting ever held by Yuba City Grange convened on Saturday last at the usual time and place. On Thursday evening previous two of their number in the very prime of youth and vigor were suddenly and without a moment's warning called from our midst to the bourne from whence no traveler returns. They took a pleasant ride on the Feather river and when a mile or so above the town they fell unobserved from the boat and went to the bottom together never to see their friends again. They were Past Master Willard D. Woodworth and Miss Pauline Newkom.

Mr. Woodworth represented Yuba City Grange at the Haywards meeting of the State Grange, and Miss Newkom served a term as Pomona in the State Grange, and both filled many and important positions in their own Grange. Their ages were 25 and 28 respectively.

As the members entered the hall a deathly silence prevailed and deep grief was depicted upon every countenance and the words spoken were soft and low, as if in the presence of the dead. Worthy Master P. L. Bunce was almost overcome with grief as he called the Grange to order, and as he with faltering voice announced the heart-rending event the sympathy of the entire congregation went out to him and the immediate relatives of the deceased in tears. Owing to this sad calamity and the heavy rain of the forenoon the attendance was slim, and no business was transacted except such as apper-

ained to the sorrowful event. At this writing only the body of young Woodworth has been recovered, and was on Sunday borne to its last resting-place in the Yuba City cemetery.

The Grange meets again on Feb. 18, to which time the work of conferring the first and second degrees was deferred. Fraternally,

Yuba City, Feb. 6, 1893. GEORGE OHLEYER.

From World's Fair Commission.

W. I. Buchanan, Chief of Department of Agriculture, writes from Chicago, Jan. 26, to the Secretary of the State Grange as follows:

"This department is making arrangements to have a number of practical talks delivered during the Exposition in the Assembly Hall, connected with the Agricultural Building, on topics connected with agriculture, horticulture, live stock and forestry. The Assembly Hall is completed and will seat about 1200 people. It has been especially designed for lectures and as a central gathering place. It is adjacent to one of the main stations of the elevated railroad, and is connected with the second floor of the Agricultural Building.

"My wish is that these talks should begin about the first of June and end about the 15th of September. I desire that they should cover the entire range of subjects included under the general terms agriculture, horticulture, live stock and forestry. I believe these talks should not exceed 45 minutes in length; they should be given at some stated hour to be arranged by me to conform to the other uses for which the Assembly Hall will be used, as, in addition to these talks, it will be used as a meeting place for live stock organizations, and general meeting place for the juries of award of the exposition; in addition to this, I believe there is in contemplation the use of the building for 30 minutes each day by the association having in charge the experiment station exhibit in the Agricultural Building. My thought is that these lectures, or talks, should be on practical topics by practical men.

"A list of subjects for these lectures is now being carefully prepared and I will be greatly obliged to you if you will submit to me as suggestions, the names of a number of gentlemen in your State most competent to treat different subjects relating to agriculture, horticulture, live stock and forestry in a practical and interesting manner, and who would likely accept an invitation to take part in these lectures. Stenographic reports of these talks will be made and I shall eventually edit and compile them.

"Programmes will be printed before the opening of the Exposition and the names of the speakers will be given, if possible. The admission to these talks will, of course, be free to persons inside the grounds, and it will be arranged in some way so that those most interested can take advantage of them.

"With the hearty cooperation of the various organizations of farmers, I trust that these lectures will not only be of temporary, but lasting and permanent value."

The above has been submitted to the consideration of the executive committee of the State Grange, and no doubt able speakers will be duly suggested on behalf of California. Further suggestions are in order.

Past Master Overhiser's Report.

General Deputy W. L. O. writes the secretary from Stockton, Jan. 30th: I saw in the last RURAL, in the Secretary's column, a paragraph which says, "Begin at once;" and, acting on the suggestion, I left home on the morning of the 28th for Washington Grange, 23 miles distant, as I saw by the Press they were to install their officers. Arrived just in time to be at the opening, unannounced and unexpected, and installed their officers. Then came the feast. After satisfying the inner man, the assemblage was called to order and the public invited in. The overseer then took charge of the entertainment, and all listened to many good recitations and music. The programme being ended, the W. M. rose and was about to dismiss the nonmembers, when I asked the privilege of a few minutes' talk, which was granted. Before commencing my little talk, I asked the chaplain about how many there were present eligible to join our Order. Looking hastily around, he said about eight or ten. I then took the floor and gave them one of my impromptu talks, and asked the secretary to get out his applications, and before I took my seat we had five applications, three men and two women, with the money accompanying them.

Quite a little episode took place while we were getting the names. There was a young man present whose father and mother are old members and have frequently urged their son to join. I went to him with an application and asked him to sign it. He looked me squarely in the face and said: "I would prefer to have a young lady ask me." I turned from him at once and handed the paper to Flora, a young lady who had just been installed. She stepped forward and politely handed him the application and invited him to join our Order, which he consented to do by filling out the application. Young Patrons, make a note. The audience was then dismissed and Grange called to order. After a short session, the master closed the Grange. Having received several invitations to remain overnight, I told the members I would, provided as many as could would meet me in the evening and have an informal meeting, and we would go over the work, which was readily consented to. I went home with Bro. and Sister Dill. Met again in the hall at about 7 P. M., when the worthy secretary, Bro. Water, informed me that he had obtained two more applications, making seven sure, with a prospect of three or four more. I promised to help them through with the class. Next Wednesday I have promised to be with Independent Grange to assist in initiating a class; on Thursday attend Pomona Grange and on Saturday install all the officers of Lockeford Grange. More anon. Yours fraternally, W. L. OVERHISER.

A Dying Grange.

The following is from the Dixon Tribune. Its assumption that the Grange is decaying is not strictly true, as shown by the activity of Yuba City, Sacramento and other Granges, but it is not a pleasant or creditable thing that any Grange should, as the one at Dixon appears to have done, given up

the ghost. It is the business of the officers of the State Grange to look into this matter, see what is the matter and devise ways to increase interest in the Order at Dixon and elsewhere:

Dixon Grange is a thing of the past. At a meeting held last Saturday afternoon it was decided to give up the charter and disband. It is very much to be regretted that the members considered this step necessary. There are great opportunities for good in Grange work, and at times like the present, when farming is becoming unprofitable, the Grange is invaluable for the opportunities it presents to discuss ways and means by which to better the condition of the farmer. There is only one way out of the present rut, and that is by intelligent and concerted action, and the farmer can find no better place for the dissemination of the knowledge he requires than in the Grange. The decadence of the Grange in northern California bodes no good to its agricultural interests.

The Secretary's Column.

By A. T. Dawes, Secretary State Grange of California.

STATE GRANGE FINANCIAL STATEMENT.—Receipts during January, of general fund, \$227.45; disbursements, \$91.55; balance on hand and in the treasury, \$715.88. Receipts of lecturer's fund, \$106.90; disbursements, \$28.65; balance, \$1,986.23. Total balance in both funds \$2,702.77.

FROM YUBA.—General Deputy B. F. Frisbie writes from Yuba City, Feb. 4th: "Yuba City Grange will have a class of 20 for the first and second degrees on the 18th, with a good prospect of more. Grange work is going ahead fine here in my district. As soon as the roads get in good shape I shall make a canvass for some new Granges up north."

GRIMES GRANGE.—We learn from Bro. Strother, W. M., that this Grange installed their officers on Feb. 2d, Bro. Coulter of Santa Rosa presiding. A class of seven was instructed in the fourth degree work. The usual bounteous feast, arranged by the sisters, was heartily enjoyed at noon. The afternoon session was an open meeting. Bro. Coulter speaks well of this Grange. His visit was timely and mutually gratifying.

A BAD BREAK.—We are sorry to learn that Past State Lecturer Geo. Steele, of Arroyo Grande, some weeks ago had the misfortune to have his leg broken in different places by the fall of a spirited horse he was riding. A week later he wrote this office a cheerful letter as far as he was concerned, but discouragingly as to the prospects of Arroyo Grande Grange. We hope the noble brother and his formerly active Grange will soon be O. K. again.

WASHINGTON GRANGE.—Sec'y Sam. C. Waters writes from Clements, Jan. 30th, that "W. L. Overhiser, P. M., was at Washington Grange on Jan. 28th and installed its officers. After the Harvest Feast an open meeting was held and Bro. O. started this Grange on a boom with five new names, which will increase to ten or more by the next meeting. In the evening the veteran P. M. gave all that attended the unwritten work in a very able and comprehensive manner. I believe this is a successful Grange year."

PATRONS MARRIED.—Bro. M. Woodhams, Overseer of Temescal Grange, and Sister Irene Chatterton, recently married, have returned from a happy wedding tour from La Honda and Pescadero. They installed the officers of Pescadero Grange in due form and speak in the highest praise of that Grange and its membership. Meeting Veteran Past Master I. C. Steele at home, and among his local Grange members, only increases the admiration accorded him by earnest Patrons who have only known him elsewhere and by his generous and able work abroad. Bro. and Sister Woodhams have the kindly congratulations of many friends and Patrons.

TEMESCAL GRANGE meeting last Saturday evening was one of interest. The work of the order was discussed. Feeling remarks on the death of Sisters Frink and Pauline Newkom and Bro. Woodworth were made by several members. Bro. Woodworth's parents recently departed from Temescal Grange to rejoin Yuba City Grange on account of changing residence. On account of the ill health of Bro. Stevens, his address on "Silver" was postponed until Saturday P. M., Feb. 18th. An invitation for the Grange to meet with Eden Grange for appropriate exercises on Washington's birthday was accepted. An extra occasion for all Patrons is anticipated. A number of copies of the revised edition of the by-laws was ordered purchased. For the first time in many years the faithful Secretary, Sister Bibcock, was absent on account of illness. The communication read from the State Secretary was ordered placed with Master Renwick with the request that he select subjects from the same for discussion by the Grange from time to time.

EXECUTIVE COMMITTEE MEETING.

The executive committee of the State Grange met at the secretary's office, San Francisco, at 10 A. M., Feb. 7th. All were present, with Worthy Master Davis in the chair. Among visitors present were Bros. J. V. Webster, P. M.; J. D. Huffman, W. L.; J. Hollister, of Eden Grange; M. J. Hopkins, J. M. Winans, C. D. Grover of Petaluma Grange, and J. C. Purvine, of Two Rock Grange.

After conference with the brothers from Petaluma Grange, it was voted that the next session of the State Grange be held at Petaluma. Several bills and accounts were allowed.

At the afternoon session letters were read and discussed regarding the state of the Order in different Granges.

It was voted that the original dispensation granted Sonoma County Grange as No. 4 be changed, and a new dispensation be issued in place of it, bearing No. 1, in accordance with a vote of the executive committee some years since.

It was voted that "the State Grange enter upon an aggressive spring campaign of the State, commencing on April 1st and continuing until the various localities have been visited."

The programme for the visitation of different Granges during the campaign was being discussed at the time of closing this report. The prospects are that a lively campaign will be pushed for the promotion of the cause during the season, with every reason to anticipate very effective results.

A further report of proceedings may be expected in our next issue.

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logue now ready. Wm. B. Collier.

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L. V. WILLITS, Watsonville, Cal., Black Perch-
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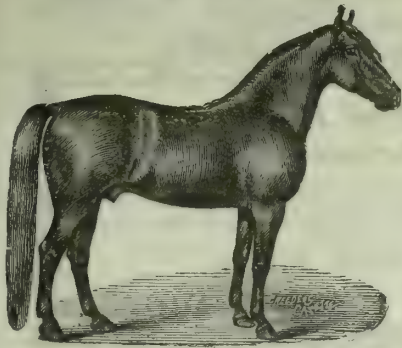
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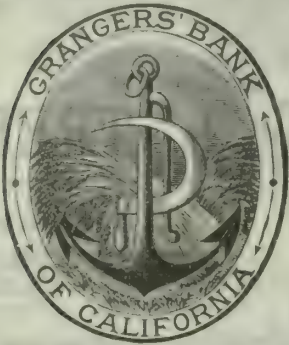
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GRANGERS' BANK

OF CALIFORNIA,
SAN FRANCISCO, CAL.
Incorporated April, 1874.



Authorized Capital.....\$1,000,000
Capital paid up and Reserve Fund 300,000
Dividends paid to Stockholders... 720,000
OFFICERS.

A. D. LOGAN.....President
J. C. STEELE.....Vice-President
ALBERT MONTPELLIER.....Cashier and Manager
FRANK McMULLEN.....Secretary
General Banking Deposits received, Gold and Silver.
Bills of Exchange bought and sold. Loans on wheat and country produce a specialty.
January 1, 1893. A. MONTPELLIER, Manager.

**OFFICE OF THE
GRANGERS' BANK OF CALIFORNIA**

SAN FRANCISCO, Jan 11, 1893.
To the Stockholders of the Grangers' Bank of California
NINTH ASSESSMENT.

You are hereby notified that at a meeting of the Board of Directors of the Grangers' Bank of California, held on the 10th inst., an assessment of 10 per cent (\$10 per share) was levied upon the Capital Stock of said Bank, payable immediately, in U. S. Gold Coin, to the Cashier, at the office of the Bank, N. W. corner California and Battery streets, San Francisco. Any at or upon which this assessment shall remain unpaid on the Ninth day of February, 1893, will be delinquent, and advertised for sale, at public auction, and, unless payment is made before, will be sold on the 9th day of March, 1893, to pay said assessment, advertising and expenses of sale.
A. D. LOGAN, President,
FRANK McMULLEN, Secretary.

\$100.00 Reward!

If Browne's Pat. Squirrel Exterminator Fails to Kill.
SEND FOR CIRCULAR TO
314 & 316 S. Spring Street,
Los Angeles, Cal.
F. E. Browne

**ALAMEDA STEEL WIND MILL.**

10, 12 and 14 ft.
Cheaper than any First-Class Mill in the market.

Every One Guaranteed.

No bearings, no springs, no wheels to get out of order. The simplest mill in the world.

10-foot.....\$40 00
12-foot.....50 00
14-foot.....60 00

Agents Wanted

— ADDRESS —

TRUMAN, HOOKER & CO., San Francisco or Fresno.

MONEY CAN BE MADE BY

Writing us before placing your orders for

WIND MILLS!

Our goods are thoroughly reliable and our prices are as low as the lowest.

Eclipse Wood Wheel Mills.
Hustler Wood Wheel Mills.
Beloit Steel Wheel Mills.
Angle & Tubular Steel Towers.

FAIRBANKS, MORSE & CO., CHICAGO, ILL.
(Mention this paper.)

RAIN TILE

N. CLARK & SONS,
17 Spear Street, - San Francisco.
SEWER, WATER AND CHIMNEY PIPE AND CAPS.

Send for prices on Sewer Pipe for culverts, for roads, and for draining lands.

BACK FILES of the PACIFIC RURAL PRESS (unbound) can be had for \$2.50 per volume of six months. Per year (two volumes) \$4. Registered in Dewey's patent binder 50 cents additional per volume.

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SHIPPING AND COMMISSION HOUSE.**

OFFICE, 108 DAVIS STREET, SAN FRANCISCO, CAL.
Warehouse and Wharf at Port Costa.

CONSIGNMENTS OF GRAIN, WOOL AND ALL KINDS OF PRODUCE SOLICITED.
Money advanced on Grain in Store at lowest possible rates of interest.
Full Cargoes of Wheat furnished Shippers at short notice.

ALSO ORDERS FOR GRAIN BAGS, Agricultural Implements, Wagons, Groceries and Merchandise of every description solicited.

E. VAN EVERY, Manager.

A. M. BELT, Assistant Manager.

RED SEAL GRANULATED 98% LYE

HAS NO EQUAL

FOR DESTROYING SCALE BUGS AND OTHER INSECT PESTS ON TREES AND PLANTS.

FOR TREE WASH!

—USE—

One pound to 5 gallons of water.

Thousands of Orchardists testify to its value, using it in preference to all other preparations. Where the Red Seal is applied it kills the insects and at the same time forms a coating through which others cannot penetrate. When used in the above proportions, it is a

GREAT BENEFIT TO THE TREES.

Put up in SIFTING-TOP CANS so that any quantity may be used and the balance preserved uninjured.

MANSFIELD LOVELL,
124 California St., San Francisco.



Manufactured by P. C. TOMSON & CO., PHILADELPHIA

SOLD

—BY—
ALL GROCERS.

FOR HOUSEHOLD PURPOSES

The Red Seal Lye is indispensable.

USED AS DIRECTED it will take the place, and at 75% less cost, of all other alkaline preparations, soaps, etc., now on the market. ONE CAN will make 10 to 12 lbs. of Hard Soap, or 200 lb. of Soft Soap. See Directions in Can.

It cleans floors, kills roaches and bugs of all kinds, cleans milk vessels, tin or wood; keeps farming implements bright and free from rust; is a perfect disinfectant; softens water, washes dishes and clothes; and can be put to a thousand uses in place of soap or other preparations.

P. C. TOMSON & CO.,
Manufacturers....Philadelphia, Pa.

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People who have been annoyed by the unpleasantness caused by leaky roofs, draughty rooms, and the like, enjoy undisturbed bliss after using our well-known products. Those who are as yet ignorant of their many merits can be enlightened by writing for samples and descriptive circulars, furnished free by
PARAFFINE PAINT CO.,
116 BATTERY ST., - - SAN FRANCISCO.

DEATH ON SQUIRRELS! NO MORE GOPHERS!**METHOD OF APPLYING WHEELER'S CARBON BISULPHIDE.**

COMPLETE EXTERMINATION can be effected only by means of this remedy. Sold by the trade and by the manufacturer, J. H. WHEELER, Melrose, Alameda Co., Cal.

NOTE ITS SUPERIORITY.

WHEELER'S C. B. is of unvarying strength. Kills every occupant of the burrow, be they one or 100. Injures nothing outside but is buried from sight; is safe to handle or have about. Has no effect on the operator; is not poisonous nor injurious to the skin or clothe and once applied is forever done.

POISONED WHEAT, ETC., loses its effect if exposed any time. Kills, if any, only the first animal which finds it (perhaps a sheep, horse or cow). The poisoned animal will then poison the pet dog or cat and, decaying, becomes offensive. Leaves always enough survivors to require repeating the work indefinitely. It is more expensive and of never-ceasing danger to have about.



THE JONES 5-TON WAGON SCALE.
Price \$66, Delivered Anywhere in the United States.

These Scales have STEEL BEARINGS, Not Wood—BEAR THIS IN MIND.
From 25 to 50 per cent cheaper than any other Scales of like quality. All sizes and kinds of Scales always in stock.

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Commission Merchants.

P. STEINHAGEN & CO



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Commission Merchants,

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Grain, Wool, Hides, Beans and Potatoes
Advances made on Consignments.
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Consignments Solicited.

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501, 503, 505, 507 & 509 Front St.
And 300 Washington St., SAN FRANCISCO

GENERAL COMMISSION MERCHANTS
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POULTRY, EGGS, GAME, GRAIN, PRODUCE AND WOOL.

WETMORE BROS.,
Commission Merchants.

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PRODUCE, POULTRY, EGGS, ETC.
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HAY and GRAIN
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SHIPPING ORDERS A SPECIALTY.

EVELETH & NASH,
COMMISSION MERCHANTS
And Dealers in Fruit, Produce, Poultry, Game, Eggs, Hides, Pelts, Tallow, etc., 422 Front St., and 221, 223, 225 and 227 Washington St., San Francisco, Cal.

THE RIPANS TABLETS
REGULATE THE STOMACH, LIVER AND BOWELS, AND PURIFY THE BLOOD.
A RELIABLE REMEDY FOR
Indigestion, Biliousness, Headache, Constipation, Dyspepsia, Chronic Liver Troubles, Dizziness, Bad complexion, Dysentery, Offensive Breath, and all disorders of the Stomach, Liver and Bowels.
Ripans Tablets contain nothing injurious to the most delicate constitution. Pleasant to take, safe, effectual. Give immediate relief.
Sold by druggists. A trial bottle sent by mail on receipt of 15 cents. Address
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10 SPRUCE STREET, NEW YORK CITY.

WELLMACHY All Kinds, Water, Gas, Oil, Mining, Ditching, Pumping, Wind and Steam Heating Boilers, &c. Will send you to send 25c. for Encyclopedia of 1500 Engravings. The American Well Works, Aurora, Ill., also, Chicago, Ill.; Dallas, Tex.; Sydney, N. S. W.

Look Out.

At Zero or below it is a dangerous condition of temperature to those of enfeebled constitutions, either from age or infirmity. It is just such a condition of the weather as increases ten-fold the intensity or spread of rheumatic pains and aches. But the remedy and cure is so simple and sure it is to be wondered at that any permit themselves to suffer a day, or an hour, when at any drug store St. Jacobs Oil can be had, which not only cures rheumatism, but there is no return of the trouble.

THE business of raising large horses in Canada for export to street railway companies in the States has nearly disappeared since the introduction of the trolley system.

Draft and Carriage Horses.

The attention of all who are interested in fine stock is called to the announcement in another column, of the clearance sale to take place at the sales yard corner Van Ness avenue and Market street, this city, Thursday, February 23d, 11 A. M. The entire stud of the Magnolia Stock Farm at Petaluma will be offered consisting of Shire, Suffolk, French Coach, Percheron, prize-winning Stallions and Brood Mares. Persons wanting good stock of this class, will find here an opportunity to deal at first hands with men of known reputation.

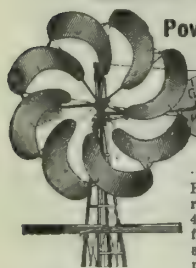
Are You Going East?

Take the Santa Fe route. You will find it to your interest to call on or address the undersigned before purchasing tickets. No other line crossing the continent can offer you a trip combining equal comfort and pleasure. The only line running Pullman palace and tourist sleeping cars through to Chicago on the same train every day without change. Personally conducted excursions through to Boston leave every Tuesday. W. A. BISSELL, 650 Market Street, Chronicle Building, San Francisco.

ATTENTION is directed to the new adv. of John S. Calkins of Pomona, Cal., in which he offers rooted olive cuttings and small olive trees for nursery, also larger trees for orchard.

COLUMBIA Steel Windmill.

.....NEW IN PRINCIPLE.....
BEAUTIFUL IN APPEARANCE

**Powerful in Operation!**

CONTAINS
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GEAR.....

.....A TRUE SPIRAL.....
Fan surface changes from 80° at rim, where speed is greatest, to 45° at inner end, giving wind free clearance, avoiding back suction and securing greatest power.Steel Braced.....

8-Foot, \$45.**BUCKEYE PUMPS.****FRANK BROS., 33 & 35 Main St. S. F.**

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\$10,000 Souvenir

(This sum was paid for the first World's Fair Souvenir Coin minted.)

in the shape of a coin, but many can have fac-similes of this valuable work of art—only special coin ever issued by the U. S. Government—for \$1 each.

United States Government

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*The Official Souvenir
of the Great Exposition—*

5,000,000 of which were donated to the World's Columbian Exposition by the Government, are being rapidly taken by an enthusiastically patriotic people.

As there early promised to be a demand for these Souvenirs that would render them very valuable in the hands of speculators, the Exposition Authorities decided to place the price at

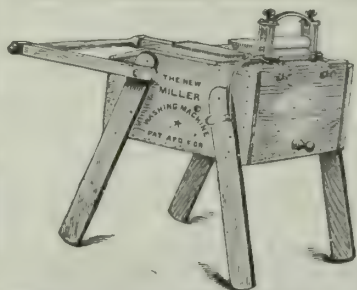
\$1.00 for Each Coin

and sell them direct to the people, thus realizing \$5,000,000, and using the additional money for the further development of the Fair.

Considering the fact that there were but 5,000,000 of these coins to be distributed among 65,000,000 people, in this country alone (to say nothing of the foreign demand,) and that many have already been taken, those wishing to purchase these mementoes of our Country's Discovery and of the grandest Exposition ever held, should secure as many as they desire at once.

Realizing that every patriotic American will want one or more of these coins, and in order to make it convenient for him to get them, we have made arrangements to have them sold throughout the country by all the leading Merchants and Banks. If not for sale in your town, send \$1.00 each for *not less than five coins*, by Post-office or Express Money-order, Registered Letter or Bank Draft, with instructions how to send them to you, *all charges prepaid*, to Treasurer World's Columbian Exposition, Chicago, Ill.

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THE "NEW MILLER"

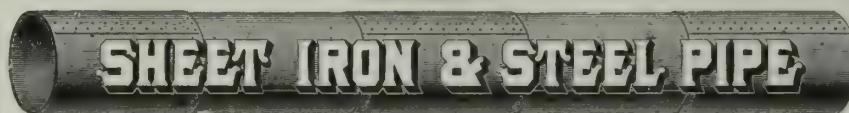
Is destined to become the leading Washing Machine of America. It is fast absorbing the large trade I have for the Recker. It only needs to be seen to be appreciated, and for merits you have never seen its equal. A trial is convincing. It takes the lead! Why? Because it imitates the principle of hand rubbing.

AGENTS WANTED EVERYWHERE.
Special Inducements. Exclusive territory.

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**FOR TOWN WATER WORKS.**

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Iron cut, punched and formed, for making pipe on ground where required. All kinds of Tools supplied for making Pipe. Estimates given when required. Are prepared for coating all sizes of Pipes with a composition of Coal Tar and Asphaltum.

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**A PRACTICAL TREATISE ON THE RAISIN GRAPES,
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This is the Standard Work on the Raisin Industry in California. It has been approved by Prof. Hilgard, Prof. Wickson, Mr. Ohas. A. Wetmore and a multitude of Practical Raisin Growers.

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FOR SEVENTY-FIVE DOLLARS THIS

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C. S. HALEY, Secretary.



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If you use the best mark for sheep or cattle, Dana's White
Metal Label. Used by Recording Associations, and leading in-
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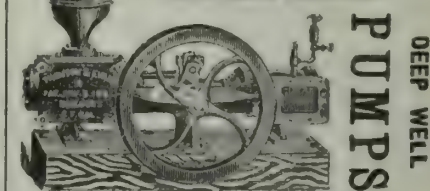
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"Greenbank" Powdered Caustic

Soda and Insecticide.

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All stock-owners have experienced a great deal of trouble in keeping track of their animals. Cattle and sheep are disposed to stray and mingle with other herds and flocks. Stock should be identified with the owner by a distinctive mark. The best method we know of is the use of Dana's White Metal Labels made by C. H. Dana, West Lebanon, N. H. The name or address and consecutive numbers are stamped upon the markers. The old cruel mode of hot-iron branding heretofore largely practiced in the West is fast giving way to this humane and equally efficient system. Mr. Dana will send free samples to all interested.

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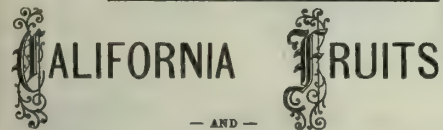
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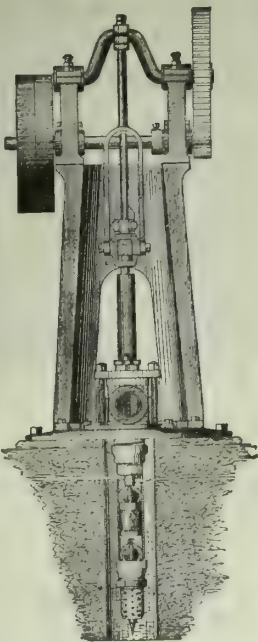
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The Pump is all Brass and the Working Parts may be drawn up through the Pipe for Repairs.

It has very long stroke, great capacity and durability.

IMPORTANT—Our Economical Pumping Equipments elevate water for land irrigation at a less cost per acre than water now supplied by the canal systems in use.

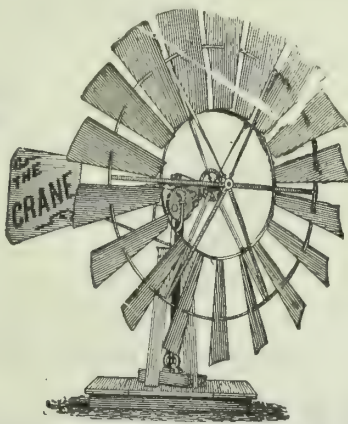
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It Will Cost You
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Was Awarded the Premium at State Fair Sacramento, OVER ALL OTHERS.

WE MAKE THEM BOTH PAINTED AND GALVANIZED.

8½ and 12-FOOT DIAMETER.

Please note that an 8½-foot mill has 6½ feet more wind surface than an 8-foot m

EVERY MILL GUARANTEED.

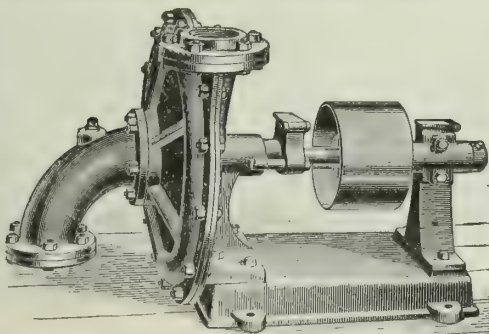
We will replace all parts broken by storms that do not wreck buildings.

Any Mill that does not work satisfactory may be returned to us and we will pay the freight both ways.

THE CRANE COMPANY,

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IMPROVED CENTRIFUGAL PUMP

SAN FRANCISCO TOOL COMPANY

HEADQUARTERS FOR

Machinery and Information
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ESTIMATES CHEERFULLY
FURNISHED.]

Address Works, First & Stevenson Sts.
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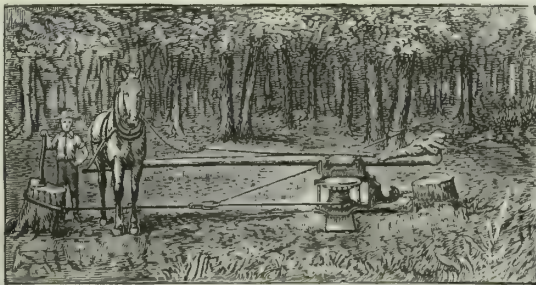
Send or book showing cheap irrigation, mailed

BUY THE IMPROVED LITTLE***

**GIANT

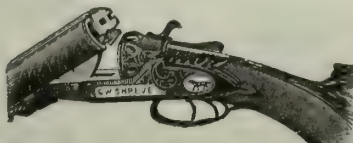
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It is the Cheapest, Best and Most Powerful Grubbing Machine in the world, and has established and maintained its reputation for superiority against all competitors. During the last six months over 600 LITTLE GIANTS were sold to Minnesota and Wisconsin farmers alone. Where the LITTLE GIANT is known the farmer will buy no other. One man and a chunk of a boy can do the work of ten men. For illustrated Catalogue, prices, terms, references, etc., address



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DEWEY & CO. { 220 MARKET ST., S. F. } PATENT AGENTS.
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Seeds, Plants, Etc.

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A few thousand No. 1 FRENCH,
1-year old, on 2-year-old
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4 TO 8 FEET HIGH.

Warranted True to Name and Free
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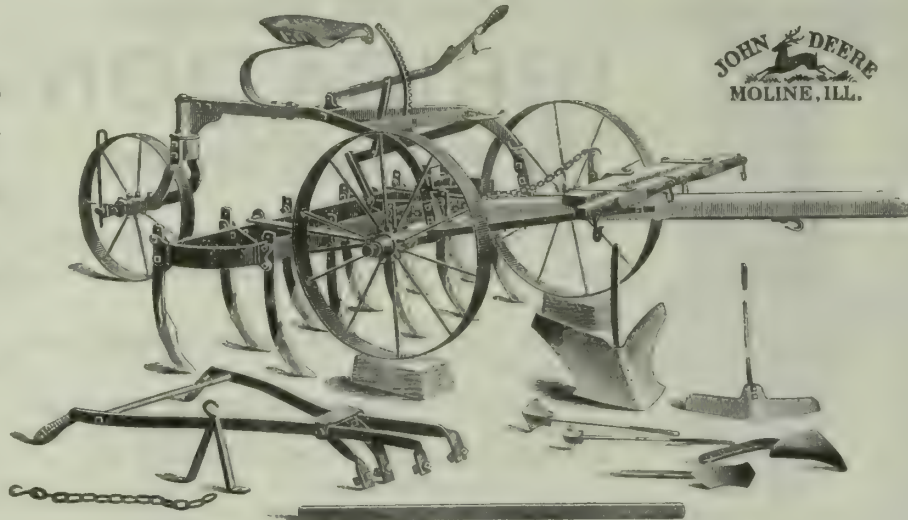
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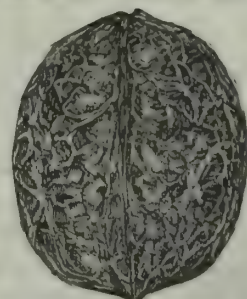
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Vol. XLV. No. 7.

SAN FRANCISCO, SATURDAY, FEBRUARY 18, 1893.

THE DEWEY PUBLISHING CO
Office, 220 Market St.

A Fine West Side Residence.

The engraving which we present upon this page is illustrative and suggestive. It is illustrative of prosperity and success attained in lines of agriculture which are not now fashionable in California. It may be regarded as significant of success attained in a way which is perhaps no longer open to effort and enterprise in this State, and yet the means adopted and the principles of conduct which actuated them are always available, and in this way the exponent of success as embodied in the engraving becomes suggestive.

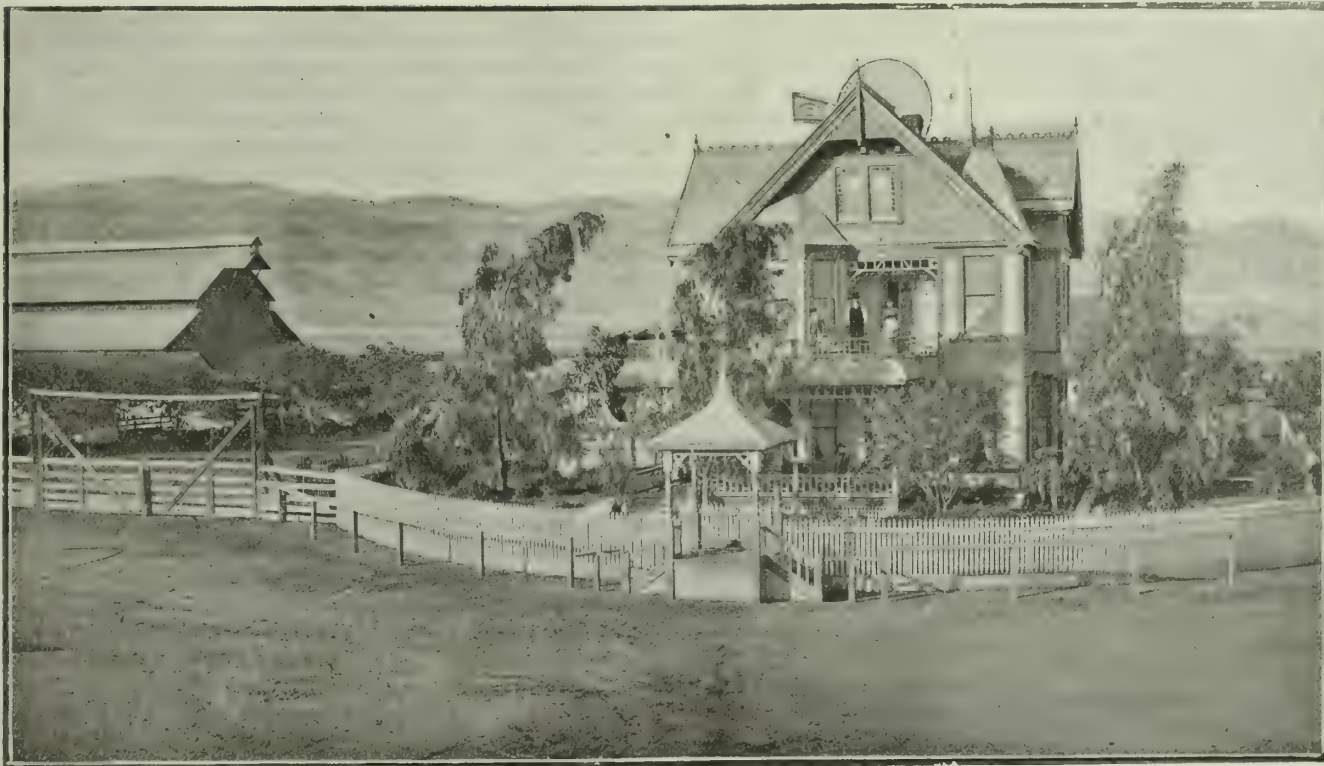
The stranger who comes into California only to hear of the unprofitability of wheat-growing and the decline of grazing, may be unable to believe his eyes when he rides through the wheat region to find so many commodious and costly farm houses surrounded by such an excellent array of outbuildings and displaying such unmistakable evidence of comfort and prosperity. How can it be that the votaries of an expiring industry can surround themselves with such elegance and convenience and live so well?

To answer this question the stranger must be reminded that though for a few years back the wheat-grower has had rather a close run between profit and loss, there was before that a period in which his returns were large. Heavy yields and good prices combined to enrich him. Lands were abundant and cheap. The enterprising and industrious man had a clear course from nothing to wealth, if he selected a large amount of good land, denied himself everything save the necessities of life and worked unceasingly and earnestly until he cleared his land from all obligations. He had hard years, of course, now and then, and his perseverance was put to a severe test, but if the man ruled himself he soon saw the shadow move forward on his dial. Then came the notable improvements which are now so frequently seen on the grand old wheat farms in our best grain counties. There followed, too, the advance in values, so that the unearned increment alone became wealth. It is in this way that the splendid farm homes in the grain region came into existence. In a sense, this chapter of our industrial history is closed. It is no longer possible to get townships of the best land for a Government song. It is a long pull now to start with nothing and amass the value of a large farm. Certainly there is nothing in grain at present which warrants hope of such a thing. It is quite possible, under favorable circumstances and with proper personal skill and devotion to build up greater value, perhaps, on less land. This is the opportunity which pertains to fruit-growing, and the ground upon which the pursuit is most broadly advocated.

But, though it may not be possible now to amass wealth

in just the way the pioneer wheatgrowers and stock men did, there were policies in their endeavors which are still powerful aids to success in any productive enterprise. The *Resources of California* gives a statement concerning the history of the owner of the residence which we illustrate, as follows:

Henry Hamilton came to this valley in 1861. He commenced by taking up a quarter section of land under the Government laws and by perseverance and energy has become one of the wealthiest farmers in the valley. He at present owns 2480 acres of fine land and has one of the finest houses in Stanislaus county. The improvements on his ranch would be a credit to a millionaire; they include fine barns, carriage and wagon houses, machinery sheds, etc. Mr. Hamilton has nine sections of land that he works under fence. Six sections of this are



FARM RESIDENCE OF HENRY HAMILTON NEAR GRAYSON, STANISLAUS COUNTY.

pasture and the balance he puts into grain, raising good crops. It must not be supposed that he has met with no drawbacks, such as dry seasons, etc. When others became discouraged and left the country, he stood his ground and is now reaping his well-deserved reward. In the early days he could be found sharpening his plow point at 11 o'clock at night, with his good wife as his helper, while the babies were asleep in bed. But no discouragement could dampen his ardor. He has raised a family of five children, who are being educated at the best colleges in the State. Mrs. Hamilton has done her share in contributing to the general welfare, and is an enthusiastic poultry-grower, deriving a handsome income by raising chickens with a hot water incubator, and supplying eggs to the San Francisco market.

Such devotion to the work in hand, such self-denial while making the fight for a home, such full cooperation between husband and wife, and such enlightened liberality in the education of the children—all these point the way to attain success and to merit it. In these lines we consider the engraving suggestive.

DURING the year 1892 the Government has paid in bounty on the beet sugar produced in California \$825,726.69. In 1891 the bounty amounted to only \$163,508.76. The bounty is at the rate of two cents per pound.

THE close season for game will soon begin. On and after the 1st of March it will be unlawful to kill duck, quail and partridge.

A Grain Grower on the Prison Board.

Governor Markham has shown his appreciation of the farmers' interest in the management of the State's prisons. Inasmuch as convict labor is so largely employed in the manufacture of grainbags, graingrowers who are expected to use these bags have for some time held that one of their own class should have a seat in the Prison Board. This claim has now been realized in the Governor's appointment of Mark B. Ivory of Contra Costa county to fill a vacancy. Mr. Ivory is said by his business associates to be endowed with fine abilities, which have been displayed in the successful management of the great 10,000-acre wheat farm known as the Marsh ranch. He was the

person who, several years ago, introduced summer-fallowing in the Contra Costa region, and in several other respects has led the way in improving systems of farming and the general welfare of farmers in the neighborhood in which he lives. With such experience, he should be well qualified to present the farmers' equities in the bag transactions of the Prison Board.

THE directors of the Southern Citrus Fair at Colton are wise in their generation. They propose to avoid, if they can, certain troubles in which the managers of the northern fair became involved over

the award of premiums. They will give prizes for quality of fruit, aside from artistic display. It is true that the same thing was attempted here, but not in a manner that gave satisfaction. If the prize for quality is given the same importance as the prize for artistic display, it may be easier to make satisfactory awards. It is especially desirable that the southern managers should arrange for closer competition on quality because they have advanced further in the art of production and discrimination between varieties than they have at the north.

THE evidence in the Stamboul record investigation has been of a most sensational nature. The assertion of Kearney and McHugh that the 2:07½ record was not genuine appears to have had blackmail for its motive, inasmuch as they offered to suppress the alleged facts for a consideration. Other testimony was introduced showing that the Stamboul performance was all that was claimed for it. It appears to have been somewhat irregular, but nevertheless honestly and fairly made.

THE absorption of the Southern California Beekeepers Association by the general State organization is one of the results of the meeting of beekeepers at Los Angeles last week. The State is big, but the opinion among apiarists generally is that it is not large enough for two effective organizations.

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ANY subscriber sending an inquiry on any subject to the RURAL PRESS, with a postage stamp, will receive a reply, either through the columns of the paper or by personal letter. The answer will be given as promptly as practicable.

ALFRED HOLMAN.....General Manager

San Francisco, February 18, 1893.

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The Week.

Clear days have come at last and even the persistent fog mantle of the interior has been lifted. More rain has fallen nearly everywhere and streams have risen—in some cases to the inconvenience of riparian residents and interruption of public travel. The weather has continued cool and growth of grass has been slow. The bloom of trees has, however, been retarded and this may prove a benefit. The high water of the early winter killed early sown seed over some portion of the Sacramento valley wheat region and made the ground unfit for resowing until too late to make a crop, and in many cases a two-years' fallow will result. This, in view of other recent hardships of the graingrower, will bring deprivation in some cases no doubt.

The gardening fervor returns with the promise of warm days. Operations should now be delayed only until the soil is in good condition. Planting and sowing during the cold and wet is seldom satisfactory, but care should be taken not to go to the other extreme and defer too long. Growth is starting finely on hardy shrubs. All plants which can stand a touch of frost should also be started on their season's growth. Much disappointment in summer follows late planting.

THE high rank hogs have taken is shown in the sale of the noted Poland-China sire George Wilkes for \$750. The interest is increased in the sensational prices of breeding stock, when the report is made that the Harris public sale of Poland-Chinas, last week in Iowa, resulted in a general average price on 68 hogs of about \$120 per head—some of them even reaching the extreme rate of \$500 for a single animal.

The State's Work in Forestry.

In the various sentiments expressed in favor of the abolition of the commissions which were brought into existence about ten years ago, those favoring the lopping-off of the Forestry Commission have been most pointed and pronounced. In fact the commission suggested its own taking-off, and in the face of such a disposition to commit legal hari-kari, the Governor in his message could do nothing but yield a mournful assent, and proposed that the Fish Commission should fall heir to the remains. Thus the Forestry Commission came into the halls of the legislature with the death-damp on its brow—in most fit condition for burial, one would think. Though something has been done looking toward the obsequies, the funeral director has not yet been chosen and the corpse lies in state in Sacramento.

The forestry commission must unquestionably be pronounced a failure so far as any finished work in the advancement of forestry is concerned. It has been during recent years a most conspicuous example of appointive errors. The members of the board, though gentlemen of quality and eminence in legal and business lines, were apparently without the slightest convictions, knowledge or taste in forestry. Their appointees were in part like unto themselves and the man or two among them who did know trees and their uses was powerless to accomplish much because he found neither knowledge nor appreciation of the work among his patrons or associates. So far as we know the personnel of the State Board of Forestry was composed of men who could do anything and everything else in the line of public executive work better than they could conduct a forestry enterprise. In view of this fact it is perhaps natural that they should ask to be relieved. It is only too bad that they did not retire at the beginning and not fritter away a vast sum of money, waste years of valuable time and bring one of the most important lines of Government work into disrepute, making it to stink in the nostrils of the people so that the Governor could think of nothing else to do with it than to pass it along for the experts in stale fish to appropriately bury.

Now, though the forestry work of the State has fallen into such hard lines, we do not lack faith in State forestry. The work was well conceived. The first appointees on the board were, in part at least, men full of the importance of the work entrusted to them and full of knowledge as to the way in which it should be done. If such men had been kept in office, California would stand foremost among the States in measures for the conservation of forests and in the reforestation of waste or lumbered regions. There would also have been forestry stations, which would have yielded information to public and private tree-planters worth many times the cost of their maintenance. We admit it is disheartening, after seeing large amounts of public money frittered away, to think of maintaining such a State enterprise, and yet we are sure that, with the appointment of a proper board, vast benefits could be realized. The testimony of Mr. Abbot Kinney, a member of the first forestry board of California, recently given before a committee at Sacramento, is strictly true:

The Board of Forestry did a good work in the past, and it can do so again. It's about the only State Board that ever secured over \$50,000 worth of property and turned it over to the State. This the Forestry Board did in securing the experiment stations at Chico, Hesperia, Santa Monica and other points. The early forestry boards helped the Government secure evidence against the big timber thieves and largely checked the wholesale depredations.

Just now, under the Paddock bill, there will be work for a State Forestry Board to carry out plans for preserving and protecting the various Sierra forest reservations. The Yosemite reserve is now protected simply by a policing system by soldiers. There should be arrangements for licensing the sheepmen to pasture their flocks at certain times in certain sections. The cattlemen are now favoring this idea and demanding that some adequate grazing system be adopted. Besides the great Yosemite forest reservation, there are now five other Government reservations for parks, including the Sequoia grant, San Bernardino and Trabuco. The San Bernardino embraces the forests on Mount San Bernardino and the water supply of Riverside and surrounding country. The Trabuco reserve is in the Santa Ana range, partly in Orange and partly in San Diego counties. The Government irrigation work, with the setting apart of reservoirs and the preservation of water-sheds, is also right in line with work which could be done by our Forestry Board if it could be kept entirely out of politics.

The fall of the Forestry Commission carries down with it all these measures and interests, so far as the State is concerned, unless this legislature makes some provision for their continuance. The forestry stations will lapse into ruins. This property, given in good faith to the State by generous individuals, will fall ere long into the hands of some schemers, who may buy it, with other old junk, from the State Capital. This is certainly a painful and ignominious end for a great State undertaking. We think the legislature owes it to the people that some better solution of the question should be brought forward than has thus far appeared.

The Visible Grain Supply.

The exact quantity of wheat on hand in the United States and Canada is a serious question to which an answer is anxiously sought both by buyers and sellers. *Bradstreet's*, a leading New York commercial paper, contends that available stocks are much in excess of the figures usually sent out from New York labeled "visible wheat supply." These figures have been, in round numbers, for some weeks in the neighborhood of 80,000,000 bushels, not including the Pacific coast, which is about 6,000,000 bushels. *Bradstreet's* figures are its own, gathered through correspondents of the agency of that name stationed at every point of importance in the United States. To use *Bradstreet's* own language, in its issue of February 4:

"Stocks of available wheat at about 60 points of accumulation east of the Rocky mountains, in the United States and Canada, and in 2,000 elevators at the northwest, scattered through five States at more than 684 points of accumulation, aggregating 107,255,000 bushels on January 28, or with like supplies on the Pacific coast the total was 113,712,000 bushels. This comprises the aggregate reported to *Bradstreet's*, with the exception of such wheat available as may be in store at northwestern and other elevators of which we have not claimed to take account. Of this, to judge from reports by some who may or may not know, there were on hand, so stored, last Saturday probably not less than 10,000,000 bushels, including 4,650,000 bushels the existence of which was announced by *Bradstreet's* last week."

Wheat stocks at this season for a number of years, as reported to *Bradstreet's*, compare as follows:

Available wheat.	East of Rockies.	Pacific coast.	Totals.
February 1, 1893.....	107,255,000	6,457,000	113,712,000
February 1, 1892.....	60,544,568	6,013,044	72,288,602
February 1, 1891.....	44,258,936	10,693,000	54,951,936
February 1, 1890.....	49,691,349	6,144,068	55,835,415
February 1, 1889.....	47,414,612	4,413,634	51,828,246
February 1, 1888.....	70,214,154	14,000,000	84,214,154

The statement of the New York Produce Exchange is that visible wheat stocks ashore and afloat Jan. 28, 1893, were 81,288,000 bushels. The excess, therefore, of *Bradstreet's* estimates over statements sent out from the New York Exchange is somewhere in the neighborhood of 25,000,000 bushels, not including the Pacific coast in either calculation.

Bradstreet's complains that its surprisingly large estimates have met a cold reception "from those to whom such information would ordinarily be supposed to be welcome," and the figures have been severely criticised.

We are not disposed to indorse or dispute the accuracy of either of these estimates. The authority of *Bradstreet's* is unquestionably high, and the means of gathering this information appears to be intelligent, systematic and conscientious. But we are not inclined to subscribe to the opinions of those who think that these figures indicate a much more serious aspect to the general wheat situation than has heretofore been supposed. We do not hesitate to say that there is no good reason why unusual significance should be attached to the statements, for these reasons: The *Bradstreet* agency pursued the same methods of gathering information last year, the year before, and many years before then. The same disparity that exists between the statement of the *Bradstreet* agency and the New York Exchange in 1893 no doubt existed last year and at all other times. The Exchange figures are probably just as nearly correct in 1893 as they were in 1892—how near correct we do not know or pretend to say. The Exchange estimate of the visible wheat supply therefore bears about the same relation to the actual supply this year that it has in previous years, and so, in all likelihood, does *Bradstreet's*. It must be admitted that this is not a very conclusive or satisfactory reflection, nor does it give one a definite or intelligent view of the situation; but it is justified by the facts, we think.

The whole matter resolves itself into a question of veracity between the New York Produce Exchange and the *Bradstreet* Agency. The same differences have heretofore existed, and will no doubt continue to exist in the future. At most, any compilation of the quantity of wheat in the United States is an approximation, one of which may, of course, be more thorough than another. But they are not essentially conclusive nor convincing, and do not necessarily reflect the true situation in all its ramifications. It is impossible to make a satisfactory estimate of how much wheat there is in farmers' hands, for example. The amount varies much from year to year and a general statement is about as likely to be as correct and final as an attempted estimate in detail.

It should be noted, in addition to the foregoing two calculations of the visible grain supply, that one pretends to take account of American wheat "ashore and afloat" and the other (*Bradstreet's*) that only in elevators and other points of accumulation. This difference in method of compilation makes the disparity even greater.

THE Lenten season and the Chinese new year start in together in 1893; but they will be observed in slightly different ways.

From an Independent Standpoint.

On Monday of this week, the President-elect officially announced the selection of four members of his Cabinet, as follows: Walter Q. Gresham of Indiana, Secretary of State; John G. Carlisle of Kentucky, Secretary of the Treasury; Daniel S. Lamont of New York, Secretary of War; Wilson S. Bissell of New York, Postmaster-General. In making these announcements, Mr. Cleveland remarked: "There is no need of any mystery in regard to the Cabinet, and it is useless to speculate and indulge in guesswork. I shall make no secret of the matter, but shall announce the names of the gentlemen selected to fill the positions as fast as I receive their acceptances and permission to make the matter public."

These names are not new to the public, for with the exception of Bissell, who was Cleveland's law partner in the old Buffalo days, each of the gentlemen named has gained experience and distinction in public life. Carlisle is a Senator from Kentucky and was formerly Speaker of the House of Representatives. Measured by the standards of experience, ability and character, he is the leading man on the Democratic side of the Senate. His Democracy is of a less modern type than that of the president-elect whose nomination he opposed at Chicago. He belongs to the Old Line, holds to moderate theories of States-rights and is a tariff-reformer of the most pronounced order. Mr. Lamont, prior to 1884, was a newspaper correspondent and reporter at Albany, New York, and went with Mr. Cleveland to Washington as his private secretary. He held that position through the whole of the Cleveland administration and was perhaps in closer relations with the President than any other man in the country. While nominally only a private secretary, he was, in fact, the chief associate, chief adviser and chief assistant of the President. During the past four years he has been in business in New York City and has been exceptionally successful.

The most notable of these selections is, of course, that of Judge Gresham, who, until very recently, has been a Republican and was a candidate for the Republican presidential nomination in 1887. He declined the Populist nomination for President last year and supported Cleveland, but he has never, in fact, declared his allegiance to the Democratic party. After a service of some length as United States District Judge for the district of Indiana, Judge Gresham became, in 1882, Postmaster-General in Arthur's cabinet and from that position was elevated to the United States Circuit judgeship for the district comprising Indiana and Illinois. In this position he has distinguished himself by a series of decisions with reference to corporations. When Jay Gould succeeded by management and chicanery in putting a creature of his own selection into the receivership of the Wabash system of railroads, Judge Gresham, into whose court the case came upon appeal, reopened the whole matter, exposed the infamy and criminality of the proceeding, lashed Gould and his associate schemers with righteous severity and restored the interests involved to a legitimate and honest management. This is one of many instances in Judge Gresham's judicial career which have won for him wide fame as an upright and courageous judge and gained for him, especially, the admiration and affection of the farming classes. On the other hand, it cost him the Presidency, for it was only by the greatest effort that the railroad interest, headed by Chauncey M. Depew, prevented him from being nominated instead of Harrison in 1888. Judge Gresham's appointment is, personally, a most fit one because he is honest and capable; and it is especially gratifying because it is not a result of political truculency, but a tribute to personal character exercised in the most exalted spirit of personal and political independence.

It is notable that all the men thus far chosen for cabinet places are, comparatively speaking, poor men; and the fact gives credibility to the report that Mr. Cleveland wants no rich men in his immediate councils. He is reported to have said to Mr. Carlisle, when the latter wished to decline the Secretaryship of the Treasury on the ground that he could not afford to entertain in a large social way, that the less of that sort of thing the better; that he did not want a company of rich men about him, nor an elaborate official society as an attachment to his administration. This ought to be very gratifying to the mass of plain people who would rather see an administration devoted to public business than devoted to splendid entertainments. The public long ago discovered that it is neither incumbent upon nor desirable that officials should live in great social state at the national capital. Men of real weight in public affairs—like Blaine, Edmunds, Carlisle, Harrison, Mills and others—have always scorned to support their political potentiality by winesuppers and grand balls. This sort of thing is left to those who have no other resources for

the command of public notice and no better uses for their time and energies.

In the drift of current political events there is nothing more marked than the tendency toward a cooperative alliance between the Populists and the Cleveland wing of the Democratic party. Indeed, these two political forces are rapidly getting into harmonious working relations. Every Populist member-elect of the Senate or the House of Representatives is a Democrat in his sympathies and associations and is counted upon to stand with the majority in support of the incoming administration. In Kansas, the Populist Legislature has just elected a Democrat to the United States Senate. In Nebraska, a Democratic Legislature has elected a Populist to the Senate. In the California Legislature, a Populist vote aided the Democratic minority to elect a Democratic Senator; and while the Populist party is in an uproar concerning the matter, its more effective membership, including its actual and inspiring leader, is closely allied by association and sympathy with Democratic interests. In Oregon, a Democratic-Populist fusion in the late election chose a Populist elector and the Democratic Governor has publicly announced his allegiance to the new party.

On the other hand, the President-elect has, by his selection of Judge Gresham for his chief minister, made a most notable advance toward friendly relationship with the Populist party. Judge Gresham is not technically a Populist, but upon essential issues he stands with the conservative elements of the Populist organization, and it is undeniable that the Populist party in the mass looks to him as its foremost sympathizer in the higher ranks of public life, and regards him favorably as its next presidential candidate. It is a well-known fact that he was practically offered the Populist Presidential nomination last year, and that for a time he seriously considered its acceptance.

These several circumstances illustrate a mutual goodwill between Cleveland and Populist political camps, if not, indeed, a definite and already arranged political alliance. It looks as if Mr. Cleveland had sought and found in the Populist organization an element of support with which to replace the Tammany Hall faction of his own party, which, clearly, he is determined to throw over. This, in our judgment, is the plain significance of Judge Gresham's selection for the Cabinet.

Since our last issue the Hawaiian question has taken new form. It is no longer a question of "Shall we or shall we not establish a protectorate over the Sandwich Islands?" but "What shall we do with the Islands?" a protectorate having established itself. A steamer which arrived here last week brought information that on the first day of February the United States Minister, at the request of the Provisional Government, established a United States protectorate over the Islands; that the stars and stripes were raised to the post of honor on the Government buildings, and that United States marines from the Cruiser Boston had been landed and charged with the duty of keeping the peace. There was nothing further suggestive of the temper of the Islanders, save that there was a general nominal acceptance of the new situation, and that the natives would be content to live under the administration of the United States. So the matter rests at this time. The deposed Queen has dispatched a messenger to Washington to present her side of the question, and has also issued an appeal to the countries of the United States and Great Britain, begging to be restored to her throne. It is understood that President Harrison is preparing a message to Congress taking the ground of positive approval of Minister Stevens' action and urging upon Congress the policy of formally ratifying the action of the Minister. Of course there is no sort of doubt that we shall continue the protectorate already established, but there is a good deal of doubt as to the final adjustment of relations between the United States and its new province. Hawaii is manifestly unfit to become a State, and there is in our system no provision for holding it in a tributary relation. Some new plan has got to be worked out, and that it will be worked out satisfactorily is not to be doubted. It is entirely safe to say that the stars and stripes which now float over this little realm in mid-Pacific will never be hauled down.

The universal interest on the part of Americans in the cause of Irish liberty must excuse a departure from our habit of dealing only with American questions. This has distinctly been Ireland's week, for on Monday Mr. Gladstone presented to the House of Commons the bill which he proposes to urge during the coming session, providing Home Rule for the Emerald Isle. Mr. Gladstone began his speech by tracing the rapid drift of English sentiment during the past seven years toward Irish independence. In 1886, England's majority in the House of Commons adverse to Home Rule was two hundred and eleven, while

it is now but seventy-one. "In the face of such facts," he asks, "who would guarantee the permanence of the opposition of the remainder?" He proceeded to unfold the outline of his new measure, which provides a legislative body in Dublin for the conduct both of legislation and administration in Ireland in all relations not imperial. At the same time, Ireland is to retain her interest in imperial legislation through the continued membership of her representatives in the House of Commons. We cannot undertake to give more than this essential feature of the new proposition which has not yet been put in the form of a bill. Mr. Gladstone's plan—as outlined in his speech—contains no reference to the land question or any other disputed subject, and offers no scheme for the compounding of differences between the discordant religious elements in Ireland. It is limited to the single project of establishing home legislation and home dominion, subject only to the general imperial authority of Great Britain. The English papers do not speak with great favor of the new proposition, and the general opinion seems to be that it is not so strong a measure as that introduced by Mr. Gladstone seven years ago. Its weakness is, undoubtedly, due to the situation in which the Premier finds himself. His support in the House of Commons is a composite one, made up of elements very far from being harmonious or capable of real union; and his majority is barely thirty-nine. On the other hand, the opposition is closely united. Those who, like the RURAL, would be gratified to see Ireland given a chance to govern herself, would feel more comfortable if Mr. Gladstone's position were stronger. It is the ambition of his later years to establish Ireland upon a self-governing basis, but we seriously fear that the task is too great for the brief time which he can hope to live. He is now nearly 84, and though his capabilities have been preserved to an extraordinary degree, he cannot in the nature of things much longer lead the Liberal forces.

The Nicaraguan Canal.

Capt. Merry in Support of the Proposition as It Now Stands.

SAN FRANCISCO Feb. 15, 1892.

TO THE EDITOR:—It is to be regretted that the considerations involved in the Nicaragua Canal question are often carried on in the spirit of controversy; and that there are those who seem unable to express dissatisfaction with the canal project without calling its friends and promoters hard names. There is no argument and no decency in the assaults of those who stigmatize men like Hon. Warner Miller, Admiral Ammen, Capt. E. P. Lull, Capt. George W. Davis, et al—names which stand conspicuously for character and ability—as "traitors" and "conspirators."

The public seems not to be well-informed as to how the canal company came into existence. It is a matter of history that during the Arthur administration the Zavalla-Frelinghuysen treaty was negotiated with Nicaragua, for construction of a canal on Government account. This treaty was ratified by Nicaragua, but was drawn from our Senate by President Cleveland, who gave as a reason that it contained "propositions involving paramount principles of ownership or right outside of our own territory, coupled with absolute engagements to defend the territorial integrity of the State where such interests lie." Mr. Cleveland also asserted that he favored construction by an American company, chartered by Congress and under its control. Under these conditions the Maritime Canal Company of Nicaragua was chartered, Cleveland signing the bill, which was drawn to meet his objections. Nicaragua was doubtless mortified by the failure of the treaty, and it is very doubtful if the Nicaraguan Government would subject itself to the probability of a second refusal, especially as Cleveland, again elected, would certainly again urge the same objections.

The Nicaragua Canal concession was obtained subsequently, and the construction proceeded under it, valid rights having been obtained and confirmed. Under this concession the canal will be completed by whoever furnishes the funds. How unjust, then, to brand an association of American citizens as conspirators because they acquired, by the payment of \$100,000 gold coin, and through the good will of Nicaragua to the United States, a canal concession which our Government had rejected.

That the Canal Company is urging the bill is absolutely false, as has been repeatedly stated by the Congressional Committee having it in charge. On the contrary, the initiative came from the Senate Committee while the Canal Company was going on with its work, paying its way as fast as funds could be obtained from private sources, and arranging to place its securities at home or abroad. The terms given the company under the bill are not liberal. The Government becomes absolute owner of \$80,500,000 of the capital stock, with voting power; the President appoints ten out of 15 directors; the stock elects three, while Nicaragua and Costa Rica, by right of their concessions, each appoint one. Construction proceeds under supervision of United States Government engineers, and the guaranteed bonds are only issued as their certificate pronounces the money earned. The company executes a blanket mortgage of all its property, including about 2,500,000 acres lands in Nicaragua, and franchises to the Government. A sinking fund is established to pay off the bonds. It would be very difficult to frame a more drastic or sweeping enactment. It has been drawn by such eminent lawyers and statesmen as Evarts, Edmunds, Morgan, Dolph, Sherman and others equally able after over two years' discussion. It covers every possible contingency to protect the Government, which controls the tolls and gets over eight-tenths of the revenue. So I may reiterate to these objectors that, while the ingenuity of very able men has been exhausted in making a safe and conservative bill, it is before Congress and subject to amendment. If they are honest in their objections, let them move to obtain such amendments as will still further secure the Government. That course will show good faith and intention. Mere objection to the only method under which the canal can now be constructed is dishonest obstruction—nothing else. Any amendment of the concession from Nicaragua, such as the naming of directors among its promoters, can doubtless be obtained by our Government with the consent of the company; but, as the representative of the Gov-

ernment of Nicaragua, I may state on belief that the Government of that Republic will not violate its obligations to an American company that has paid for its concession to construct the canal, and is at work on it in good faith. It would, in fact, be a valid source of damages and complaint from the United States Government should it do so.

All allusions to the Construction Company as an imitator of the "Credit Mobilier" are rendered absurd by the fact that the pending Canal bill legislates that company out of existence, recognizing it only for the purpose, and makes the company chartered by Congress the company of execution. Aside from this, the assertion is false under any circumstances. The contract for construction was made in good faith, and is a matter of public record, having no connection with Government aid. The Maritime Canal Company, chartered by the Government, has to file an annual statement under oath of its officers, with the Government at Washington, showing all its business contracts, disbursements, etc. There is no similarity in the two cases, and such an assertion can be made only to discredit the enterprise with those who may not be fully informed, although these official reports are accessible to parties asking for them, being printed annually by the Government for circulation.

It is a singular fact that the very parties most in the habit of abusing railroad corporations for various reasons should, in this public policy, be found side by side with the enemies of cheap transportation, seeking to defeat legislation which Mr. Huntington is also seeking to defeat, in my opinion, against the true interests of his own railroads! If he is correct, they are working blindly. If he is working in his own interest, as he now sees it, they are aiding him whom they delight to abuse as the enemy of cheap land transportation in our State. If I were to judge as harshly of these gentlemen as they do of their political recreants at Sacramento, I should assert that they are traitors—not the friends of the canal. But I prefer to assert and to think that they are in honest error, with a pride of opinion admitting no honest argument. Human history is full of examples such as this! The greatest improvements the world has ever known; the most sublime conceptions the human mind has ever conceived, have been bitterly opposed by the future beneficiaries. So we find a few political eccentricities fighting, on behalf of the producers of our coast, the very project which will strike down the bonds which now bind them to high transportation!

Who will own the canal when completed, *Quien Sabe?* But, when the first steamship under the American flag floats on the inland sea of Nicaragua, covering a cargo of the products of California soil, these mistaken obstructionists will forget the abuse they shower on those who "have builded better than they knew," and will thank Providence they were mistaken!

WILLIAM L. MERRY.

State Beekeepers at Los Angeles.

The State Beekeepers Association convened at Los Angeles, at the Chamber of Commerce, 10 A. M., Feb. 7th, and continued its session two days. The attendance was good and the programme, as heretofore published in the RURAL PRESS, was carried out. The discussions following reading of papers were general and interesting. The RURAL PRESS has only space this week to touch on a few of the principal points, but will hereafter publish in full several of the important essays.

The committee on foul brood could not agree upon any amendment to the present law, and it was decided to embody the law as it now stands in the report of the association.

The Paddock food bill as bearing upon the adulteration of honey, was considered and it was resolved to memorialize the representatives in Congress and urge the passage of the bill.

An act was drawn up by a committee to be presented to the State legislature to prohibit the spraying of fruit trees with poison while in full bloom, such practice being destructive to bees.

The ground was taken in discussion that bees will not puncture fruit, but will clean it up thoroughly when it is previously punctured by birds or wasps. Beekeepers dislike to have their bees work upon grapes, as the grape juice is detrimental to the health of the bee. Mr. Pryal cited instances where the large grapegrowers of Fresno kept bees with but little injury to their grapes or raisins.

Mr. Martin said that figgrowers in some instances made complaints against bees, charging them with attacking the large end of the fig. It is a fact, he said, that insects first deposit a small amount of yeast-like substance in the fig, which soon ferments and after swelling and breaking the skin the bee then finishes the fig. Get rid of the insect and the bee will not molest the fig.

The constitution of the Beekeepers' Union was read. This organization defends all of its members against suits brought against them by fruitmen. Several cases have been decided in favor of the beekeepers, and the bee-keeping industry stands upon as legitimate a basis as any other industry.

The subject of exhibits at the World's Fair was taken up and several members agreed to exhibit comb and extracted honey and beeswax. Many of the exhibits will be in fancy shape. A suggestion was made to exhibit wax in the shape of a grizzly bear, and also in the form of wax flowers. The association manifested a disposition to make a splendid exhibit of the honey crop of 1893.

A paper by L. T. Rowley upon Honey Plants of California, called forth some discussion. Mr. Brodbeck said the sages were leading honey plants, giving the most beautiful liquid honey; but his bees were at present at work upon eucalyptus and pepper trees, which gave a dark honey and highly flavored with the medicinal qualities of the trees.

Mr. Barnett said that wild buckwheat gave in his locality an abundance of honey of an amber color, but he would like to know the name and order of the plant; it was not a buckwheat—only called so from its resemblance to the cultivated plant.

The last hours of the session were occupied by an interesting discussion of the best methods of marketing honey.

It was moved by Mr. Mellen that the secretary collect statistics as the season advanced, and correspond with Eastern honey dealers and get the best market prices.

Mr. Touchton believed that beekeepers should keep their yields, whether great or small, private. Reports of large yields had a depressing effect upon the honey market.

Mr. W. A. Pryal of Oakland was recommended to the

World's Fair State Commission as a suitable person to take charge of the California exhibit at Chicago.

Officers for the ensuing year were elected as follows: J. L. McIntyre, president; G. W. Brodbeck, vice-president for Los Angeles county; J. W. King, Orange county; M. H. Mendleson, Ventura county; H. Trickey, Inyo county; C. C. Thomas, San Diego county; F. H. Hunt, San Bernardino county; W. N. Pryal, Alameda county; J. C. McCublin, Fresno county.

John H. Martin, secretary; C. B. Woodbury, treasurer. Executive committee—Mr. L. T. Rowley and A. Barnett. During the session the amalgamation of the State association with the southern California association was accomplished, the latter organization being dissolved.

Close of the Citrus Fair.

The Northern Citrus and Mechanics' Fair closes this week, after a most successful season. The attendance has been large and the interest great. It is estimated that 200,000 different persons have visited the fair.

One of the most characteristic exhibits in the fair—and a pleasant relief to its generally utilitarian aspect—is the little grotto-like booth at the back of the Pavilion marked "Anderson Springs." Like the mountain region from which this exhibit comes, it is situated apart from the rush of the crowd, and yet the crowd find it out, and there is always a crush that renders it difficult to get in and out of the little arched doorway. One lingers long amid the spicy scents of its cone and moss and leaf-covered walls where wise-eyed stuffed owls peep out quite startlingly like in the somewhat dim light. The woodsy odor calls up memories of mountain sights and sounds and quite drowns for the moment the dominant odor of the citrus exhibits—at this stage of the fair far from fresh. The floor is heaped with pine-needles and about the sides are distributed things beautiful, things curious and things monstrous. Among the first are the brilliantly tinted autumn leaves which, to a Californian used to the lower levels, are a surprise. A natural basket formed in a crotch of a tree is filled with thriftily growing ferns. One table is formed of a huge knot of a manzanita trunk with gnarled and twisted branches for legs. Another piece which much pleases the small girls and boys has taken upon it the form of a veritable miniature elephant—tusks, trunk and tail, also legs—as natural as life, but not so large. The usual manzanita canes, though in ever fresh forms, are in abundance, as also are the samples of the medicinal waters for which this mountain region is chiefly noted, although many varieties are not on exhibition owing to the heavy rains having made some of the best springs inaccessible. Altogether, the Anderson Springs people have given a fair sample of the pranks Nature is up to in their part of the country and also of the beauties in which she indulges, as shown in the attractive photographs of natural scenery which form a considerable portion of the exhibit. It is to be regretted that their collection is not to go to Chicago as was originally planned. The proprietors are tired of fairs and only long to get their belongings home again.

The representation of southern California in the citrus line is contained in the exhibit on the extreme left of the Pavilion marked "Los Angeles Co."—composed of fruit from the orchard of W. H. Souther. It consists of the usual varieties of oranges and lemons. At this late stage of the fair they are in surprisingly fresh condition owing to the cooler air of that side of the Pavilion. As to quality, this collection compares favorably with any in the Pavilion, and considering that the southern orchards are later in bearing, it need not be thought that southern California is out of the race because she is so nearly out of sight in the present fair. This one specimen serves to remind our northern orange-growers that "her flag is still there."

Pruning Berries—The Rainfall.

TO THE EDITOR: Let me add a word to Mr. Schaeffle's excellent article entitled "Berries and Briers," in the RURAL PRESS of Feb. 4th. I made a pair of pruning shears with double cutters, both points curving in; I riveted on wood handles three feet long. I can poke this amid the bushes and snip off the dead canes close to the roots, with no fear of briars, and no stooping. I have also used a section of a mower riveted to a handle three feet long. This is not quite so good as the shears. To trim the tender, straggling vines when they get too long I use a broken scythe blade handled like a corn knife, which operates with great speed. Probably handles could be tied or wired onto ordinary pruning shears that would do nearly as well as those I made.

Rain, oh, the glorious rain! If we don't raise good crops this year it will be our own fault. But we are trying industriously. All are busy when the rains, which come in long, slow drizzles, permit. We are putting in more than the usual allowance of barley; are getting our lands in excellent shape for corn and beans, and many of us will largely increase our acreage of fruit-trees, both of citrus and deciduous varieties.

It often rains more here than at Ventura. It has rained some 26 inches in all this season. S. P. SNOW.
Sespe, Ventura county, Feb. 11.

A Perforated Bit for a Self-Sucker.

TO THE EDITOR:—I have noticed in your Jan. 14th number inquiries for a way to prevent a cow from sucking herself.

I know a very simple plan. It is putting a bridle on her head and use for a bit a small tin pipe perforated with holes. An old dipper-handle will do. As the cow sucks she will get nothing but air. It will not bother her in eating and only for a day or so in drinking, for she will soon learn to hold her mouth deep enough in the water to submerge the handle. JENNE.
Coupeville, Wash.

Gleanings.

GOOD DRY PEPPERWOOD sells at Riverside for \$4.50 per ton.

THERE is said to be just a fair chance for the raisin bill passing the legislature.

A SOUTHERN CALIFORNIA PAPER cruelly speaks of the Solons at Sack-ramento.

"THE crinoline is coming" say the fashion papers. It cannot be too long about it.

THE Supervisors of Butte county have appropriated \$5000 for an exhibit at the World's Fair. B. F. Allen will have charge of the exhibit.

MONGOLIAN PHEASANTS from Oregon have appeared in the San Francisco markets. They are not only beautiful birds, but the meat is very tender and edible.

THE Cloverdale Citrus Association has decided to build a pavilion for the purpose of holding annual citrus fairs. It will cost \$2500. Cloverdale is making the most of its advantages.

PORK is up, and hog thieves have made their appearance at Livermore. In bacon matters, the same as in everything else, people have to take the sweet things of life with the sour.

THEY claim that a lemon tree at Ojai has suddenly taken to bearing a small number of oranges. That's nothing! There's a Rock of Ages up at the Citrus Fair that bears oceans of 'em.

THE Santa Clara Fruit Exchange proposes to have agents in Eastern trade centers and sell directly to retail dealers. Producers want to keep the profits of commission men in their own pockets.

SENATOR McALLISTER says his anti-oleomargarine bill is certain to pass the legislature. Of course there is such a thing as being too cock sure, but it is to be hoped the senator knows what's what.

CALIFORNIA'S WHEAT CROP last year was worth something like \$27,000,000. But we fear that in the division of this magnificent sum, some of our farmers got the ciphers and some other people the 27.

HON. MARION CANNON, the Populist Congressman, having fallen into disrepute with his own party, has prepared and published an elaborate defense. But his enemies say it really made a very small report for so big a Cannon.

EX-GOVERNOR ST. JOHN is delivering political addresses in the southern part of the State. Governor St. John is the distinguished Kansas gentleman who once came within about 300 electoral votes of being president of the United States.

SAYS the Solano Republican: "Our friend, the granger, whose farm is on the lowlands, says if this weather continues much longer, the grasshoppers will not sing 'In this wheat by and by.'" Little drops of water. Little pellets of rain. Make the gloomy granger, Grin all over again.

LOS ANGELES is to have a pork-packing establishment capable of handling 150,000 hogs per year. Good! Hogs are high these days. Now, if Los Angeles could only get up some kind of a scheme to can job lots of that glorious climate, the esthetic Angelenos would have the most luxurious and the most profitable combination in the world.

THE State Viticultural Commission is having a fight for life. The Napa winegrowers want it abolished, and a bill has been introduced in the legislature to that effect. The Viticultural Association of Livermore has passed resolutions strongly commending the work of the commission. The matter has been presented to San Jose viticulturists, but no action was taken.

THE various county division fights throughout the State have not been productive of peace and good will. At least, one would judge so by reading the following in an exchange, commenting on the acts of a legislator: "With the soul of a tute sow, the brain of a jackass and the heart of a Judas Iscariot, he will go out from the California legislature unwept, unhonored and unsung." It is singular that this astonishing diversity of qualities in the poor legislator did not betray themselves until he got to Sacramento.

AT least one county division fight has been partly successful. The Senate has unanimously passed the bill to create Madera county out of Fresno. The usual charges of "boodle" have been raised, but they are backed by no proof. As a matter of fact, the complaint is raised that the "sack" has been closed woefully tight this year at Sacramento. The only place where they have the sack wide open is at the Folsom jute bag factory, but the average impecunious boulder manifests a strange reluctance to investigate, except when invited by the State to be its guest for a term of years.

A BIG FRUIT COMBINE, whose purpose is to handle and market California fruits, has been organized by E. L. Goodsell, Blake & Ripley, and other Eastern dealers. Local headquarters have been established at Sacramento, with H. A. Fairbank as representative. The new association promises shippers absolute freedom as to routing, the extension of market outlets, daily distribution of telegraphic market reports, establishment of individual reputations in every market, and placing of grower and shipper in direct contact with the consumer, disposing of the "middleman." The new association will be conducted on the same lines as the California Fruit Union and will be a rival to that organization. It has representatives in all leading Eastern cities.

THE legislature is endeavoring to reach a settlement of the chronic trouble between valley sheepmen and authorities of mountain counties. When sheep are driven from the valleys to the uplands for grazing purposes it has been the custom of the latter counties to attempt to impose a license-tax, and so far as the legislative fight has gone, it looks like the tax-authorities are to be upheld. A bill in behalf of the sheepmen was introduced in the assembly, but it was amended in the interest of the other party and passed. Whatever the outcome of the present fight, it is not likely to be satisfactory to all concerned. Sheepmen protest that they are taxed in two places, and the mountain men say the result of migration of sheep is that they are not taxed at all.

THE following mournful comment is in the Nevada State Journal: "Bacon is worth eighteen cents a pound at retail stores in Reno. A carload of fat hogs were shipped to San Francisco night before last to be sold there at about five cents a pound. Freight deducted the farmer gets about five cents a pound. The hogs will be slaughtered there and the meat cured and shipped back for use here at 18 cents per pound. Won't some one teach our people to kill hogs and cure the meat in salt water and smoke it to 'our taste,' and thereby save to our people 60 per cent of the cost of living?"

THE coyote-scalp bounty law seems to stand in no likelihood of repeal by the legislature, though a very formidable element is strongly opposed to the law. Its provisions have, no doubt, in some places been grossly abused; but, on the whole, farmers and those most concerned believe its provisions have been for good.

SHEEP AND WOOL.

Sheep on California Farms.

TO THE EDITOR:—To proceed with the above question, commenced in a previous issue, I will, with permission, again refer to the recent election, to make this article more impressive, perhaps, to some. During the campaign a great many of the articles presented to us by the Populists (I read them, but like the RURAL PRESS, I try to write from an "Independent Standpoint") spoke of the present condition of the farmers of this as well as of other States of the Union, which, to say the least of it, is anything but encouraging. Although I cannot answer for these reports myself, I presume some of them must be true.

We were given to understand that there are to-day, many, many thousands of farms and homes mortgaged, and many past redemption. Prices paid for farm produce are said to be too low. Railroad freights and interest on borrowed money are too high. Money is altogether too scarce. Banks are blamed, corporations are cursed, and the outlook as presented is serious for the farmer. Now the question arises, what is to be done to try and save these homes, and to avoid this coming crisis? Are we to struggle along in the same old rut until legislation does come to our relief? giving higher prices for produce, lower rates of freight, and interest. Are we to do away with the National Bank system and annihilate corporations? (and for the life of me, I cannot say if it is these systems that keep us poor).

No, I think we had better not wait—but seeing it is the commencement of another new year, sit down and consider if everything is being done, that can be done, of ourselves, to make the farm turn off the greatest amount of produce, and yield the greatest amount of returns. I do not wish to convey the idea to your readers that a small flock of sheep will of itself pay off the indebtedness, bring you out of the dilemma, or make you rich at once; but I do say, if properly handled, it will materially assist to do all of these things.

The idea seems to-day to be to get every acre into grain, possible, every year, so that, should it fail, we get nothing. This is to some extent giving way to other methods, as it is proved beyond a doubt that in those parts of our State where the average rainfall is light, and to which the irrigation system does not yet extend, summer-fallowed lands give, by far, the surest crop, and not only a safer crop but wild oats and other objectionable weeds are exterminated, and the land produces the crop we desire and not the crop indigenous to the soil. This method then will give three or four months pasture for our stock, thus saving the feed in the pasture proper, which generally consists of hill and land unfit for the plow, until as late as possible. The orchard also can be used in its turn (and all farmers ought to have one), for when the trees are five or six years old the sheep will not hurt them a particle. In August the stubble-field is ready, with a good stack of nice, clean, sweet straw to fall back upon for winter. Thus, with proper management, feed will be found for them the year round. It is almost impossible to lay down any rule as to the number of sheep that can be kept on the place, so much depends upon its nature, other stock to be kept, etc. But do not start with too many; and, again, it is equally difficult to give any figures that will show the exact profits to be derived. This depends upon the management.

Do not be afraid your land is too good for sheep. I was in the Pajaro valley in 1877 (one of the best valleys in the State), and became acquainted with a gentleman who had some 60 or 70 sheep and whose farm and orchard together was under 200 acres, and worth at that time over \$200 per acre. His little flock of sheep, he said, were a source of great profit to him, always making the highest price of mutton and lamb, and top prices for wool, the sheep being always fat and clean. He could not do without the sheep, and if they could not be done without in 1877 when prices were low, farmers certainly cannot do without them now. The great advantage of small flocks running at will, over large bands is, the former ought always be fat and clean, and ready for sale, and it is for these high prices that the owners of small flocks must ever aim. Where it is possible to provide any kind of milk-producing feed, such as roots, alfalfa or alfalfa hay (should you strike late-feed years), have the lambs come in October, ready for the January market.

Here you may refer to your RURAL PRESS, which every one reads, and every one files for reference, and whose market reports are thoroughly reliable. Lamb has been quoted in January and February, for the past five or six years in San Francisco not lower than 15 cents and as high as 22½ cents per pound, and there is no prospect in the near future for lower quotations for lamb and mutton than from 6½ to ten cents—last year, perhaps, a shade higher. How do yearling-past wethers of 50 pounds each and three and four-month-old lambs of 30 pounds each look at such figures. You think these are heavy-weights for the age, and so they are; but I will tell you the kind that will do this, and with good feed, do it every time. Some years ago, when we (I say we because I had a partner at the time) found it more profitable to raise lamb for the San Francisco market, the question of the kind of sheep presented itself.

We had a band of good-graded Spanish Merino ewes and tried first the Shropshire ram as a cross. The result was, while some lambs were very good and some extra-large and heavy, they were not even. Some looked like Merinos and others favored the sire. In fact the cross did not seem to blend. The Southdown was next tried, and after five or six years' test, I have come to the conclusion that the thoroughbred Southdown, with such ewes as above named, fits the bill. Fine form, noble carriage, good size, always fat, if they have half a show, and fair shearers. The ewes, many of which, after two years old, have twins, are good nurses, give lots of milk, and for uniformity in size, form and weight I never saw anything to equal them. Most sheep-breeders have a pet kind. This is mine, because it suits me, and I think it to be just the kind wanted

for small flocks. They are healthy, hardy and less subject to scab, and more easily cured when they have it; contented when supplied with the necessities of life, and great rustlers for same when it is scarce; mature early, and such sheep will shear from six to eight pounds per annum, at two clips. I have always found it advisable to shear twice a year although with small flocks in certain localities, experience might prove to the contrary.

The Shropshire is more generally used, as one can see from the advertisements in the different stock journals, R. H. Crane of Petaluma, being the only breeder who advertises the Southdown for sale in the RURAL PRESS. R. J. Rogers, of King city, Monterey Co., has a small band of thoroughbred Southdowns. He does not advertise them; perhaps would, if he had more than he could dispose of; and there may be others from whom rams could be procured at prices ranging from \$10 to \$25, depending upon age, quality, etc. Young ewes can be selected from any good, healthy flock. Of course, the better grade the ewe the heavier the fleece of the offspring will be, and it is increase in the weight of fleece we want, with as little loss of mutton as possible. Such ewes can usually be bought in the fall, at from \$3 up.

It will be understood that this article does not refer to ranches and farms where bands of sheep can be run and herded; but where the number ranges from, say 50 to 300, and where they will feed in the pastures and enclosures pretty much at will.

Now, sheep have their enemies. The dog and the coyote are among the worst, and of the two, I prefer the coyote. A dog in the habit of killing sheep is a bad thing, hard to catch at it, and seldom your own, and never to be cured. A coyote will come and take a lamb occasionally in the day. Of course the flock must be taught to come up at night, either inside an inclosure or near the buildings. They will soon do that. Coyotes are not as numerous now, not even on the ranges. I never corral sheep, and lose very few from coyotes. We suffer less from the ravages of dogs than in a more thickly settled part. But with any kind of stock we must expect some loss. Look at horses, for instance, to the breeding of which the farmers' attention has been turned for the past ten years (being profitable only in a few instances, and bottom prices not yet reached). Look at any band of ordinary horses, on the usual farm, and you will see more or less hurt and disfigured by being cut in barbed-wire fences, and some ruined. Here is the loss in horses. Similar remarks might be made of other stock. So we must not figure on the business without some loss occasionally.

There is another thing often preached in running a small lot of sheep; viz, letting the ram run with the ewes, and having lambs come all the year round. This, to my mind, is a mistake. You never have a nice-looking flock in this way, and get no more lambs in the long run. When you lamb, lamb, and give it some attention. To get the best results, you will find it necessary, be it November or January, the two best months, and if you think you ought to have more than one crop of lambs a year, arrange it so as to have three crops in two years. Your ewes will stand that, and it will not hurt them, but have them all come in 40 days. You will have something to look at then, and something to sell should you so desire.

Now, let this "small flock of sheep business" have the careful consideration of some of our farmers who are fixed for it, and when you find out what there is in it, report to your neighbors, so that, if good, they may go and do likewise.

These few remarks may, or may not, hasten it, but it is "coming sure." Other countries, and other States of this Union do it, and do it successfully, and in many instances under less favorable circumstances than exist in this State. Try it, a few who are seeking a change, and reap the benefits held out to those who own a "small flock of well-managed sheep."

Should any readers take sufficient interest in the above, and desire any further information, any inquiry made shall be answered to the best of my ability through the columns of the RURAL PRESS. C. U. M.

San Luis Obispo, Jan. 16, 1893.

Wool Pointers.

Mr. D. E. Knight of Marysville is one of the most experienced woolhandlers of California. He buys large quantities each year for the Marysville Woolen Mills, of which he is the superintendent and one of the largest owners. In conversation recently he said to an Oroville Register man: "One trouble with California wool-producers is that they do not grade their sheep and weed out the inferior ones. Enough pains is not taken to improve the breeds. Too little care is exercised in ridding the flock of the poor animals. Sheep having hair on the forelegs and breast mixed with the wool ought to be sold to the butcher, for these hairs will not take color like wool. Enough pains is not shown in selecting the best fleeces from the poor ones, and owners of flocks do not grade or sort their wool before offering it for sale. In consequence, when one of the big Eastern mills buys California wool, only about 20 per cent is used, and the remainder is sold to a mill making inferior cloth. This mill, in turn, must use what it can, and the owner must sell to a third mill, or to the knitting mills. The Australian fleeces are carefully assorted, so that when mills making fine goods buy the selected wool fully 80 per cent can be used in fine materials. In Australia a government inspector examines the wools and grades them with care. Perhaps that system would not work in California, but owners of sheep could realize higher prices if greater care were shown in selecting sheep, improving breeds and assorting the fleeces."

Sheep of different ages and conditions should be sorted into different lots, and the weaker ones have a little better feed.

The days are for feeding and the nights are for repose, and with no stock is this more the case than with sheep.

THE STOCK YARD.

Enterprising Jersey Breeders.

The committee appointed by the American Jersey Cattle Club to select the 25 cows requisite for complying with the rules of the World's Fair dairy tests have been making good use of their time, as evidenced by the fact of there being already 50 of the choicest cows of the country comfortably stabled at Jackson Park, over three months before the beginning of the great "battle of the breeds," on the first of next May.

The final selection of the cows was left to Hon. J. J. Richardson, Davenport, Iowa, and Valancey E. Fuller, who is superintendent of Jersey cattle entered for the dairy test at the Columbian Exposition.

These gentlemen have shown their wisdom in having the cows at the stables, where they are to remain throughout the whole of the tests made at the fair, so long beforehand. By the time they are wanted for work they will have become thoroughly at home, at least as far as possible under the circumstances, and will thus have a great advantage over those that do not appear on the scene of contest till near the time of the opening of the fair.

That the Jersey breeders have confidence in the dairy qualities of their cows is proved by the fact of there being so many cows offered for the purpose of exhibition, and from which the select 50 were chosen by the committee. Chairman Richardson reports that: "In all our experience we have yet to find a breeder who was not willing to place at our disposal anything we might desire from his herd. Every one seems to esteem it a much coveted privilege to furnish the committee with cows."

In May, 1891, the American Jersey Cattle Club appropriated \$10,000 to be used "in securing an exhibition and test of Jerseys in competition with other breeds." Also, in May last, an additional \$5,000, if found necessary to complete the work. The expense of keeping the 50 cows under preparation for the tests four months previous to the opening of the fair will add considerably to the expense incurred by the club, all of which goes to show that no stone is being left unturned by it, in order that the highest honors possible may be won by the breed.

Besides the 50 cows, there are 10 two-year-old heifers under preparation—but not yet at the fair grounds—for the 30-day test to be held in the month of October, for cows under three years old on the 1st of September.

The 50 cows have been gathered from 41 herds and 15 States. Among them are some that have very large butter records for the year, headed by Signal's Lily Flagg, with a record of 1047 pounds for the year; next comes Eurotisima, 945 pounds 9 ozs., followed by Islip Lenox, with 712½ pounds to her credit in one year.

There are also some with weekly records of from 21 pounds to 34½ pounds of butter, the latter being Little Goldie, from the State of Massachusetts, which State also lays claim to the breeding and ownership of Eurotisima.

Can the above cows be made to beat or even equal their own records, and others do well in proportion, it will go far toward establishing the reputation of the Jersey as being the best butter breed of cows in existence. The exhibitors deserve success for their enterprise in the undertaking.

Special Report on Diseases of Cattle.

In 1890 the U. S. Department of Agriculture published a "Special Report on Diseases of the Horse," which has been in great demand among farmers and stockmen. It has been followed, in 1892, by the issue of a like work on "Diseases of Cattle and Cattle-Feeding."

The contributors to the veterinary department of the latter volume are Drs. Murray, Atkinson, Harbaugh, Lowe, Law, Dixon, Trumbower and Smith, to which is added a treatise on the feeding and management of cattle by Prof. W. A. Henry.

Dr. D. E. Salmon, Chief of the Bureau of Animal Industry, under whose direction the work is prepared, says in his letter of transmittal, in regard to Prof. Henry's contribution: "This may justly be regarded as the clearest and most succinct presentation of this subject which has ever been published, while it is probably the only article of the kind in which the results of the latest scientific researches have been recorded."

In regard to the veterinary department or body of the work, he says: "The writer has seen no reason to change his views, presented in the letter of transmittal accompanying the report on the diseases of the horse, as to the value of such publications to the farmers of the country. Many letters have been received testifying that the writers had saved valuable animals by following the advice given in that report. In most of these cases it has been stated that no veterinarian was accessible, and that except for the report the animals would have been without intelligent treatment. In so large a country as ours there must for years to come be many sections in which no skilled veterinarian is located, and consequently there must continue to be many demands from stockowners for information of this kind. It is well, however, to remind the reader who has not made a special study of this subject that it would be absurd for him to conclude that even with the best of books he can treat his animals as well as they could be treated by a properly educated veterinarian. The employment of a veterinarian is therefore advisable in all cases where a competent one can be obtained."

The work is mostly in plain, common sense language, easily understood. Being intended for the special benefit of stockmen and farmers, technical terms are avoided as much as is consistent in a work of that nature.

All who wish to have a copy of the work should lose no time in writing to Hon. J. M. Rusk, Secretary of Agriculture, Washington, D. C.

The work is distributed free, and all who are breeding and rearing cattle to any extent will find in it valuable information, such as may be turned to good account in carrying on their business.

THE DAIRY.

Forage Experiments in Upper Napa Valley.

TO THE EDITOR:—In one of your issues of the *RURAL*, (last September I think) you wished to know if any of your subscribers had had any experience with teosinte. I was then so busy drying prunes, I waited, hoping to see your question fully answered by some one more competent than myself, but thus far I have seen nothing on the subject.

In the spring of 1890, (having my doubts as to the value of teosinte) I planted only two hills, at the same time I did my early sweet corn, on adjoining land. The teosinte came up nicely, and looked very promising until it was some four or five inches high, when it commenced to branch out sideways and grew very slowly. When my sweet corn was ready to eat, many of the stalks of the teosinte were only about two feet long and nearly flat on the ground, while a very few stalks near the middle were trying to grow upright, and when the frost came, there was not forage enough to make one ration for a calf three months old, and what there was, was so tough and fibrous (something the nature of bamboo) that even my cow and horse refused it. So, after digging up the matted roots with a grub-hoe, (as three men could not pull one hill up) I consigned roots and tops to my compost heap and made up my mind I did not want any more of this "Wonderful forage plant, one hill of which will make feed enough for a yoke of oxen." The above quotation I took from an eastern catalogue.

JERUSALEM CORN.—This is another forage plant that is greatly praised by eastern seedsmen, and so in the summer of 1891 I concluded to give it a thorough trial as I was very anxious to see if "It is the best and surest grain crop for dry countries, withstanding extreme heat, when all other kinds of corn would perish." I planted this corn early in May. It grew well and each main stalk had one large head, while the side shoots had several smaller heads; but on thrashing and thoroughly cleaning it I found I had a very light return in comparison with my crop of field corn or even my dwarf sweet corn that grew on the same kind of land. I fed it to my chickens. They seemed to like it very well. My cow pronounced the stalks (by her actions) no good, and would not touch it unless she was pretty hungry, and then only to bite off a little of the tops, preferring stalks of sweet corn that she had some time before rejected. Then the roots! Why, I offered several of my neighbors \$5 apiece for all the hills they would pull up, but they gave it up as a bad job. I served it in the same manner I did the teosinte and then said no more Jerusalem corn for me.

KAFFIR CORN, EARLY AMBER CANE, MILO MAIZE, GERMAN MILLET, YELLOW AND BROWN DOURA.—Last season I tried all of the above named with about the same results as the Jerusalem corn, as to their value for grain or forage. All of the stalks were very hard and tough, and my cow would only eat a small portion of the tops, and did not seem to relish that. I cut the Early Amber Cane down to the ground in August. It made a slow growth of about two feet, and a few days before frost (late in September) I cut it and fed it to my cow, but I considered it very poor feed. I put my son to work digging up all of the above named. Such mammoth, fibrous, wiry, tough and detestable roots I never saw before, and I did not blame him when he said "Father, I hope you will never plant any more of this horrid stuff." and I never shall.

RYE AND SCARLET CLOVER.—(*Trifolium incarnatum*).—I intended last fall to have sown both of the above named immediately after the first rain, but was so busy I could not possibly find time to do so. On the 6th of December I sowed each kind separate on the warmest piece of ground I have in my 12 acres of valley land. It was my intention to cut the rye as well as clover for early spring feed, and plow under the second crop, and plant corn, potatoes, melons, etc. As I was about two months later in planting than I anticipated, and as the weather has been unusually cold ever since, I am somewhat fearful as to my plans being available, but will report as to my success in some future article. I obtained my clover seed from the "Delaware College Agricultural Experiment Station" and by their earnest request I shall advise them in due time as to my success with it. As to the Soja bean, I have never tried it, and have no desire to, as I still believe that good, sweet corn-fodder and alfalfa hay, fed green, or properly cured, are two of the best forage plants we have, and I have no doubt that scarlet clover will prove valuable enough to be classed with them. **IRA W. ADAMS.**
Bay State Garden, Calistoga, Cal.

Reward of Industry.

"Chris. Matley, a native of Sweden, has the largest and best-appointed dairy in Kern county," says the *Kern county Californian*. "His dairy is about 20 miles southwest of Bakersfield. He makes and sells, on an average, about eighty rolls of butter each week during the year, and receives on an average 65 cents per roll in Bakersfield for his butter the year round. He says no one can ship produce from Bakersfield and pay freights to any point and make as much as the local market commands. Eggs, butter and poultry are always in demand at better prices than are offered either in Los Angeles or San Francisco. Matley has 400 acres of good land and takes the best of care of his cattle. He is a practical dairyman, and worked as a laborer for Blakeley. He is now the owner of his land and dairy and is reputed to be worth \$25,000, all of which he has made in a very few years by his industry and frugality."

It is no doubt true that Mr. Matley finds ample market in Bakersfield for his product, and that he might not find it so profitable to ship to this city or to Los Angeles. And the same conditions unquestionably exist in other parts of California. Butter makers who turn out a superior product generally need seek no further than their neighborhood for

buyers. But the influence of the San Francisco and other city markets on prices must not be forgotten. They are largely instrumental in keeping up the price at Bakersfield and at most other points in the State. All producers who cannot sell at home with so large a profit as Mr. Matley will find a satisfactory outlet in the cities. There is no present fear that the creamery business will be overdone. San Francisco, for instance, has 300,000 consumers, and practically no producers. It is also true, as has been frequently noted in these columns, that there is a good prospect for a profitable export trade in butter to distant Pacific points, as well as an increase of trade with the interior regions of the Pacific slope which are now drawing parts of their supplies from our dairies.

Red Polls for the Dairy.

The breeders of Red Polled cattle have evidently great faith in the superiority of the breed as profitable dairy cattle.

Mr. Martin, of Wisconsin, was sent to England by an enterprising company of Americans interested in the breed, to select a number of cows for exhibition at the World's Fair.

In order to make a thorough test of the milk given by each cow, in quality as well as quantity, Mr. Martin took over with him a Babcock milk-tester, a machine with which English dairymen are not as yet so familiar as are the more advanced class of American dairymen.

Although the breed has not heretofore met with any marked success at dairy shows either in this country or England, it is claimed that they rank among the most economical producers of dairy produce, and that they will give more milk and butter in proportion to the food consumed than will cows of any of the larger breeds.

If this is a fact it will no doubt be fully proved at Chicago, when the contesting breeds meet together for their six month's trial, under equal conditions and circumstances.

To obtain the best results it will be necessary to have cows that calve in the month of April, and as a matter of course Mr. Martin had considerable difficulty in getting a sufficient number to calve about the right time; he is, however, bringing over 12 cows for the test.

The preparations at Chicago for a thorough testing of all breeds of dairy cattle are the most complete and interesting ever made in this or any other country, so far as we are aware.

Whether the cows, or the majority of them, will come to feel themselves contented, as at home, or not, is doubtful. At any rate, all will have an equal chance in that, as in every other respect, yet the breed that becomes reconciled to the greatest number of sight-seeing strangers will have a decided advantage over those of a more nervous temperament.

An accurate account will be kept of the quantity and value of all food consumed by each cow, which will be deducted from the total value of the gross products, whether of milk, butter or cheese, the difference showing the profit on each cow for the time she is under trial in any one of the dairy departments. The gain or loss in weight of carcass will also be considered.

Thus the test will be a searching one, and to the point. Economical production is the aim of all good dairymen. It is most easily accomplished with good cows, that respond liberally to generous, yet judicious feeding and kind treatment.

We wish the exhibitors of Red Polled cattle all the success they deserve for their enterprise in the steps they are taking to prove to the world at large the superior value of the breed for dairy purposes.

If they succeed, through a six month's trial in establishing their claim, that, though the cows do not give a large daily quantity of milk, yet during the year they will give more milk, at a less cost for keep, than some other recognized dairy breeds will do, they will have achieved a great victory for their favorites.

At the same time it may be well not to be too confident in their expectations of winning in all the good points claimed for the breed.

Should they succeed in making for themselves a record above the average of that of all other breeds, yet still get beat in some points, there will remain victory enough to satisfy ordinary mortals, without anything remaining to detract from the merits of the breed in question.

THE APIARY.

A Proposed Course in Bee-Keeping at the University of California.

There is some demand in this State for instruction in apiculture, and to determine if this demand is sufficient to warrant the equipment necessary to give such instruction, the College of Agriculture of the University of California makes the following announcement of a proposed course in that subject:

The course will consist of lectures, laboratory work and apiary work.

In the lectures there will be considered the subjects of the history of apiculture, races of bees, amelioration of strains, structure and habits of bees, hives and apiary equipment and apiary management, including forage plants and marketing.

The laboratory studies will include work with the microscope and dissecting knife on the structure of the bee, studying particularly such parts as the wings, legs, sting, wax glands, tongue and the digestive and reproductive systems, which are of peculiar interest to the apiculturist.

The apiary work is intended to give the student actual experience in the various manipulations of modern bee-keeping. He will set up a hive, transfer bees, Italianize, start a nucleus, expand it to a colony, unite colonies, extract honey and wax, prepare honey for the market, manufacture foundation and learn to use in these manipulations

the smoker, division boards, separators, traps, guards, etc. It may also include excursions to commercial apiaries.

Those interested in this matter, and desiring to take advantage of this course, are requested to communicate at once with the undersigned, as it will depend on the response to this announcement whether the course will be given next year. **C. W. WOODWORTH.**
University of California, Berkeley, Cal., Feb. 9, 1893.

Model Bee Hive.

I have been asked time and again to give the dimensions of my model bee-hive, so here goes: Get the best surface lumber, from which cut two pieces $\frac{3}{4} \times 11 \times 17\frac{1}{4}$ inches for sides, with a groove $7-16 \times \frac{3}{8}$ inch cut out of top edge for racks to rest on; two pieces for ends $\frac{3}{4} \times 11 \times 13\frac{3}{4}$ inches; bottom pieces $\frac{3}{4} \times 14 \times 21$ inches; top pieces, $\frac{3}{4} \times 16 \times 22$ inches; cleats for cove $1\frac{1}{2} \times 2 \times 16$. This will give $17\frac{1}{4} \times 12 \times 11$ inside clear. For the rack, one piece $\frac{3}{4} \times \frac{3}{4} \times 12\frac{3}{4}$ inches; one piece $\frac{3}{4} \times \frac{3}{4} \times 10\frac{3}{4}$ inches; two pieces $\frac{3}{4} \times \frac{3}{4} \times 10$, with 12 racks to hive. Cut bee entrance $\frac{3}{4} \times 4\frac{1}{2}$ inches. This hive is considered to be the best made.—**H. C. WHEELER**, of Glendora.

SWINE YARD.

Wheat for Hogs.

Prof. James W. Robertson has recently issued a bulletin giving some information regarding the use of damaged wheat for swine. A number of tests were made with wheat that had been frozen, prepared in various ways, and as to the outcome of these the following are some of the conclusions given: (1.) When the frozen wheat was fed, ground and soaked 12 hours, 14 18 pounds of increase in the live weight were obtained for each bushel of wheat that was fed. (2.) In the feeding of swine from an average weight of 61 pounds each until they reached an average weight of 148 pounds each, 15.46 pounds of increase in the live weight were obtained for each bushel of wheat that was fed. (3.) One pound of frozen wheat has the equivalent of 7.91 pounds of skimmilk in increasing the live weight. (4.) The swine that were fed upon a ration containing skimmilk were lustier and more robust in appearance than those which were fed upon grain only. The pork was submitted to a pork-packer for examination, and he pronounced it superior to that of hogs fed on peas alone. The experimenter says that where a less or greater quantity of wheat may be injured by frost or other climatic conditions, the farmers should fortify their positions by providing means whereby to market, in the best way, this product which cannot be sold at paying prices in the form of grain. From 9.1 pounds to 15.46 pounds of increase in the live weight of swine have been obtained per bushel of frozen wheat consumed. When swine are fetching five cents per pound live weight, with an allowance of five per cent deducted for shrinkage, the frozen wheat, fed under favorable conditions in the quality and age of the swine and the preparation of the feeds, may realize 73.45 per bushel. The writer of the bulletin says that the conditions required for the profitable feeding of swine are: (1.) Clean, dry, warm quarters protected from wind and draughts. (2.) As much wholesome feed—if grain, preferably ground fine—as they will eat clean, three times a day. (3.) Free access to a mixture of salt and ashes, to sods or to soil.

Experiments in Feeding Pigs.

Bulletin 15 of the Central Experiment Farm of Ottawa, by Jas. W. Robertson, gives in clear and compact form the results of the experiments made on the economical fattening of swine, including the use of frozen grain, from which we obtain the following conclusions:

There is no appreciable difference in the quantity of grain required to produce a pound of increase in swine, when fed steamed and warm, as compared with it fed raw and cold.

There is an average and gradual and great increase in the grain consumed for every pound of increase in the live-weight of swine after the second month of the fattening period, and after the average weight exceeds 100 pounds.

It is economical to market swine to be slaughtered when they weigh from 180 to 200 pounds.

One pound of grain was the equivalent of six and a half pounds of skimmilk in increasing live-weight.

Much wheat having frozen so as to be unmarketable, a series of experiments was performed to ascertain its value for feed:

Frozen wheat fed ground and soaked 12 hours gave an increase of 14 pounds live-weight for a bushel of wheat.

One pound of frozen wheat was equivalent to 7.9 pounds of skimmilk in increasing live-weight. A skimmilk ration gave a lustier and more robust appearance to the swine fed on it.

Competent judges decided that the pork from frozen wheat was "excellent."

The conditions given and required for the profitable feeding of swine are clean, dry, warm quarters, protected from winds and drafts, and wholesome food; if grain, preferably ground fine, what they will eat clean three times a day, and free access to a mixture of salt and ashes.

Treatment of Young Hogs.

When hogs are very young they need a great deal of care and attention as well as the sow, until they are able to help themselves. The sow should be fed very sparingly for the first week and the food increased according to the demands made upon her by the sucklings, which at the age of two weeks may be taught to eat light food and drink sweet milk. It is usually considered that the first four weeks of the pig's life is the time to make it develop its natural form. If stunted at this time it will likely always show it, or not make desirable progress after. There are many things to be considered in hog-feeding. While

we desire to obtain fast growth, excessive fat is not desirable, but rather injurious to health. For this reason light food is preferred, such as ground oat shorts, bran and but little maize, a lot of grass or other green feed, with plenty of exercise. Never give the food sour. Feed at regular hours. A little practice will soon tell you just how much to give. Never give more at a time than the pigs eat up clean and allow plenty of fresh water at all times. Provide shade as well as dry sleeping places in summer.—The New England Homestead.

Keeping Hogs in Small Lots.

Do we not keep too many pigs in the same pen? Even if of the same litter, if the litter be large, some will get the advantage of others, and crowd the weaker ones away from the trough. We do not blame pigs for this. It is their nature, and the pig that does not try to make a hog of itself is not worth much.

POULTRY YARD.

Her Profit Fifty Per Cent.

Here is the testimony of Mrs. Wm. Smith, of Pleasant valley, as to the profit in poultry:

"We kept an account for nine months of the eggs obtained from some Leghorn hens. The hens varied from nine to fifteen; the eggs obtained were fifteen hundred. Our experience was, that after paying for the food the profits were about fifty cents for each dollar's worth of eggs. We tried letting the hens range over the ranch at will, and also noted the difference in keeping them in an enclosed yard. We found it more profitable to keep them in the yard and provide all the food than to let them range. More eggs were obtained, perhaps because the weasels, skunks and other animals did not destroy any. We experienced no trouble from disease and lost but very few, though at times we had as many as two hundred in the yard. We fed them wheat, sometimes corn, occasionally hot bran with red peppers, ground oyster-shells, and what green food we could easily obtain from the garden, and the scraps from the table. I think the Leghorns are the best layers, though they are not as good for the table as some other breeds." She is satisfied from her experience that there is money in raising chickens, and that there is no limit to the number that can be kept, if good care is taken of them and suitable food provided.

Liver Disease.

The great development of this complaint during recent years is of very serious import to poultry-keepers, and of high-class poultry there are comparatively few unaffected by it, says Stephen Beale in *Country Gentleman*. It is due, when not hereditary, to overrich foods, to bad water and to foul soil. It takes several different forms, but the external symptoms in nearly all cases are the same, so that it is difficult to determine them until after death. There is a moping about on the part of the birds, general lassitude, an uncertain appetite and a yellowish hue on the face, comb and wattles. The treatment must be eradicated, and the food of the plainest nature, but at the same time nourishing. For medicine give an aperient twice a week and doses of homœopathic tincture of podophyllum twice a day. It is to be noted that all rich food must be carefully avoided, and the use of Indian corn has been most injurious in spreading disease. When neglected, it develops into active inflammation of the liver, for which there is no cure.

Incubator vs. Natural Process.

TO THE EDITOR:—I think all of your subscribers who are interested in the poultry business read Mr. T. B. Geoffroy's letters with pleasure and profit, and particularly that one dated Dec. 29, 1892, in which he states that his experience shows that chickens can be more easily hatched in the incubator than by the natural process.

I believe that many of your readers would be glad to know how Mr. Geoffroy handles and feeds his incubator-raised chickens from the time of their hatching, both during the period they are in the brooder and after they leave it, as many poultry-raisers claim that incubator-raised chickens are not so hardy and are not so able to take care of themselves or protect themselves as the others.

E. P. BLAGROVE.

Napa, Feb. 6, 1893.
[The RURAL PRESS very gladly offers Mr. Geoffroy space for narration of his experience.—EDITOR.]

It Would Pay in Humboldt.

Commenting on an article from the RURAL PRESS relative to poultry-raising, the Humboldt Times says:

"There is no doubt but that the poultry business would pay well on the hill lands of this county. Mr. L. S. Hurlbutt of Iaqua and some other people of this section have been experimenting for a year or two with turkeys, and we believe have found that these fine fowls can be raised at a very fair profit. On many of our hill ranches grasshoppers prove a great pest. As these insects make fine foraging for poultry there would seem to be no reason why our hill ranchers might not turn the pests into a source of profit. At the prices that have prevailed for eggs and dressed fowls in this market for a number of years, poultry-raising ought to pay handsomely if managed prudently."

Improve the Quality.

It is more important, says a contemporary, to improve the poultry than the animals, especially when the flock is large, as a gain of two eggs only per month, or even only a half-pound of weight in the carcass, may amount in value

to a large sum in a year. To show what can be done by the use of pure-bred males, we selected two medium-sized common hens, full sisters, and mated one of them with a Plymouth Rock male and the other with a scrub male, hatching eggs from both hens for comparison, selecting the cockerels (six of each) for experiment. When they were six months old they were weighed. The half-bred Plymouth Rock cockerels averaged nine and one-fourth pounds each and the others seven and one-eighth pounds. Both lots were fed alike (all being together), and were fed very heavily, in order to force them in growth. There was over two pounds difference in weight, or 25 cents gain, at 12½ cents per pound. Had we raised 200 of the cross-bred chickens there would have been a gain of \$50 by using the pure-bred Plymouth Rock, and yet he did not cost but \$2. The pullets from the cross were also larger than the others, and were much better egg-producers. Gains from poultry may appear small, but they are really large when we take the percentage of gain into consideration.

Glittering, but a Little Overdrawn.

The Fresno Republican, in which the following appears, does not vouch for its truth:

A State of Maine consumptive went to a Selma real-estate man to purchase a chicken-ranch the other day.

Consumptive—Do fowls pay in Fresno county?

Real Estate Man—Sit down and I will show you. Three acres of land will cost you \$400, \$200 more for a house, \$50 for a barn, \$50 for a well, \$50 for a 600 egg incubator and brooder. Then you go right to work and coin money thus: 600 eggs for 30 days give you 18,000 chickens per month, 216,000 fowls per annum. These, at \$4 per dozen, \$72,000 for \$750 invested.

"External tarnation," said the Yankee as he put up \$40 as a deposit.

"But one thing, Mr. Real Estate Man, you did not figure on feed for the fowls."

"O! they live on our climate and scratch a little on the side for grass, worms, etc."

"Well, I swan!"

Good in California, Too.

The superintendent of the poultry show at Seattle, Wash., says that the Northwest "offers better advantages for the raising of fowls than any other section, for eggs average 35 cents a dozen the year round, and the fowls bring from 18 to 20 cents per pound." Seattle is probably a good field, but San Francisco offers just as many advantages. The price of eggs probably averages 35 cents to the consumers, and there is always a good table demand for choice poultry.

Pure White in Color.

A poultry sharp says it is curious but a fact that all non-sitting breeds of chickens lay eggs that are pure white in color.—Downey Champion.

THE FIELD.

From Santa Barbara County.

TO THE EDITOR:—February came in moist and holds its way, as it is raining to-day and bids fair to remain moist for some time.

January was dry until the latter part, when we had five inches of rain, with about an inch since. The farmers' prospects could not well be brighter at this time of year. Some grain for hay is yet to be sown, and much of the land is so soft that we cannot get onto it with team and tools. The early sown grain is growing fast and promises a very heavy growth. Weeds improve the opportunity, so it will require much labor to dispose of them.

Most of the month of January was dry and pleasant, so much of the land for spring crops was put in very good order. Some of the hill lands were damaged some by washes and gullies, but nothing serious by flooding or overflows. I think there will be more land seeded to Lima beans this year than last.

Last season several of the bean-growers tried small beans, including blackeyes, but most were not satisfied with the results. Not many fruit trees are being set out.

Considerable interest is taken in lemon culture, which I hope will result favorably for the planters.

Some talk "olives," and think if they have a dry, hard lot of land the olive will prosper there, but I hope intending olive-growers will be careful to plant where the trees can find at least a reasonable amount of moisture and fertility, as they need not look for heavy returns from trees planted in unfavorable places.

Many fruit and nut trees are planted from impressions made by favorable reports of individual trees or small groves in favorable seasons, etc. It seems much easier to report large yields and big pay than disappointments and loss.

O. N. CADWELL.

Carpinteria, Cal., Feb. 8, 1893.

Training Too Many Hop Vines.

We have in times gone by generally made the mistake of training too many vines. In one of my yards, where we formerly trained four vines we afterward trained down to three, then two, and finally, in the strongest land, to one vine to the hill, and yet raised a ton and a half to the acre. Two vines, if judiciously selected, or at most three, are enough for any soil. The richer the soil the fewer vines should be trained.

It is all plain sailing until the vines reach the top of the poles, when, in the twine yards, the fun begins. In bright weather the vine will "follow the sun," and climb the pole almost unaided, but when it comes to go "cross lots" in a horizontal direction, the fight begins. Because of this it is very important that the twine should not be so high as to be out of reach from the ground. Great care should be

taken to "stretch" all the twine in every direction, or else there will be sure to be "bunched" hops and trashy, bleached, immature, worthless stuff to mar the sample.—Ezra Meeker's New Handbook.

Wheat After Beans.

The difficulty of growing wheat after a bean crop is partly in getting the soil in proper mechanical condition, and partly in restoring fertility that the beans have exhausted. The fertility part can be solved the most easily. What beans take from the soil is mostly mineral matter, which a dressing of phosphate will supply. The bean crop, if it is allowed to ripen, dries up the soil, and as the beans are pulled, leaves it too light and porous when plowed. Not to plow it is probably the better policy, drilling in the wheat after a thorough cultivation of the surface.

FARMERS' INSTITUTES.

Timely Topics for Farmers' Institutes.

TO THE EDITOR:—I am glad to learn that efforts are being made to hold a Farmers' Institute at Sacramento early next month, and I hope that it will prove so successful that the cry will go up for more. These gatherings are undoubtedly beneficial to all who are engaged in agricultural pursuits, and there ought to be many such in the State. The district fair associations should be promoters of institutes, and could no doubt render valuable aid to the farmers by announcing one or two in each district. Some one should take the lead, and generally the farmers look to the agricultural society for improvement in matters pertaining to their welfare. The University at Berkeley, I am sure, will second any effort in this direction, and there is yet time for the holding of a number of such institutes before the rush of spring-work commences. One who is assisting in getting up the proposed institute in Sacramento writes me, asking if it is necessary to have by-laws for such gatherings. I do not consider that to be necessary unless a permanent organization is desired. A free and easy sort of a gathering, with interesting topics for discussion, with brief essays or speeches, and numerous questions, will prove interesting, remembering of course to have some lively music to rest the audience if it becomes weary.

By the way, I recently received a bound volume of reports of Farmers' Institutes in Wisconsin from Wm. H. Morrison, superintendent of that department. These reports are printed by the State, and are for free distribution to the farmers there, but to others they are sold. I do not know the price. The bulletin referred to is quite valuable to the general farmer, as almost every subject is discussed in it. By addressing Mr. Morrison, at Madison, Wis., the cost of the book can be ascertained.

A few days ago I received a letter from Mr. W. H. Evans, secretary of the Napa Valley Fruitgrowers' Association, asking for information relative to cooperation among fruitgrowers. This subject is being inquired about quite frequently, and would form an excellent topic for discussion at Farmers' Institutes. In Santa Clara county there are now in successful operation two cooperative fruit-drying establishments, and two more have been organized this winter and will be ready for business the coming season. One of these institutions (the West Side) has figured up the result of the last season's business, and the result is that after paying all the expenses, insurance, taxes, eight per cent interest on the plant, etc., there will be divided to the growers who had their prunes dried there, an average of \$87.50 per green ton, and as the best price individual driers paid for the green fruit was \$60 per ton, it will be seen that the cooperative plan paid handsomely. I have no report from the other establishment, as it has not yet closed up its business, but am satisfied equally good results will be shown. Neither of these establishments require a great deal of capital, and other sections of the State can do as well as they have done, and no great hardship will fall to any grower who goes into such an arrangement. Economical management is one of the great features to be desired in such establishments. To make a success of fruit-growing where competition is sharp, cooperation will prove highly beneficial, and is being quite rapidly adopted. The raisin-men and the orange-men find it to their advantage, and so will others who go into it with a determination to win. Of course there are some obstacles in the way, but they can be overcome. The splendid results of the West Side institution, now entering its third year, should be an inducement for others to follow. The first year of its existence was nearly as satisfactory to its stockholders as was the year that has just closed.

The managers of the Santa Clara Valley Dried Fruit Exchange have been making a canvass of the county this winter, urging the fruitgrowers to become members of the same. The result so far has been wonderfully encouraging, and the Exchange will be strong in membership and in determination to handle the fruit of this county. This plan is also something which other counties might adopt, and in time a State Association could be formed; but first get the local exchanges and the other will follow. I have long been an advocate of this method of selling fruit, believing it to be the true way, and that when fully understood, all will indorse it. Santa Clara county fruit-growers are largely indebted to a few wide-awake men who understood the necessity of cooperating, and who kept hammering away at the subject until the growers took hold and made it possible to accomplish results which the most sanguine hardly dared to hope for, and no doubt other sections contain enough of the leavening power to leaven their lump and start others on the road to success. Why not work for that end? The RURAL PRESS has done good work in this matter, and can still do more by calling for expressions from its army of subscribers on this subject. I would like to hear from each one.

Campbell, Cal., Feb. 4, 1893.

R. P. MCGLINCY.

HORTICULTURE.

Pruning Almonds.

TO THE EDITOR:—I wrote to Mr. Treat in reference to a statement made by him in his article on the almond in reference to pruning the tree when first set out. I told him that his plan of cutting off the first eight inches was contrary to the practice of planters when setting out peaches, and that I wished he would explain so that I could use the information in an article for the PRESS. He kindly wrote me the enclosed, and accompanied it with a note saying: "You may hand it to the editor of the RURAL for publication." As the article throws some light upon the question which concerns our planters, i. e., the kind of tree to buy, and also how to prune the almond, I think it worth publishing.

San Francisco, Feb. 7, 1893.

E. W. MASLIN.

E. W. Maslin, Sec'y State Board of Trade:—I am in receipt of your favor of the 4th instant. I am glad that you wrote me about this matter of pruning, and am pleased to note you favor planting almonds. No, I do not believe in high pruning. The lower a tree will grow the better I like it. I do not believe in pruning a tree at all when it is first set out.

There is one grand mistake in growing nursery trees for sale, and that is, the nurseryman always cuts off the side-branches of the tree up to say two feet and a half. This gives the tree a much cleaner and nicer appearance than if he had let all the low side-branches grow, the latter process giving the tree a rather untidy and bushy look. The tree I prefer is one upon which plenty of low side branches have been grown. A tree growing close to the ground will rarely burn. It is not the nurseryman's fault that he trims the tree up in the manner mentioned. He has continued doing it only under the force of the demand by inexperienced planters, who judge a tree by its trim and neat appearance. The nurseryman would be only too glad to stop cutting off low side-branches, if the demand for them was made upon him. There is one other reason that forces a nurseryman to trim the side-branches high; that is because the majority of planters demand trees of 3 to 6 feet in height, and the side-branches are cut off to make the tree grow taller.

The proper way to buy a tree is by its diameter just above where it was budded, and then, if it is only a foot in height, so much the better.

Now, the reason I recommended cutting off about eight inches of the top of an almond tree (the type in my first article reported me correctly—eight inches), is because the almond tree, as trimmed by the nurseryman, throws out a number of side-branches at the point where he has stopped trimming, and then, as a general thing, the tree will start a center shoot straight up in the air. My idea in saying "cut off eight inches" was to cut off this center shoot back to where the branches had been let grow by the nurseryman, so as to try and force branches out very low on the tree. I do not believe in cutting the tree off below these branches, for the reason that there are left so very few leaf-buds to throw out to make sap, making the tree have a regular fight for mere existence.

Last winter I set out 15 acres to almonds. I planted them 30 feet apart, and then planted a Golden Cling peach tree in the middle of each square. I did not prune the almonds a particle; never touch them with a knife, shears or anything else. This winter they look as large as three-year-olds, and have a number of blossoms on them. It is true that some of them have not a pretty appearance, but what do I care so long as I get crops from them so soon? I haven't got money enough to raise an almond orchard

for the pride of gazing at the beautifully formed trees I have fashioned with the pruning-shears. I am solely for getting fruit as soon as I can, and as often and as much as I can. What do I care if my tree does grow crooked, so long as it makes me a profit, or whether it grows long, slim, lateral branches? I say so much the better. The fruit is nearer the ground. The cost of gathering will then be at a minimum. Prop up the branches if they need it; put two, three or four, or any number of props, under a branch if necessary, and thin out peaches (not almonds) to eight inches apart. The cost of putting props under limbs is nothing compared to the amount of fruit lost if that limb is shortened in.

Davisville, Feb. 6 1893

PERCY TREAT.

FRUIT MARKETING.

How to Sell Raisins Advantageously.

The California State Raisin-Growers' Association makes public the following extracts from a letter received by the association from Messrs. Delafield, McGovern & Co., brokers of raisins, who have offices in New York, Chicago and St. Louis. Writing under date January 27th, they say:

"We handle only California products and are therefore in a position to feel the full force of this competition, which for a time prevented large transactions in California raisins. The combination was to this extent a 'boomerang,' besides which it was not honestly adhered to, and was therefore a benefit to the unscrupulous shipper who was willing to sacrifice his associates. The consignment of raisins was to all parts of the country and to all kinds of receivers, regardless of their familiarity with the goods or trade, and in some cases were sacrificed to meet drafts and even to pay freight. The excessive shipments to receivers and to markets unable to take care of them, cut off the most of the country trade tributary to the large market, and enabled the buyer of a single carload, and sometimes of less than a car, to purchase at the same price as a dealer who would buy 10 or 20 cars at a time, thus eliminating from this article the support of speculative buyers and large dealers, besides unsettling values and putting it beyond the power of any one to maintain a firm market.

"Again, the attempt to market a year's supply direct to the jobbing trade within three months' time. If the packers and shippers of raisins on the Pacific coast can arrange to carry their goods until they are actually needed, they can unquestionably secure better prices. Few, if any, of the jobbing brokers' houses of the East can be classed as speculators, and they rarely buy beyond the season requirements of the trade. Hence, if sales are forced it must be at such a sacrifice as will tempt speculators to operate, and goods of this class susceptible as they are to more or less damage, must necessarily show a large margin and prove attractive to this class of trade.

"Grading and quality—This is, of course, a difficult matter for an association to govern, but much can be done to remedy present defects. It is difficult to judge of the relative value by mere classification of crowns as at present used. Goods shipped and sold this year as three-crown grade would often, on examination, prove to be incorrectly classed. They would occasionally be mixed with a low grade, and sometimes be sticky, undercured and dirty."

Such is the testimony which has been received from very many brokers in the Eastern market, and to remedy some

of these defects and to prevent undue competition and crowding of the market, this association would ask the support of all the raisin-growers in this State to the bill which is now being submitted to the legislature. Yours truly,

WM. HARVEY,

Secretary California State Raisin-Growers' Association.

Shipments from Southern California.

The following statements show the shipments of fruits and other products of southern California by the Southern Pacific and Santa Fe routes for the year 1892. The former, however, shows only the eleven months ending Nov. 30, 1892, while the latter is complete. The Southern Pacific statement is as follows:

	Pounds.
Oranges and lemons.....	36,364,862
Potatoes and vegetables.....	19,140,000
Canned goods.....	3,972,460
Dried fruit.....	6,824,126
Raisins.....	12,701,251
Beans.....	10,008,583
Wine and brandy.....	5,288,256
Honey.....	447,805
Walnuts.....	1,173,904
Wool.....	2,532,105
Hides and Pelts.....	758,420
Asphaltum.....	4,161,535

Total.....103,303,307

The statement of the Santa Fe is as follows in certain products:

	Pounds.
Oranges.....	62,811,000
Lemons.....	226,000
Other fruits and vegetables.....	45,361,800
Honey.....	440,000

Total.....108,839,600

The entire shipments, covering all classes of freight, were 820,394,200 pounds. The following tables show the shipments by counties. It should be noted that one is for the year ending Dec. 31, 1892, the other June 30, 1892.

Statement showing shipments of oranges, lemons and other fruit and vegetables for the year ending June 30, 1889, 1890, 1891 and 1892:

Years.	Oranges.	Lemons.	Other Fruits and Vegetables.	Totals.
1889.....	33,054,000	46,000	22,014,000	55,114,000
1890.....	49,975,000	175,000	21,450,000	71,600,000
1891.....	58,275,200	200,000	45,685,800	104,161,000
1892.....	55,766,000	168,000	56,195,000	112,130,000

Totals.....197,070,000 589,000 145,345,800 343,005,000

Statement showing shipments of green and dried fruits, raisins, wines and liquors, honey, grain and wool, by counties, during the year ending December 31, 1892:

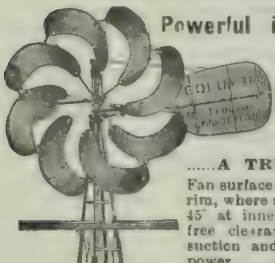
Commodities.	Los Angeles County.	Orange County.	San Bernardino County.	San Diego County.
Green and dried fruits in pounds.....	9,752,000	1,495,000	8,510,000	1,357,000
Raisins in pounds.....	115,000	253,000	4,140,000	3,286,000
Honey in pounds.....	220,000	22,000	110,000	88,000
Grain in pounds.....	18,942,400	6,804,000	4,900,000	13,440,000
Wines and Liquors in pounds.....	8,158,800	294,000	2,898,000	42,000
Wool in pounds.....	1,892,000	1,122,000	220,000	440,000

Totals.....39,080,200 9,990,000 20,778,000 18,656,000

The statement in last week's market review of the RURAL PRESS that these figures had not been made public by the railroads was an error.

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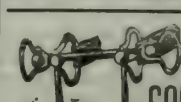
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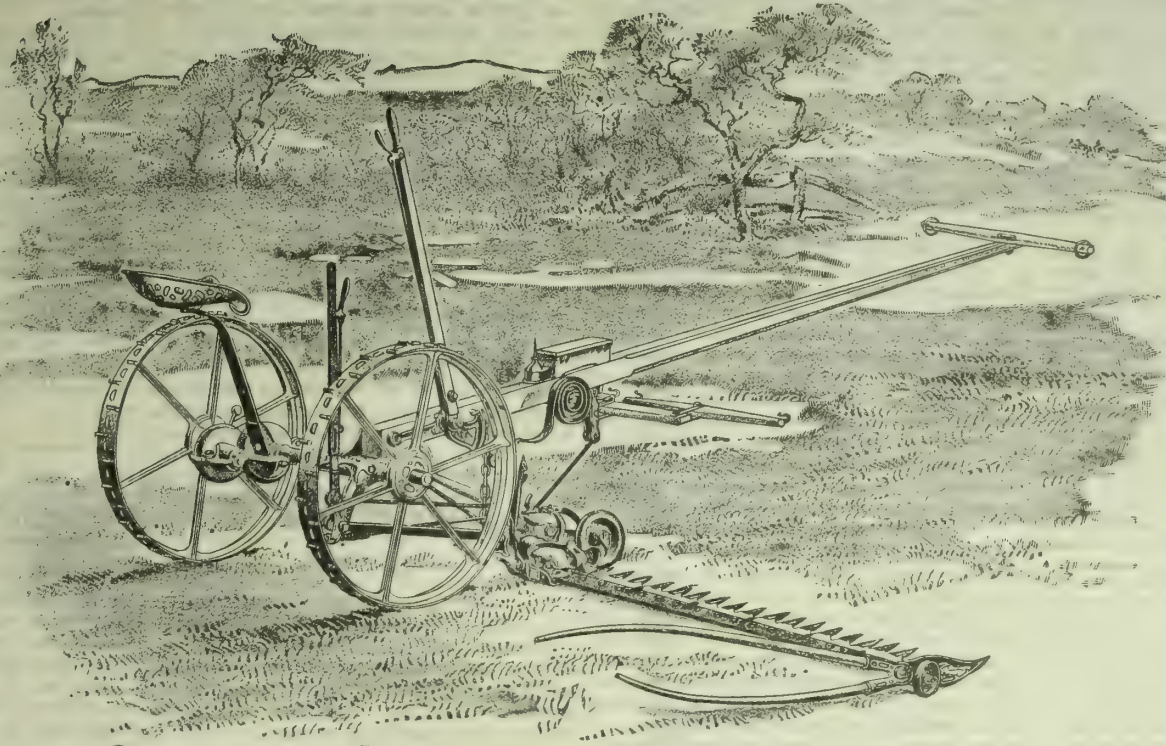
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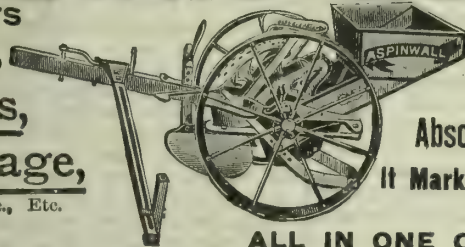
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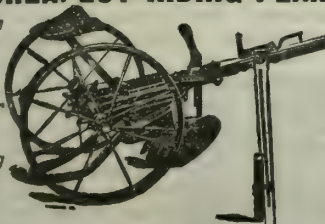
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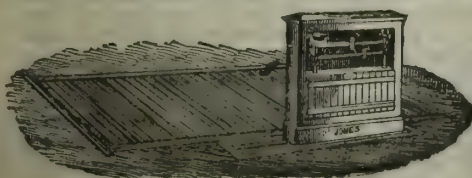


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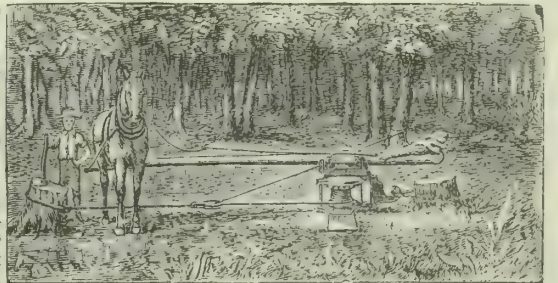
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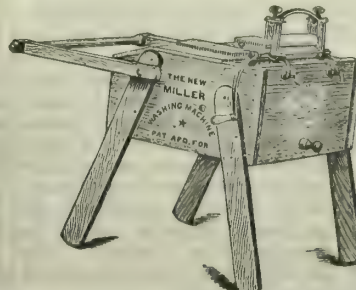
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AGRICULTURAL SCIENCE.

Investigation of the Cattle Foods of California.

University Experiment Station Bulletin No. 100.

NOTE.—Hitherto the efforts of this station in the interest of stockgrowers have been mainly confined to the introduction and distribution of grasses and forage plants suitable to arid lands. This seemed the most pressing need, and was continually enforced upon us by our correspondents. The popular demand has also been shown by the eagerness with which offerings of seeds and roots of promising grasses and forage plants have been accepted by people in all parts of the State. It has always been our intention to supplement this effort with chemical examination of all available feeding materials in order that Californians might avail themselves of scientific methods in selection and compounding of animal foods which have been demonstrated to be of such wide practical advantage at the East and in Europe, and have been so generally adopted by progressive stockgrowers. Owing to the pressure upon our laboratory force and facilities by investigations in other lines previously begun, it has not been possible, until recently, to enter upon this line of work. It is now hoped to pursue it regularly and systematically.

The statement which is given by Mr. Jaffa in this bulletin is introductory to more direct applications of analyses to practical use which will follow. The subject is in its nature somewhat technical, but is in its essential features readily mastered by any intelligent animal-feeder who will give his attention to it.

As Mr. Jaffa states, we need many more analyses before we shall possess full data to enable us to give satisfactory advice to those seeking to know what materials they can use to produce desirable results most economically, and in what proportions such materials should be used in practical feeding for different purposes. To this end we invite samples of forage plants, or field vegetables, in a green state, of hays of all kinds, and of millstuffs or other byproducts which may be available for cattle food. Such samples should be sent by express addressed "Agricultural Experiment Station, University of California, Berkeley, Cal." Samples should be of about five pounds weight, and should be accompanied by full descriptions of their nature, origin and market values. E. J. WICKSON.

The great aim of chemical analysis of feeding stuffs in general, is to ascertain the amounts of the different nutrients contained in the food; and the object of rational feeding is to use the results so gained in a practical, economical and scientific manner.

As this is the first report of our State Experiment Station on the subject, it will be proper to give a brief review of the history of such investigations and an explanation of the terms used.

The first experiments in this direction were made in Germany a little more than 30 years ago, by Bischoff and Voit, in Munich, Stohman and Henneberg in Weende, and Wolff in Hohenheim, and it is due to these men that rational feeding has advanced to the great extent it has in the present day.

The subject was first prominently brought to notice in the United States in an address before the Connecticut Board of Agriculture in 1873, by Prof. W. O. Atwater, now director of the Storrs School Agricultural Experiment Station, Storrs, Conn., the annual reports of which contain most valuable and interesting information, and from which some of the data herein given have been obtained.

In regard to cattle foods the German feeding standards, and methods of computing rations are in common use all over the eastern States, and we trust that it will not be long ere the same will be in vogue here. But owing to the great differences in climate and harvesting conditions between California on the one hand, and the East and Europe on the other, it becomes imperative with us to make complete investigations of all the different food materials as they exist here, in order that we may proceed intelligently in the making up of rations.

While chemical analysis and investigation can do and have done much toward helping and guiding the farmer and dairyman, they cannot at the present time accomplish all that could be desired.

Grave errors may arise by following too closely the standards and rations set down by chemical researches alone, without taking into account the local circumstances, the individual needs of the animals and the purposes for which they are fed, whether for milk or for fattening for market or for work, as well as the variations of the feeding stuffs themselves. Yet, without any knowledge of the composition of the substance fed, the farmer is not only in the dark as to the benefit to be derived from the food, but is also ignorant as to the actual amount necessary, thus wasting at times considerable valuable material.

Nutritive Ingredients of the Food.—The sustaining of the animal body in all its varied requirements is done by the nutritive ingredients or nutrients of the food, which comprise protein, fat, carbohydrates and mineral matters: the latter, in estimating food values, are not considered, not because

they are not necessary, but for the reason that nearly all food, no matter of what description, contains a sufficient supply of mineral matter.

When investigating the amount of ingredients withdrawn from the soil by the crops from which the foods are derived, the ash or mineral contents is the all-important part.

Protein, derived from the Greek, signifying "to take first place," contains all the nitrogenous compounds of the food, and consists chiefly of albuminoids, such as the albumen of the egg, the myosin of lean meat, gluten of wheat, casein of milk, the gelatinoids of the bones and tendons, etc. Besides the albuminoids there are other nitrogenous matters, chief among which is the class termed amides, which are found to a greater or less extent in all foods, more particularly those of vegetable origin.

"In vegetation the amides appear as intermediate stages between the mineral or inorganic matter in the shape of ammonia salts, and the organic constituents or albuminoids. They are, on the one hand, formed in the growing plant from the ammonia salts by a constructive process and from them or by their aid probably the albuminoids are built up; on the other hand, in the animal body they are the stages through which the elements of the albuminoids pass in their reversion to purely mineral matter."

"In germinating seeds and developing buds the amides probably combine both these offices, in being first formed in the germ from the albuminoids in the seeds, entering the young plant or shoot, and in being re-constructed into albuminoids. Their full solubility in water and their ability to penetrate moist membranes adapt them for this movement. They temporarily accumulate in the seedlings and buds but disappear to a great extent as the plant matures, albuminoids taking their place, in which transformation they require the aid of the carbohydrates." (Johnson.)

The amide per centage of the total nitrogen contained in foods, varies from less than one per cent in some meals up to as much as 40 in some of the green fodders, and in some varieties of beets used as feeding material, as much as 50 per cent. of the total nitrogen is non-albuminoid. The amides are not considered as valuable as the albuminoids in their nutritive effect, in that they are, similarly to the carbohydrates, conservers of the albuminoids.

The nitrogenous compounds of the food are generally for the above reasons, reported as *crude protein*.

The albuminoids (or crude protein) in the different food materials are estimated from the nitrogen by multiplying the figure for the latter by 6.25, nitrogen being 16 per cent. of the albuminoids. In England the factor used is 6.33 in place of 6.25.

Use of Protein.—The protein being the only nutrient containing nitrogen, has for its principal function the formation of the nitrogenous ingredients of the blood, bone, hair, muscles, skin, tendons, etc., because as far as is known no albuminoids are formed in the animal body otherwise than by the transformation of similar bodies presented to it from external sources.

The protein can be transformed into fats and may serve as fuel.

Fat.—The term fat includes the butter of milk, the fat of meats, oil of seeds, wax of plants, etc. It is determined by treating the perfectly dried substance with ether; the extract thus resulting being designated as crude fat. As might be supposed, these ether extracts have different nutritive values, the fats from the green fodders being of less value than that from the meals and seeds. Some authorities in estimating the nutritive effects of food, give to all the fats the same significance.

The use of fat is mainly for a fuel supply, although it may form fatty tissue, but not muscle.

Carbohydrates.—The carbohydrates, commonly called "Nitrogen Free Extract," on account of their containing no nitrogen, consist of starch, sugar, gums, etc., and fiber. The latter, in the statement of the analyses of cattle foods is reported separately, while the remainder of the above are, in order to conform to the general usage, classed together under the head of "Nitrogen Free Extract." The gums play only a secondary part as regards the nutritive values of foods.

The carbohydrates are transformed in the body to fats and consumed as fuel. The latest experimental evidence goes to prove that protein, carbohydrates and fat may directly or indirectly be transformed into the fats of milk.

The mineral matters or ash of the food materials consist chiefly of lime, potash and phosphoric acid with varying amounts of sodium, magnesium, iron, sulphuric and chlorhydric acids, silica, etc.

These ingredients have important functions to perform in the animal body and, as

previously stated, exist in sufficient quantities in all foods.

Digestibility of Feeding Stuff.—The chemical composition of the food material alone is not of much value to the farmer if he does not know how much of each nutrient for the feeding stuff in question is digestible. In all foods there is always a certain portion of each nutrient which is not digested in its passage through the body.

In order to ascertain how much is digestible the food is weighed and analyzed before consumption, and the animal excrement similarly treated. The difference between these two analyses is taken as the quantity digested.

The results so obtained are only approximate, but in the present state of such researches the best data attainable. They are termed "digestion coefficients." To illustrate the above:

In every 100 pounds of the sample of alfalfa analyzed there are
7.96 crude protein
1.40 crude fat
8.28 nitrogen free extract
35.12 crude fiber.

For this hay it has been found that of the protein about 75 per cent is digestible, of the fat 48 per cent, of the crude fiber 46 per cent and about 68 per cent of the nitrogen free extract can be digested. Hence in 100 pounds of the alfalfa there would be—

5.97 lbs. digestible protein
0.67 " " fat
26.08 " " nitrogen free extr.
16.16 " " fiber

In a similar manner are obtained the results given in the table below.

For each food material the digestion coefficients vary to some extent. For instance, while about 57 per cent of the protein is digestible in oat hay, 78 per cent is so in the case of wheat middlings or bran.

Nutritive Ratio.—The nutritive ratio is the proportion between the digestible protein or nitrogenous matters of the food and the non-nitrogenous part, or the fats and carbohydrates. Thus, in alfalfa,

The digestible protein is 5.97
" " fat 0.67
" " fiber 16.16
" " nitrogen free extract 26.08
48.86

Forty-three and eighty-six hundredths divided by 5.97 gives 7.3, which is the nutritive ratio. When estimating this ratio the figure denoting the amount of digestible fat is multiplied by 2½, because it has been found by experiment that there is about 2½ times as much heat in a pound of fat as there is in the same quantity of carbohydrates.

Feeding Standards and Rations.—A feeding standard is the quantity of food required per day by the different classes of animals. The standards commonly in use in this country are the ones adopted by the German investigators in this subject, notably Dr. E. Wolff, by whom the following table has been worked out:

POUNDS PER DAY PER 1000 POUNDS LIVE WEIGHT.

	Total or Gross or dry matter.	Protein.	Carbohydrates.	Fat.	Nutritive ratio.
Horse at light work.....	22.0	1.5	9.5	.40	1:7
Horse at average work.....	22.5	1.8	11.2	.68	1:7
Horse at hard work.....	25.5	2.8	13.4	.80	1:5.6
Oxen fattening, 1st period.....	27.0	2.5	15.0	.50	1:6.6
Oxen fat'g, 2d period.....	26.0	3.0	14.8	.70	1:5.6
Oxen fat'g, 3d period.....	25.0	2.7	14.8	.60	1:6.0
Milk cows.....	24.0	2.6	12.5	.40	1:5.4
Sheep wool producing (coarser breeds).....	20.0	1.2	10.8	.20	1:9.0
Sheep wool producing (finer breeds).....	22.5	1.5	11.4	.25	1:8.0
Sheep fattening, 1st period.....	26.0	3.0	15.2	.50	1:5.5
Sheep fat'g, 2d period.....	25.0	3.5	11.4	.60	1:4.5
Swine fat'g, 1st period.....	35.0	5.0	27.0	1.55	1:5.5
Swine fat'g, 2d period.....	31.0	4.0	24.0	1.60	1:6.0
Swine fat'g, 3d period.....	23.5	2.7	17.5	1:6.5	

A ration is the amount of food consumed by an animal in one day, or 24 hours. The use of the above table in the estimation of rations therefrom is a simple matter. But this, and a discussion thereof, will have to be deferred until we have a greater number and a more complete set of analyses of California food materials upon which to base our calculations.

Potential Energy.—The measure of food, as regards its fuel value, is made in terms of potential energy, the unit of which is the calorie or the amount of heat necessary to raise the temperature of a kilogram of water one degree Centigrade or one pound of water four degrees Fahrenheit. Instead of this unit we may use a unit of mechanical energy, the foot ton, which is the force that would lift one ton one foot, one calorie being equal to about 1.53 foot tons.

Recent experiments have been made with animals in the respiratory apparatus to learn the proportions in which the several classes of nutrients replace each other as fuel for the body. At the same time, experiments

have been made with the calorimeter to determine the heats of combustion of the same materials.

The results so obtained agreed very well with those from the direct experiment with the respiratory apparatus, and they also proved that the different nutrients replaced each other according to their heats of combustion.

Prof. Rubner found, in experiments made in the physiological laboratory at Munich, the quantities of materials which were equal to 100 of fat to be as follows:

Nutritive Substances, Water Free.	As Determined by Direct Ex- periments with Animals.	As Determined by Calorimeter.
Myosin.....	225	213
Lean meat.....	243	235
Starch.....	232	229
Cane sugar.....	234	235
Grape sugar.....	236	235

Taking the ordinary food materials as they come, the following general estimate has been made for the average amount of energy in one gram of each of the classes of nutrients:

POTENTIAL ENERGY IN NUTRIENTS OF FOOD.		
	Calories.	Foot Tons
In one gram protein.....	4.1	6.8
In one gram fat.....	9.3	14.2
In one gram carbohydrates.....	4.1	6.3

These figures mean that when a gram of fat is consumed, be it fat of the food or body fat, it will, if its potential energy be all transformed into heat, yield enough to warm 9.3 kilograms of water one degree Centigrade, or if it be transformed into mechanical energy such as the muscles use to do their work, it will furnish as much as would raise one ton 14.2 feet or 14.2 tons one foot. The potential energy of the protein or carbohydrates is less than one-half that of the fat.

The potential energy is very simply calculated by the use of the above figures. The amount digestible of each of the nutrients is ascertained, then for each gram of protein so found there will be 4.1 calories of potential energy, similarly for carbohydrates, and for each gram of fat 9.3 calories. A much more convenient mode of calculating the potential energy is to estimate it for the pound of the food used. This is done by supposing each per cent of each nutrient to represent .01 of a pound, which is equivalent to 4.53 grams. Hence in .01 pounds protein or carbohydrates there will be 18.6 calories (4.53 × 4.1). .01 pound fat will yield 42.2 calories (4.53 × 9.3).

Let us apply these figures to the sample of alfalfa which contains 5.97 per cent of digestible protein, .67 of fat and 42.18 of carbohydrates. The potential energy for the protein in one pound would be 111.04 calories (5.97 × 18.6); for the carbohydrates 784.55, and the fat in one pound would yield 2827 calories (42.2 × 67); the total potential energy in one pound amounting to 923.86 calories.

The use of the above data gives a means of simplifying the calculations of the rations when the sum of the calories and the necessary amount of protein are known. The fat and carbohydrates can replace each other to some extent in any ration, that is, one may be increased and the other diminished, provided the sum of the calories of potential energy remain constant.

In the table below are given the results of the analyses of California cattle foods, so far obtained, and also for the purpose of comparison, the analyses of some of the same food materials, taken mainly from Experiment Station Bulletin No. 11, of the U. S. Department of Agriculture, by E. H. Jenkins, Ph. D., and L. Winton, Ph. B.

All of the samples of California fodders examined were sent by Mr. W. P. A. Brewer, of San Mateo, except the *Lathyrus sylvestris* grown on the University grounds, and the two specimens of wild hay from the land of Mr. J. W. Shanklin, Lassen County.

In Bulletin No. 99 just issued, the green fodder *Lathyrus sylvestris* was fully described. It differs slightly in composition from the sample grown and analyzed in England, in that it has more protein, but less fat and nitrogen free extract than is found in the English specimen, this being due, in all probability, as has been stated, to the different stages at which the plants were cut. It is a very valuable forage plant, and a better appreciation of its nutritive value will be had by comparing it, in the form of hay, with the first-quality oat hay. It will be seen from the table that it contains 20.16 per cent of crude protein, which is about two and one-half times as much as found in the oat hay. The crude fat percentage is also much higher, as indicated by the figures 4.02 as against 2.80 for the oat hay. An inspection of the amounts digestible in the two foods renders the con-

COMPOSITION OF THE FODDERS.

	Number of Analyses.....	ORIGINAL SUBSTANCE.												Potential Energy in One Pound (Calo.)	Nutritive Ratio.....
		Percentage Composition.					Amount Digestible in 100 Pounds.								
		Moisture.....	Pure Ash.....	Crude Protein	Crude Fib. r.....	Nitrogen Free Extract.....	Crude Protein	Crude Fat ...	Crude Fiber..	Nitrogen Free Extract.....	Crude Protein	Crude Fat ...	Crude Fiber..		
GREEN FODDERS.															
Lathyrus sylvestris (Cal.).....	1	63.48	3.18	8.18	9.76	13.77	1.63	6.23	.93	5.27	8.94	422	1: 2.4		
Lathyrus sylvestris (England).....	1	58.63	3.09	7.44	12.21	16.58	2.05	5.65	1.23	6.59	10.78	486	1: 3.6		
HAY.															
Lathyrus sylvestris (Cal.).....	1	10.00	7.83	21.16	24.05	33.94	4.02	15.32	2.41	13.94	22.06	1,070	1: 2.7		
Oat Hay, first quality (Cal.).....	1	10.38	6.75	8.31	23.85	47.91	2.80	4.74	1.34	13.83	29.70	954	1: 4.9		
Oat Hay, second quality (Cal.).....	1	9.80	7.24	6.57	25.75	48.64	2.10	3.74	1.00	14.93	30.09	949	1: 12.7		
Oat Hay (Eastern).....	2	9.15	6.48	8.85	28.17	44.71	2.74	5.04	1.32	16.28	27.72	968	1: 9.4		
Alfalfa Hay (Cal.).....	1	12.18	5.16	7.96	35.12	38.28	1.40	5.97	.67	16.15	26.03	925	1: 7.3		
Alfalfa Hay (Eastern).....	21	8.44	7.44	14.28	25.01	42.68	2.15	10.71	1.03	11.50	29.02	977	1: 4.0		
Burr Clover Hay (Cal.).....	1	11.55	6.91	10.50	26.19	44.92	2.23	5.99	1.29	11.79	27.40	942	1: 7.1		
Wild Hay, Eleocharis palustris (Cal.).....	1	11.55	7.66	5.69	22.27	51.18	2.65	2.89	1.06	11.36	31.73	901	1: 15.7		
Wild Hay, Atropis Californica (Cal.)...	1	10.10	6.82	6.30	27.34	48.44	2.00	2.65	.80	13.91	30.03	901	1: 17.3		
BY-PRODUCTS AND MEALS.															
Wheat Middlings (Cal.).....	1	11.29	4.01	18.33	5.55	55.77	5.05	14.29	3.48	1.39	42.94	1,231	1: 3.7		
Wheat Middlings (Cal.).....	1	12.30	3.14	14.43	4.15	61.80	4.12	11.26	2.84	1.04	47.58	1,262	1: 4.3		
Wheat Middlings (Eastern).....	32	12.10	3.29	15.62	4.60	69.42	3.97	12.18	2.73	1.15	46.51	1,228	1: 4.1		
Wheat Bran (Cal.).....	1	11.06	6.42	15.49	8.57	54.21	4.25	12.42	2.93	2.14	41.74	1,169	1: 4.1		
Wheat Bran (Cal.).....	1	11.97	6.44	12.77	3.28	55.49	4.05	9.96	2.79	2.32	42.72	1,141	1: 5.2		
Wheat Bran (Eastern).....	88	11.91	5.78	15.42	8.99	53.87	4.03	12.03	2.78	2.25	41.47	1,152	1: 4.2		
Linseed Meal, old process (Cal.).....	1	9.35	5.22	29.75	6.23	31.20	18.25	24.39	16.61	1.25	22.77	1,670	1: 2.7		
Linseed Meal, old process (Eastern).....	21	9.10	5.72	32.93	8.38	35.40	7.91	27.00	7.20	1.78	25.72	1,317	1: 1.7		

trast still more striking, for the reason that in the vetches, to which the *Lathyrus sylvestris* (flat pea) belongs, the digestion coefficients of protein and fat are greater than in the case of oat hay.

There are in every hundred pounds of the *Lathyrus sylvestris* 15.32 pounds digestible protein, being more than three times the amount (4.74 pounds) contained in every hundred pounds of oat hay. The digestible fat, 2.41, is nearly double 1.34, the figure for the oat hay. The nutritive ratio is very much closer than that of the oat hay. In the *Lathyrus sylvestris* there is one part of digestible protein or albuminoids for every 2.7 parts of non-nitrogenous matters, while in the oat hay there is only one part protein for every 9.9 parts non-nitrogenous.

A comparison of the analysis of the first-quality oat hay (grown here) with that from the East, shows a close agreement as regards the ash, the percentages of which are 6.75 for California and 6.48 for the Eastern sample, the protein showing 8.31 and 8.85 respectively, and the fat, the figures being 2.80 as found here and 2.74 for the Eastern specimen.

The same general agreement is seen in the nutritive ratio and potential energy of the two hays.

As might be supposed, the second quality, containing as it does more straw, will naturally have less protein and fat and more crude fiber than the first quality.

The percentages being respectively for the protein—8.31 and 6.57; for fat—2.80 and 2.10; for fiber—23.85 and 25.75.

We must defer making comparisons of California alfalfa with that grown elsewhere until we have more analyses at hand, because the sample analyzed consisted entirely of stems and hence would contain much less protein and fat, and show a far higher percentage of crude fiber than would a representative sample.

It is to be regretted that it was not possible to analyze another specimen in time for this publication.

The burr clover-hay with its 10.50 per cent of crude protein and 2.23 of fat, constitutes a very fair fodder.

The wild hays, *Eleocharis palustris* and *Atropis Californica*, from Lassen county, contain very low percentages of protein, 5.69 and 5.30 respectively, but an average amount of fat, 2.65 and 2.00 representing the amounts found.

The nutritive ratios 15.7 and 17.3 are far from being desirable.

There is very little variation between the analysis of the second sample of California wheat middlings and the average of 32 analyses of the same food material as it exists in the eastern States.

The protein percentages, 14.43 for California and 15.62 for the averages, and the nitrogen free extract, 61.80 for California and 60.42 for the average, show the greatest differences. The figures for the fat, crude fiber and the ash are quite close.

The first sample of wheat middlings has a greater nutritive value than the second, in that it contains more protein.

A comparison of the analyses of bran presents a case of marked agreement between that of the first sample of the California substance and the average of 88 analyses from the East, as is shown by the following table:

	California Sample.	Average of 88 Eastern Analyses.
Moisture	11.06	11.91
Ash	6.42	6.78
Crude Protein	15.49	15.44
Crude Fiber	8.67	8.99
Nitrogen Free Extract	54.21	53.87
Fat	4.25	4.03

The exceedingly high per cent, 18.25, of crude fat in linseed meal, is owing to the oil not having been properly extracted; it is more than twice the amount, 7.91, obtained as an average for the percentage of fat in 21 analyses, as taken from Bulletin No. 11 of the Department of Agriculture.

The protein percentage in the average is somewhat higher than the corresponding one in the California sample, as shown by the figures 32.93 and 29.75, respectively.

The crude fiber per cent, 6.23, and the nitrogen free extract, 31.20, contained in the California sample, are also lower than the per cents found for the same ingredients in the above-named average. The ash contents do not differ materially in either.

It will be thus seen that so far as examined, where representative samples have been used, the California products compare quite closely with those of the eastern States.

M. E. JAFFA.

Berkeley, Feb. 12, 1893.

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Complimentary Samples.

Persons receiving this paper marked are requested to examine its contents, terms of subscription, and give it their own patronage, and as far as practicable, aid in circulating the journal, and making its value more widely known to others, and extending its influence in the cause it faithfully serves. Subscription, paid in advance, 5 mos., \$1 10 mos., \$2; 15 mos., \$3. Extra copies mailed for 10 cents, if ordered soon enough. If already a subscriber, please show the paper to others.

The Red Ball Brand.

One of the exhibits that attracted much attention at the Mechanics and Northern Citrus Fair just closed in this city, was that of the Manhattan Food Co. Under the energetic management of Mr. Charles Kertell, this Company's prepared food for horses, cattle and poultry has achieved a great success, and is now a standard article and used by a large number of the most prominent stockmen of the coast. Mr. Kertell is now in the East extending his business, and making arrangements to exhibit the Manhattan Food at the World's Columbian Exposition.

To My Friends and Customers:—

Notwithstanding the fact that one of my Seed warehouses was partially destroyed by fire, I am fortunate enough to have a large reserve stock, stored in my main warehouses. I can fill all orders promptly, as in the past, with the choicest stock of my own growth.

Very respectfully,

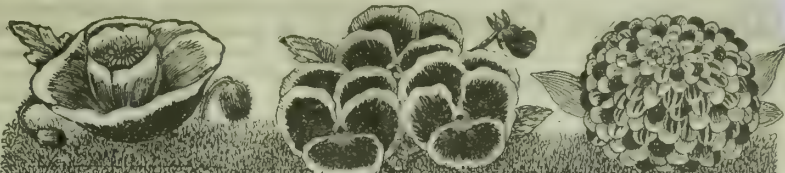
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Feb. 4, 1893.

Rockford, Ill.

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If you want Pure Fresh Seeds Cheap, direct from growers, send for our Beautiful Third Catalogue mailed Free. Pkt's only 2 and 3 cts. Market Gardeners ask for MONEY Wholesale Price List.
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WILL BE GLAD IN THIS ANNIVERSARY YEAR

TO **START A GARDEN**

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FREE OF CHARGE!
HOW? IN THIS WAY.

Send them 25 cts. to pay postage and packing and they will mail you gratis, their **COLUMBIAN COLLECTION OF SEEDS**, consisting of Succession Cabbage, New York Lettuce, Ponderosa Tomato, Bonfire Pansy, Zebra Zinnia, and Shirley Poppies. (The six packets of seeds named, composing the Columbian Collection, cannot be bought elsewhere for less than 50 cents.)

BUT THIS IS NOT ALL,

for with every Collection they will also add, Free, their Catalogue for 1893 of "EVERYTHING FOR THE GARDEN," provided you will state where you saw this advertisement. Every copy of this grand Catalogue alone costs 25 cts., and its 150 pages are strewn with hundreds of new engravings, and embellished with eight beautiful colored plates, all of which truthfully portray the Cream of everything in Seeds and Plants.

EVERY EMPTY ENVELOPE IS WORTH 25 CENTS.

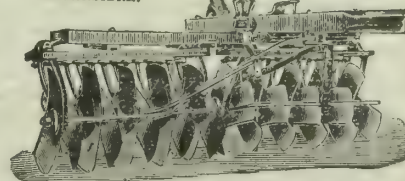
Purchasers of the Columbian Collection will receive the seeds in a red envelope, which they should preserve, because every such envelope, when enclosed with an order for goods selected from the Catalogue here referred to, will be accepted as a cash payment of 25 cts. on every order amounting to \$1.00 and upward. These Collections can be written for, or if more convenient, be obtained at the stores of **PETER HENDERSON & CO.**, 35 and 37 Cortlandt St., New York, where Seeds, Plants, etc., are sold at retail all the year round. Postage stamps accepted as cash.



THE LATEST STYLE

PULVERIZER!
THE PACIFIC SPADER!

Operated by one small boy. No Man required.

PACIFIC SPADER
REVERSIBLE.

Spader throwing Soil from the Center.

The Pacific Spader and Vineyard Cultivator does more work in one stroke than a Disc Harrow in ten. Sizes, 5 1/2 to 12 feet.

TRUMAN, HOOKER & CO.,
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—SIZES:—

No. 5D—5 1/2-foot Spader	16-inch Blades
No. 6D—7 "	" "
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**AN OLD STYLE PULVERIZER.**

Especially adapted to pulverizing "bottoms"—one man and a small boy can operate it.

Linden, Cal., Nov. 26, 1892.

Messrs. Truman, Hooker & Co.,
San Francisco, Cal.

Gentlemen:—I was induced by your agent, Mr. I. O. Fowler, to purchase one of your **PACIFIC SPADERS**, which I have tested on some very hard land and must say it does its work to perfection. I will say to all who contemplate purchasing a Cultivator to take the Pacific Spader every time. I remain
Yours very truly,

C. V. Webb.

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Elevator, 19th Floor

THE HOME CIRCLE.

The Field of Stubble.

Over the field of stubble

The grasshopper flits and sings,
And butterflies float like thistle down
On gos-amer golden wings.
Yet up from the glint of the gleaming waste
Are stocks of thistle and tare,
And after the harvest is reaped and gone,
The weeds grow sturdily on and on.
Their bight in each furrow is easily traced,
Though only the straw is there.
Over life's field of stubble,
I wonder how it will be.

We hide the weed in the plummy grain,
While the summer winds are free,
But when the harvester by and by
Gathers his golden sheaves,
The sinful and selfish will all be found,
And into the self-same sheaf be bound,
Where the best of our efforts lie,
While sin its scarring leaves.

Over life's field of stubble
When the busy reaper has gone,
Will the secret sins we have nourished
Grow steadily on and on?
Then let us be busy and watchful always,
For the summer of life will wane.
To pluck the evils that love to hide
Under the cover of good, abide,
For the field of stubble, we leave some day,
For the yield of the wealth of grain.

—EMMA PLAYTER SEABURY, in the Chautauquan.

Youth and Age.

When all the world is young, lad,
When all the trees are green,
And every goose a swan, lad,
And every lass a queen,
Then hey the boot and horse, lad,
And around the world away.
Young blood must have its course, lad,
And every dog his day.

When all the world is old, lad,
And all the trees are brown,
And all the sport is stale, lad,
And all the wheels run down,
Creep home and take your place there,
The spent and maimed among,
God grant you find one face there
You loved when all was young.

—CHARLES KINGSLEY.

Holding the Reins.

I.

The night was clear, the sleighing good,
The cutter seat not wide,
She snuggled close beneath the robe
To her fond lover's side.
The horse was spirited and jumped
With frequent tugs and strains,
Until she innocently said:
"Do let me hold the reins!"

II.

They're married now, perhaps because
She was so helpful then,
She loves him well, and he loves her—
Well, in the way of men;
And yet in all their sweet delight
One sad thought makes him wince;
She held the reins that winter's night,
She's held them ever since.

—Somerville Journal.

The Shepherdess.

God set thee on this Norman plain,
Scarce-opened flower,
Lest the hot breath of man should stain
Thy noon's bright hour;
And yet—and yet, thou dreamest here,
Dreamest of what?
Though there's no sign that love is near,
I trust him not.

As the hid honey draws the bee,
So the rogue knows
What the sweet human heart of thee
Hath to disclose;
He'll flash upon thee from the sky,
Or to thee creep,
In cruel haste to hear thee sigh,
And see thee weep.

—JOHN REID.

Widder Rattlebee and the Blue Book.



DEAR ME! How'dy Mis' Toben? I'm right glad ter see ye, fer I be'n wantin' ter ask why ye don't sen' yer name ter San F'n'cisco ter be put in the Blew Book of Californy sercietty. Here it's be'n advertised fer two-three months, but I never read it er tuk much notice out fer I reckoned it war a Warners' Safe Cure, or Hood's Sasprilly er somethin' o' thet kind; but Jasper read it out ter me las' night, an' it says how a man is a gittin' up a Blew Book ter contain the names an' addresses an' deception days of the leadin' people of Santa Cruz an' surroundin' country. Now, we in the mountains here air in the surroundins, an' sense I've got the mogidge paid on my ranch, I don't reckon the's nobody in this vicinthy thet's no better off n' what you'n I be; so reelly we orter sen' our names. Yis.

"I reckon I'll chuse Wensd'y fer my day. Jasper says a deception day is when you

hev ter stay home an' be glad ter see ev'ry-body that comes ter see ye. Now, I allers did think Thursd'y was a mighty handy day ter go naborin' in, or rouserin' roun' any-whar. Ye gen'ly hev yer washin' 'n inin' an' bakin' done by that time o' week; an' then Thursd'y ez mostly pleasant ef yer goin' ter hev any pleasant wether, so I've tuk Wensd'y ter stay home.

"I've got my letter all writ ter thet San F'n'cisco man, an' I tell ye et's a right smart chance ef he gits ary name thet looks better'n what Jaspers' an' mine do. My bul sir name ez Georgy Houstin Rattlebee. Ye see my paw was a Houstin an' he come from Georgy, so I was named fer thet State; an' Jasper was named fer his gran'paw, so his middlin' name ez Houstin too.

"The Houstins was reel live oaks back, home thar—no sagebrush er greasewood 'bout them I kin tell ye. Paw was goin' ter sen' brother Joram an' me up No'th ter school, but the war bruck out an' we couldn't go, so I ain't edercated up ter sech er state o' petrification ez you be, Mis' Toben, but I know a punkin from a pussimon, gin'ly speakin', an' ef I was a milyonair I'd parse enny whar. Joram, too, has made right smart o' money an' has built a gret white mansion in the superbs of San F'n'cisco. I must write ter him ter sen' his name ter the Blew Book.

"I've asked that city man why he didn't hev it a Red Book 'stead of a Blew, which ez sech a fadey culler. I told him I hed a book o' poems called "Frendship's Offrin'" thet's got a blew cover an' it's awful faded; looks reel or'nary, yis.

"What's thet yer sayin', Mis' Toben? Our houses ain't good nuff fer high sercietty?

"Wal, I'd know; I reckon they jibe in with the surroundin's tollable peart. We don't want city houses; an' my ball an' parlor look mighty nice fer country sense I got the home-made railin' pulled down from the stairs an' a reel turned barrister put in place on't—varnished, too—an' a strip o' carpet to walk on. Then I've got a Inn Graham carpet on the parlor, an' Joram's girl sent me a silk thing ter hang on the corner of my Washington crossin' the Delawar; an' I've spread it out so 'twill droop onto thet other pacter, "From the Cradle ter the Grave," when it begins with the baby an' the difrent ages of man go up an' down stairs—yis.

"Then I've got a bough'en fan an' a crazy work one over the mantelree shelf. I'll learn you ter make the crazy fan—it's reel easy. Ye take a long peace o' paper twenty inches wide ef ye want a big one, an' ye paste a strip o' nice border on the upper age; ef the border ez thet gilty kind it'll look all the richer. Then ye paste on pacters an' scraps o' wall paper kinder hit er miss, an' when it's dry pleat up the bottom age an' 'twill spread out like a turkey's tail an' look mighty peart I tell ye."

"O, yis, I reckon we orter sen' our names an' encourage thet Blew Book man some after all his adve'tisin'.

"His Intentions Were Fair."

When H. F. Forny, the painter of Indians, was traveling in Montana a few years ago, he met the most familiar waiter in the world. He was sitting at the breakfast table in a mountain hotel, waiting for some one to come and take his order. He felt a jar, and then a heavy weight resting upon his shoulder. He looked around, and found leaning upon and over him a huge, bearded man, in a broad-brimmed hat, and with two revolvers sticking in his belt.

"Well, old hoss, whall ye have?" said the man in a friendly voice.

"Who are you?" said Forny.

"Me?" said the man. "I'm the waiter."

An Original Request.

Little Lucy Bean had by some fatality of chance spruced her ankle, and great were the straits which the family, relatives and friends were put to to keep the invalid amused. Resources were at the last ebb, when a fresh acquaintance arrived and was joyfully hailed.

"Oh, Mr. Preston!" exclaimed the little sovereign, from her armed and pillowed throne, "please sit down in front of me and play you were a dandelion, and let me blow the fuz off the top of your head to see if mother wants me."—Judge.

How He Was Interested.

"This battle-field has a deep interest for me," said the visitor as he went over Gettysburg's historic ground.

"You were a Federal soldier, I suppose?"

"No."

"A Confederate, then?"

"Not exactly."

"Then may I inquire why you are so greatly interested?"

"Certainly, sir. It is here that my substitute lost a leg."—Judge.

San Francisco Fashion Notes.

DEAR MOLLIE:—Seldom do we see fashion arm in arm with nature. Without doubt this has been a season of fur wearing, as is plainly seen by the wraps and cloaks which protect so many of the fairer sex from the cold winds which prevail over San Francisco. Many of the hats of the season are trimmed with fur, which gives the face a soft, refined appearance. The "Ali Baba" turban is all the rage, and is worn by ladies who pretend to keep up with the latest style of the day. Although this hat is plain and simple, still it is very neat and dressy and is usually becoming to the wearer.

One this style, made of dark-red felt, edged with black fur, having a few loops of ribbon brought to the side, is quite pretty. The poke bonnet is again fashionable. Velvet flowers are in great demand for hat trimmings. A hat does not look complete without a bunch of violets.

From the looks of the millinery windows, one would think flowers were to be worn in place of hats. A black velvet hat, trimmed in jet, with a few pink roses used in the trimming, makes a rich combination. The latest color in veiling is the royal purple. When this shade first made its appearance, it caused considerable comment among the ladies. At first it seemed a ridiculous color, but now it is in high favor and is worn a great deal.

Ladies with fair complexion are best suited to this shade of veiling. Capes are very much worn, in fact the capes seem to have wholly monopolized the place of the three-quarter jacket which was worn so much this winter. The "Bernhardt" is the very latest for shoulder wear. This cape is made principally of dark material, with a smaller cape attached to it, the latter being trimmed in narrow dark fur. The small cape is substituted in place of the high poufs which were worn so long in wraps. Frills and ruffles are now used in place of high shoulders.

A serviceable and stylish cloak is one made of heavy material. The under portion of the cloak is seamed to fall straight from the shoulders downward, to fit easily but without folds, while the "Victoria" over is cut to form three folds over each shoulder. The trimming is black fur, or, if preferred, black astrachan is used instead. With this cloak a black hat goes well trimmed with velvet and wing to match. Curious to say, the jacket has been slow of development. For many years it was plain, except for the braiding and the front frogs. At one time it was very short, then fashion lengthened it, but still it remained on the old line, tight and loose.

Then it came to be embroidered, next revers were added, and lastly it was flung open and vested. Now the new idea is added to it, and altogether it is an important part of the toilette. There is no saying in what direction it will develop further on, as it seems known that it is the garment for all kinds of liberties. Some have the pouf sleeves, tapering to the waist in a different material to that of the jacket itself. A handsome jacket is one in cloth of electric hue, with mink fur.

It is rumored skirts will be worn very full, bringing the old style to light once again. If the full skirt meets with success, hoops will next be introduced to fill out the dress. At present the bell skirt is still worn. As the extension of the skirt ceases, that of the sleeve, which slopes off the shoulder, increases in volume. Already the short balloon sleeve is curtailed and the shoulder is once more able to assert itself in the direction Nature intended.

A pretty fashion is to trim the skirt (if plain) with a fold of velvet and a narrow row of jet or passementerie. At present we have the modified bell skirt, the gored back design with one seam, the Empire skirt and the sensible walking skirt that just touches the floor. A walking skirt should hang perfectly plain all around. Sateen, soft-finished cambric, and silesia are the materials used principally for skirt linings. Velveteen is now used for the bottom of skirts in place of the long worn braid, and comes in one-inch rolls of three yards each, or may be had in a quarter of a yard piece, cut on the bias from the piece of goods. As these skirts are now from three yards and a half to four yards wide, one roll of velveteen would scarcely finish a skirt. The velveteen should be stitched on with silk, and hemmed down with twist as it gets a constant strain. The bell skirt has a long season of duration and is still in great demand, although it has undergone changes since it was first introduced.

The bias seam down the back is no longer used, unless the wearer wishes a "dip" at that point; but the seamless back is laid in

plaits, to give the same effect with the sides and the front of the bell skirt.

Another bell skirt has but one seam and is fashioned of goods wide enough to make up crosswise. The seam is gored or straight, and is at the left side, and is usually trimmed with a band of velvet. This shape has the plaited or gathered back, and the eight darts in front fitting to the form. The lining in all cases is cut exactly like the outside. Bias folds, one inch wide, are stitched down and piped with velvet, braid or silk, on mixed goods. A new material for dress petticoats is in high fashion. This is double, a stuff which has a surface of rich silk and an under part of soft material. It is very light, and does not crush, and nicely holds the dress from clinging. Some of these skirts are of the palest shades, many of them trimmed with frills or ruffles of shaded silk. The basques of dresses are made plain. Coat-tails are still worn, while the sleeves continue to be full. A neat and stylish costume is one made of dark green cloth. The skirt is made bell shape, with a bias fold of dark velvet across the skirt. The basque is made plain, tight fitting, giving the wearer a fine form. The front of the basque is double-breasted and is trimmed with large corduroy buttons, which makes the costume very attractive. The sleeves are full, and have deep cuffs of the velvet. Dark red is considered very fashionable for evening wear. A princess dress made of this shade, trimmed in black fur, is warm and dressy looking.

ELIZA H.

How the Telephone is Managed in Roumania.

The two Roumanian cities, Galatz and Braila, on the Danube, were lately connected by telephone, which is, like the telegraph in that country, an institution of the State. Before its opening, an ordinance of the Government for its use was published in the official gazette, the principal part of which is as follows:

"A person who wishes to communicate with another by telephone is bound to notify that person beforehand by letter, telegraph or otherwise."

A dealer in produce in Braila was about to close a contract for a supply of barley. He desired, however, to learn beforehand the price of the barley quoted at the Board of Trade in Galatz. For that purpose he went to the telephone office, and, after the fee, desired to get telephone connection with his correspondent in Galatz.

"Very well; have you informed that gentleman?"

"What for? He is in Galatz, and the person to whom I want to telephone."

"That would not do, sir. Here is the ordinance. Before you can telephone to him, you must inform him beforehand by letter, telegraph or in any other way."

"Nonsense! Is the Government crazy? Maybe they ask me to travel to Galatz and inform him that on a certain day and hour he may be at the telephone office to receive a communication from me?"

"Yes, that would do, too," the official said. The merchant was obliged to give up his barley deal.—Electrical Review.

A Shirt Story.

The true soldier obeys orders faithfully, no matter at what sacrifice. A company of a British regiment was once set on some duty in time of peace to a remote village in Ireland and left there several weeks, quite separated from its usual base of supplies.

During this period some general orders, applicable more especially to men in barracks, were sent to the commander of the company. One clause of these orders was as follows:

"All men in the command shall change their shirts at least twice a week."

The Captain gave orders to the Orderly-Sergeant to see this command put into execution.

"But, Captain," said the Sergeant, "there's only a shirt apiece to every man in the company. How can they—"

"Silence!" exclaimed the Captain; "orders are orders, Sergeant. Let the men change shirts with one another."

So the Sergeant saw to it that as long as the company remained in the place on every Sunday and Wednesday morning the soldiers swapped shirts with one another.—Burlington Hawkeye.

Lime Kiln Club Sanitary Items.

The secretary of the State Board of Health of Illinois wanted to know what progress, if any, the colored people of Michigan were making in sanitary matters. Brother Gardner said he would like a general discussion of the subject, and Sir Isaac Walpole arose to remark that he was making progress. Up to a year ago he didn't know that seven persons and a dog sleeping in an 8x10

room, with all the windows down and the doors closed, was injurious to the human system. He supposed that the feeling of languor was brought on by noncirculation of blood in the feet.

Whalebone Howker had also progressed. He had now learned the difference between the smell of gunpowder and sewer-gas, and the lives of his thirteen children were no longer in peril.

Pickles Smith used to wash his feet once in six months. Now he felt conscience-stricken if a week passed over his head that he didn't heat up a boiler of water and soak up his pedals. His five dogs used to sleep in the house. Now they either made their beds in the dooryard or stood up against the woodshed door.

Judge Chewso had slept in a room with six other persons, a barrel of soft soap, three dogs, an old codfish and a limburger cheese, but he had progressed. He used to wake up in the morning and charge the Democratic party with seeking to poison him, but now he realized that it was his ignorance of sanitary precautions.

Several other members spoke in the same strain, and related vivid personal experiences, and the president finally said:

"De secretary will answer to de effect dat we ar' improvin' in sanitary matters in de rapidest manner, an' dat de time am purty nigh at hand when a black pusson sleepin' in de garret of a house durin' de hot nights of July an' August will werry probably remove de feather bed an' dispense wid about fo' comforters."—Detroit Free Press.

Holdings and Brushes.

Tastes differ as to the size of holders for use about the stove; some like large, thin ones, and others prefer them small and thick. It does not matter which way they are made, so you have plenty of them and use them. I make covers for them, which can be easily slipped off and washed, with a small ring or tape sewed on one corner for hanging them up. Hang near a stove, so there will be no temptation to use towels or an apron.

Besides the various kinds of brushes used for scrubbing, keep one exclusively for washing vegetables; potatoes, turnips, beets, etc., can be more easily cleaned in this way than in any other.

Use a small tooth brush for cleaning around the handle of cups and tureens, and for dishes with rough surfaces, or raised designs; keep it convenient and it will be used oftener. I keep mine in a drawer of my kitchen work-table, beside my silver polish, chamois skin and other useful cleaners.

I have found a small paint or varnish brush, costing five cents, a useful accompaniment to the larger stove-polishing brush, as it can be made to reach into corners where the other one will not go.

A nail brush for the cook's and the children's use is indispensable. Of course there are dust brushes, crumb brushes and tooth brushes. I only mention those which I do not find in general use, but which cost little and aid much in making easier the work which many deem drudgery.—Portland Transcript.

The First Complete Bible.

The first complete Bible printed in England was issued in 1535, without the publisher's name. It was the work of the celebrated Miles Coverdale, who incorporated, with revisions, Tyndale's books of the New Testament, as well as his Pentateuch and Book of Jonah. It was thus only partially original as far as Coverdale was concerned, the remaining portion being a translation of a translation. No perfect copy of this edition is known to be in existence. A copy sold a few years ago in London for a sum equal to \$600 had the title, nineteen leaves and the map missing. The Coverdale Bible is the one mentioned in these notes heretofore as the "Bug Bible" and the "Treacle Bib'e," on account of the two curious passages found therein. The passage in Jeremiah which we now read as "Is there no balm in Gilead?" is made by Coverdale to read "Is there no more treacle at Gahabad?" The Psalm which says "Thou shalt not be afraid of the terror by night" reads "Thou shalt not nede to bee afrayed for any bugs by night." The Ninth Psalm, in that portion which should say "Put them in fear, O Lord," Coverdale makes to say "Set a schoolmaster over them."—St. Louis Republic.

The Use of the Zebra.

A little Washington boy, writing a composition on the zebra the other day, was requested to describe the animal and to mention what it was useful for. After deep reflection he wrote: "The Zebra is like a horse, only striped. It is chiefly used to illustrate the letter Z."—Washington Star.

YOUNG HOLKS' COLUMN.

My Neighbor's Boy.

He seems to be several boys in one,
So much is he constantly everywhere!
And the mischievous things that boy has done
No mind can remember nor mouth declare,
He fills the whole of his share of space
With his strong, straight form and his merry face.

He is very cowardly, very brave,
He is kind and cruel, good and bad,
A brute and a hero; Who will save
The best from the worst of my neighbor's lad?
The mean and noble strive to-day—
Which of the powers will have its way?

The world is needing his strength and skill,
He will make hearts happy or make them ache.
What power is in him for good or ill?
Which of life's paths will his swift feet take?
Will he rise and draw others up with him,
Or the light that is in him burn low and dim?

But what is my neighbor's boy to me
More than a nuisance? My neighbor's boy,
Though I have some tears for what he may be,
Is a source of solicitude, hope and joy,
And constant pleasure. Because I pray
That the best that is in him will rule some day.

He passes me by with a smile and a nod,
He knows I have hope of him—guesses, too,
That I whisper his name when I ask of God
That men may be righteous his will to do.
And I think that many would have more joy
If they loved and prayed for a neighbor's boy.

—London Christian World.

Word Stories.

Written for the RURAL PRESS by AUGUSTA E. TOWNE.

THE children and myself still find much entertainment in the history of words. "Any more word-stories, to-night, mamma?" is their evening cry.

The stories I have been telling them lately, and which they think particularly interesting, are of words whose "roots" are proper names.

This collection, which I have made for my little one's instruction, may contain nothing new for adults, but I will venture to briefly itemize some of it for the instruction of other children whose papas or mammas have not hunted with them over dictionaries, cyclopedias, etc., for these "funny word-stories."

Sandwich.—Little boys and girls, and big people too, who so like a toothsome sandwich for luncheons, or picnics, never dream probably that the word has a real history; that unlike so many words, it can be traced way back to the time when first those two syllables came to be associated with a piece of meat put between two slices of bread. Well, once there was a jolly antiquarian who made a dictionary of provincial English, and he found out that once there was a certain English Earl of Sandwich (children can find where Sandwich is in their geographies) who was a great gambler. He would get so engaged in his card-playing that he would not stop to eat. This earl had a very faithful body-servant, and John had to bring his master something he could eat handily while still sitting at the gaming-table. So he brought the earl, among other things, big slices of meat between bread, for of this the earl could take a bite now and then without soiling his hands or hindering him at his play. This sort of refreshment became a favorite with the earl (who was laughed at about it by his friends) and so came to be named after him. Nowadays, we know that there are ever so many kinds of sandwiches, daintier than the original one. But isn't it odd how they first got their name?

Stentorian.—Did you ever hear any one use this word thus: Su-h or such a one "has a stentorian voice," meaning that he speaks very loud? Have you ever heard of a celebrated Greek poet called Homer, who was blind, but who composed such beautiful poetry telling about wars and adventures (O, a thousand years before the Christian era)—poetry that is thought to be the most beautiful in the world yet? He tells in one of his poems of a Grecian herald, "great-hearted, brazen-voiced Stentor, accustomed to shout as loud as fifty men." Now you see where we get our word *stentorian*, do you not?

Panik.—Perhaps my little readers know that long, long ago, before Christ's time, people made up their own gods, as you might say—imagined some and again deified, *i. e.*, made gods out of dead men and women who were very heroic or beautiful when alive. The Greeks were great hands, as you say, for doing this. Grecian mythology, which is such interesting reading, is simply a collection of all these myths and fables of their gods and goddesses. There was one god called Pan, who was "god of shepherds, guardian of bees, and patron of fishing and hunting." Things that belonged to him they called *panikos*, and hence the word

panic, meaning sudden, causeless fright. There are two reasons given by different authors for naming this peculiar species of fear from him. According to Herodotus (an old Greek historian, who wrote so long ago he is called "the father of history")—according to him, Pan caused the Persians at the battle of Marathon to be struck by a sudden terror, thereby assisting the Athenians; hence the word *panic*.

Again, it is said that Pan, who resided in woods and rugged mountains, had a way of amusing himself by terrifying the people in the country round, even when he was not seen. They would be fearfully scared, they didn't know at what, so that kind of "fear which often seizes men, and which is only ideal or imaginary, has received the name of *panic*."

Tantalize.—When we want anything very much, and are just about to have it, but something interferes, then we are tantalized. As, for instance, you want a particularly nice orange, and it keeps swinging and swaying on the branch just out of reach. Now, would you think that if you exclaim, "O dear, how tantalizing that is!" you are using a word, the story of which takes you back to old Greece, its fables and mythology? These old legends say that Jupiter, who was father of all the gods, *i. e.*, king over heaven, had a son Tantalus who disobeyed him and betrayed some of the secrets of the gods, and did other very wrong acts. Angry Jupiter hurled him out of heaven to the lower world, where departed spirits were supposed to be punished. There the wretched Tantalus was condemned to have things act very queerly to him. He stood in a lake of clear water, but when he wanted to drink any the water ran away from him, so he was always thirsty. Then there were clusters of fruit and other tempting things to eat near him, but when he attempted to take any, they always slipped just beyond the reach of his eager hands, so he was always hungry. Our English word *tantalize* is from this fable.

Doll.—My little girl, while I was telling her these word-stories, did not at all expect that I was going to have anything interesting to say about her *doll*. But I had. I have read somewhere that several hundred years ago it was the custom for every Christian mamma to name her little girls after some saint. At one time St. Dorothea was a very favorite name, for it means—Dorothy does—a "gift from God." In those days, as well as now, manikins—little images—were made for children to play with. Now, baby was nicknamed "Dolly" because Dorothea or Dorothy was too long for a wee baby. And so, they say, when baby had her baby to play with, she called it "Doll," and then *doll* became the popular name for baby's baby.

My little boy has a way sometimes, out of pure roguery, of mispronouncing his words, or putting his sentences together wrong. The other day I said to him, when he was rattling off a long sentence in a most ridiculous way, "Please don't talk gibberish, it makes me nervous." Then I dropped my book and sat staring at him, thinking.

"Why, mamma, what is it?" and the little boy looked half-scared and altogether puzzled.

"I almost think," I slowly replied, "that there is a story to that word *gibberish*. I'll try and see if I can remember it all and tell it you this evening."

Then the little boy, delighted with the prospect of a story, and above all with a new, funny-sounding word, ran off to explode his odd word in the ears of admiring school-mates. And now for

Gibberish.—In the ninth century there flourished an eminent Arabian alchemist and philosopher by name of Geber. He was the founder of an Arabian school of chemists. For a hundred years or more, Geber's authority in alchemy was above all others. If you look in the dictionary you will see that alchemy was "an ancient science which aimed to transmute metals into gold, to find the panacea or universal remedy, etc." It led the way to modern chemistry. Tradition says that the learned Geber wrote five hundred volumes on the subject of alchemy. The American cyclopedia says only fragments of his writings are now extant. But of these hundreds of lost volumes, it is said that they were written in such a rambling, incoherent style, that it was almost impossible to find in them the really valuable facts and interesting hints which they contained. And so notorious was the peculiar way in which Geber wrote, that it became popular to call everything unintelligible, "Geberish," hence the term *gibberish*.

If any young readers of the RURAL PRESS wish to pursue these word stories, I would recommend them to hunt up the derivation of such words as Rodomont or Rodomontade, Gasconade, Laconic, Silhouette, and Buncombe or Bunhum, and the origin of the phrase "to speak for Buncombe." These

all, especially the last two, have very interesting stories; but, more than all this, these stories lead to history, and so a great deal of "solid information," as the professors say, is acquired in a very fascinating way.

Why, just look at the word *panic*, I have told you of. I could talk all day to you of the things it alludes to—Herodotus and his funny stories of ancient times; Marathon, and the Persian war, and Xerxes, and Demosthenes, and Grecian generals, and English and American poets who have written about those events, or who have written verses alluding to Pan, his living in the wild woods, or playing on reedy pipes in bosky wildernesses.

And if you do not think the story of Silhouette is just the queerest you ever came across, I shall be mightily disappointed. And it will lead to so many interesting thoughts. Your grandparents may tell you, too, of those queer, old, melancholy portraits that used to be seen in this country, and so on. Then from Silhouette you may come to find out about Daguerre, another Frenchman, and the history of daguerreotypes. This will lead you to "study-up" on photography more, even if you already have a Kodak or a P. D. Q. And then I should advise you to read that interesting chapter in Miss Buckley's "Fairland of Science," on "Sunbeams and Their Work."

O, you will never know where to stop. You will be led on and on, just as I am now; for I meant to stop several sentences back, and I really must now, or the RURAL PRESS will think my article altogether too long.

DOMESTIC ECONOMY.

TAPIOCA JELLY.—Cover one cup of granulated tapioca with a pint of water, soak it over night, next morning drain into a farina boiler, and if the water has been nearly dissolved add another half pint of boiling water, cook until the tapioca is perfectly clear, add one-half cup of sugar, then stir in hastily the well-beaten whites of two eggs; drain into a mold and stand in a cold place to harden. If perfectly made this will turn out keeping the shape of the mold; it must be as delicate as gelatine, not firm and stiff. Put a pint of milk into a double boiler, beat the yolks of two eggs with four tablespoonfuls of sugar, moisten a tablespoonful of corn starch in a little cold milk, add to the hot milk, cook a moment; add the egg and sugar, cook another moment; take from the fire, add a tablespoonful of vanilla, and turn out to cool; serve the jelly with this custard poured around it.

CANDIED ORANGE.—First remove all the peel and white underlying pith. Divide the orange into its natural subdivisions. Take great care that the thin film, which covers each section of the pulp, be not broken or bruised. When thus separated lay the subdivisions apart, so as not to touch, upon a hair sieve. Place the sieve in a warm situation for several hours in order that the outer surface of the fruit may become dry. Boil two or more pounds of the best white sugar to the crack. Into this dip the pieces of orange; drain off any excess of sugar and lay on a glass slab to cool and harden. After this, these several sections may be arranged together on a compotier or other dessert dish, on green leaves; or they may be formed in pyramid according to any fanciful design, by piecing together with hot caramel sugar.



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AGRICULTURAL NOTES.

CALIFORNIA.

Butte.

Gridley Herald: Mr. Kirk, the owner of the Turner place on Feather river, is having the oaks taken out preparatory to planting the whole ranch, embracing some 300 acres, to fruit trees. The varieties of fruit we have not learned. This will make one continuous orchard from the orchard of Geo. Thresher to the Gridley bridge across Feather river.

Gridley Herald: In the near vicinity of Gridley are 5300 acres of deciduous fruit orchards—4000 acres on the west side and 1300 on the east side of Feather river. Last season many carloads of fruit were shipped from Biggs and Gridley. The several orchards are large in area, no small ones existing. In the midst of this fact arises the consideration of a cannery as an imperative need.

Contra Costa.

Danville Cor. Concord Sun: The fruit interest between Alamo and Danville is growing. Even toward San Ramon wheat fields are being converted into orchards. No better land for prunes, almonds and olives can be found in California than in the San Ramon valley.

Antioch Ledger: A large band of three or four thousand head of sheep is being pastured on the railroad chaparral and live-oak land east of Antioch. Grain fields belonging to the Wheelahan Bros. and Jonathan Newton have been seriously damaged, and somebody will be called upon to pay the bill.

Fresno.

Madera Mercury: About a year ago Alex. Graive, the sheepowner, was out on the plains near here looking after his sheep. He had a purse containing \$20.50 and accidentally dropped it. He missed it shortly afterward and made an extensive search for it, but could not find it. A few days ago, while passing over the same ground, he tripped over a purse. He picked it up and found that it was the same one he had lost. The money was in it, and the purse was sound, but showed signs of the weather.

Glenn.

Glenn county has 1240 square miles of territory, 38 school districts and 1459 census children. There are in this State 17 counties with less territory, 15 counties with a less number of school districts and 10 counties with a less number of census children.

Willows Express: E. A. Cheetham has sold his 20-acre fruit farm, about two miles north-east of town, to Fred Sims for a consideration of \$350 an acre. The trees are in bearing, and there are suitable buildings on the place. We are informed that Mr. Cheetham has bought a lot in the Wolfskill tract.

Humboldt.

Humboldt Standard: The creamery at Swaenger's will be completed in about one month and be ready for operation.

James Giacomini of Petrolia is going to put up a creamery soon to handle the milk of 500 cows. Creamery talk is in the air everywhere.

During January there have been shipped to San Francisco 6038 sacks of potatoes, against 4025 sacks for the same month last year, which is an increase of about 50 per cent; but whether this increase is an indication that the Humboldt potato is again coming into favor cannot be said.

Humboldt Standard: Three or more new creameries are talked of in the county besides the ones at Hydeseville and Grizzly Bluff. One is at Petrolia, one at Blocksburg and one near Dow's Prairie or in that vicinity. The farmers of this county seem to be awakening to their advantages in this line of profitable production, and new creamery enterprises are springing up all around.

Kern.

The Rosedale Colony comprises 13,000 acres of rich land, plotted into 20 and 40-acre lots, and cultivated to vineyards, orchards, alfalfa and grain.

Los Angeles.

Pomona Progress: Apricot trees for planting are almost gone from the market. They have never brought such large prices in southern California as this season.

Pasadena Star: Mr. S. W. Hill brings to the office a few twigs from his blackberry bushes on Orange Grove avenue bearing full-blown blossoms and several berries, the latter already beginning to turn with a ripening color. The long stretch of clear warm weather has brought along small fruits with remarkable rapidity.

Covina Argus: John Wine, who has a fine ten-acre lot just south of Covina, out down a gum tree last week which was seven years old from the planting, and three inches from the ground it measured 23 inches in diameter and was over 70 feet in length. We call that a pretty fair growth for a tree of any kind.

Riverside Press: Down around Covina and Azusa the strawberry crop is a big thing, as immense quantities are raised and they bring good prices. The Argus says that several growers are packing and shipping small quantities, but the main crop will come on next month. The vines are now full of bloom and young berries, and the indications are that the strawberry crop of this valley will be the largest in years. Robert Baldridge packed a mammoth strawberry last week which weighed an even ounce.

Modoc.

Marysville Appeal: The horses that travel across the Madelain plains on the road between

Alturas and Amadee have been provided with leather boots that come up to their bodies. This had to be done to protect their legs from the ice, which is not strong enough to bear them up, and in breaking through they cut their legs up terribly. About 15 miles of ice is encountered on the road.

Monterey.

Watsonville Pajaronian: The business of orchard-planting has a big boom in the Pajaro this season. The number of wagons loaded down with young trees that leave town every day is quite noticeable. With our orchard interest making such a rapid and permanent development, there is a quickening need for a cannery.

Napa.

St. Helena Star: Mr. C. Brockhoff has made a good sale of 12,000 gallons of 1891 white wine. For some time he has had a prospective buyer but would not take less than 20 cents per gallon, as the product was of the very best quality. The parties who wanted the wine had sent a sample package to Bremen, Germany, and received such a good report as to quality, etc., that the bargain was closed at 20 cents per gallon net on board the cars at Bello station, cash down. The sale was made through Mr. Meinke to Messrs. Muecke & Co., and the wine is to be shipped to Bremen, Germany.

Orange.

H. C. S. Snow, of Tustin, has sold the orange crop from his seven-acre orchard for \$3500. Not a bad return from young trees.

Anaheim Gazette: Mushrooms are gathered in large quantities in different sections west of town, and make a dish calculated to tickle the palate of the average bon-ve-vang.

Anaheim Gazette: It about took our breath away last Monday to read in the Santa Ana correspondence of a Los Angeles paper that the sum of \$190,275 had been paid out by Orange county for coyote scalps during last year. The editorial equanimity was restored, however, when the amount was found to be \$5045, instead of the other inconceivable sum. Queer mistakes get into the newspapers sometimes.

Santa Ana Blade: Messrs. Dymond & Hart propose to build a \$4000 brick cannery at Orange, if the people of that city will guarantee to them a bonus of \$1000, the amount to be paid on the completion of the building, the capacity of the cannery to be 10,000 cans per day, making it necessary for them to employ between 60 and 70 hands while in full operation. They propose to can apricots, peaches, plums, grapes; also peas, tomatoes, pumpkins, and other fruits and vegetables.

San Benito.

Advance: Hogs are still on the rise, and there is small supply at 6½ and 6¾ cents. Barley is only worth 70 cents and would pay better to fatten hogs with than for any other purpose.

San Bernardino.

San Bernardino is agitated over ramie culture these days.

The Riverside Heights Irrigation District has voted \$100,000 in bonds.

It is estimated that there are fully 30,000 acres of arable land in the vicinity of Riverside yet to be brought under water.

Riverside Press: For about 24 hours the rain has come down without cessation; not a hard rain, but a steady drip. As an exchange puts it: "Rain, rain, rain; grain, grain, grain; rain, gain, gain."

Redlands Citograph: J. W. Fawcett has recently exchanged a stock ranch in the northern part of the State, valued at \$30,000, for 30 acres of apricot, peach and orange orchard on the La Pierce place, situated north of Park avenue on the Barton ranch.

Courier: Our county roads should be kept in better repair. In any direction one goes bad roads stare him in the face. Take out the county vags and put them to work breaking rocks to repair the roads. Try it once on some road to see how it works.

Riverside Press: The almond trees are now in full bloom, and countless thousands of buds are showing on the orange trees. In southern California it is now springtime, and the warm showers of late have stimulated plant life into wonderful activity. Soon the apricot, peach, pear and apple trees will don their dress of pink and white, and add to the perfume exhaled by the orange blossoms.

Riverside Press: The demand for fruit shows improvement, and the prices have an upward tendency. The Griffin & Skelley Company have just sold four carloads of oranges for Eastern shipment at \$1.75 for Seedlings and \$3 for Navel on board cars here. One of our most experienced fruitmen gives it as his opinion that Seedlings will sell at \$2.25 and Navels at \$3.50 within six weeks.

San Luis Obispo.

Adelaide Cor. Tribune: Mr. Ed Smith has added greatly to the beauty of his fine fields by clearing 10,000 trees and seeding the land without delay. May his enthusiasm and enterprise, prove a laudable example to others to do likewise.

San Joaquin.

Lodi Sentinel: Last Tuesday an outfit consisting of about 27 men, 110 head of horses and mules, and numerous wagons and scrapers reached Lodi from Fresno. They were on their way to the ranch of Henry Beckman, where they will level and check 200 acres of land for Mr. Beckman. The same contractor has secured the contract for leveling 300 acres more near Mr. Beckman's, and all subject to irrigation from the Woodbridge canal. By special arrangement, it will cost the farmers only \$10 per acre to have the land leveled and checked.

These farmers have given the matter careful study, and they believe it will pay. Mr. Beckman estimates that by the time he has planted his 200 acres to alfalfa he will have expended between \$5,000 and \$6,000; but, unlike an orchard or vineyard, there will be an income the first year. These farmers will raise cattle and hogs.

San Mateo.

Redwood Gazette: A great amount of grain has been drowned out by the incessant rains in the bottoms in the southern part of this county. But if we take into consideration the fact that we are yet more fortunate than our Sacramento valley brethren, there is a grain of consolation.

Shasta.

The first carload of beans that ever left Shasta county was shipped by John F. Bedford Feb. 7. It was consigned to Wood & Co., New Orleans.

Solano.

Dixon Tribune: The summer-fallow grain looks well, but the wintersown will not make much more than half a crop, from present appearances. A few weeks of sunshine would, however, make a great change in crop prospects.

The Rio Vista News states that Alex Brown, the enterprising merchant of Walnut Grove, and the leading light of the well-known Pierson district, is setting out an orchard of 1000 acres near the Grove. Duane Bros., proprietors of the Martinez nurseries, shipped him 12,000 trees last week. Mr. Brown is one of the most progressive men on the river, and is sure to make a success of his new enterprise.

Vacaville Reporter: F. B. McKevitt has received a consignment of 50,000 Myrobolan and pear seedlings from Ussy Calvados, France. It left France on Dec. 14th, 1892, and arrived in Vacaville Jan. 25th, 1893. This makes the second consignment of this kind to Mr. McKevitt. Both shipments arrived in good condition and are located at this gentleman's nursery, a portion of which will be devoted exclusively to foreign fruits.

Cordelia Cor. Solano Republican: Farming has gained considerable of a stronghold in this locality, the various farmers shipping several schooner-loads of grain, to say nothing of the enormous amount of hay that is produced. Fruit-growing, which is constantly increasing, is to-day the leading industry of this land. During the season an extraordinary amount of wheat was shipped to almost every State in the Union, including Canada and Great Britain. The basalt quarries, grape-growing and manufacturing of patent gates are all industries of much importance.

Sonoma.

Santa Rosa Democrat: There has been a great extension of fruit-culture in the Guerneville district in the past two years. Last year Colonel Armstrong set out 2500 prune trees, the Burke farm 2000 peaches and prunes, L. Walker 800 almond trees, and other lots planted numbering over 2000 trees. This year the Korbels have set out over 3000 prune trees, Mr. Wilson 700, L. Ridenhour 1000, Joe Burke 400, Sam Tombleson 1500 mixed fruit, Ben Peugh 1000 peaches, the Burke ranch eight acres strawberries and four acres of blackberries.

Sonoma County Farmer: Charlie Russell, keeper of R. H. Crane's well-known prize hounds, came to Santa Rosa Wednesday with a coyote scalp. The coyotes have been playing sad havoc with Mrs. Roberts' sheep. Fount Cook's and John Ort's bands have also been hustled around pretty lively. On Tuesday Charlie took the hounds out and started Mr. Coyote on Taylor mountain, chased him to Bennett Peak, then he doubled on the trail and was captured in George Davis' vineyard. Charlie usually gets there with the dogs. Last year he did a fair business for the sheep men. He wiped out 20.

Stanislaus.

Oakdale Leader: A Humboldt paper boasts of a potato raised in that locality that weighs eight pounds. A. N. Burch, of Oakdale, last summer raised potatoes on his place, some of which weighed 10 and 12 pounds, and one was on exhibition at the Leader office that weighed 8½ pounds.

Sutter.

Eggs are quoted in the Yuba City market at 25 cents per dozen and butter 20 cents per pound.

Sutter Co. Farmer: W. T. Ellis & Son have purchased the Berg Brothers' wheat crop for 1892, which is now stored in the warehouses at Gridley, Live Oak and the Berg farm. The crop consists of 20,000 sacks and to ship it will necessitate the use of 125 cars. This is one of the largest wheat purchases from individual growers ever consummated in Yuba or Sutter counties.

Tehama.

Tuesday night of last week, about 9 o'clock, the big Cone & Kimball warehouse at Vine was discovered to be on fire, and within an hour the entire structure, with all its contents, was an entire loss. The building contained about ten carloads of dried fruit, a large lot of sulphur, several carloads of barbed wire and a lot of general merchandise. The loss is estimated at about \$50,000, on which there is said to be a light insurance. All the property destroyed belonged to Cone & Kimball, of Red Bluff.

Tulare.

Hanford Journal: Crop prospects are excellent on the West Side. A large portion of Pleasant valley has been irrigated, as has also a good deal of overflow land in the sinks. The flooded land will produce good crops, and grain sown on the unirrigated land is looking well and, with late rains, will make big crops.

Hanford Journal: Some careless hunter, while shooting recently on W. S. Camp's farm,

shot a valuable colt, which has since died. The shooting of firearms in a thickly populated settlement outside of town is dangerous, especially with rifles, and often results in serious loss to stockraisers.

Citizen: H. S. Bachman, a rancher of Poplar, reports that section as having received some good rain. In digging post-holes two and a half feet deep he failed to find dry dirt.

Tulare Citizen: F. T. Emerson has recently purchased 1000 acres of the Hamilton tract of land on the Kaweah, 15 miles east of Visalia, from T. J. Dale, which he will set out in fruit as soon as the land can be put in proper condition.

Hanford Journal: The wheat farmers are jubilant over last Saturday's rain, as it has greatly increased the prospects of a good season. There is a large area seeded to wheat, in all directions from Hanford, outside of the raisin and orchard fruit belt.

Visalia Times: We have in this office the champion beet so far as heard from. It measures 33½ inches in circumference, 31 inches in length and weighs 53 pounds. It was raised on the ranch of Thomas Jacob & Bro. It is called the Mangel Wurzel beet and is used chiefly in feeding stock.

Tulare Times: A number of stockraisers and livery stablekeepers has appeared before the Board of Supervisors and asked that something be done to rid the county of the glandered horses. One stockraiser says the county is full of these diseased animals, and the owners of healthy horses are powerless to rid the county of these infectious creatures. The horse raisers asked the Board to appoint a man whose duty it should be to kill glandered horses and report the loss sustained to the owner.

Ventura.

Ventura Free Press: The steamer Alex Duncan was here on Saturday and loaded 3076 sacks of beans for Redondo, from where they will be shipped East over the Santa Fe.

The probability of a cannery being established in Saticoy, with a capacity of 10,000 cans per day, is creating considerable interest and eliciting many inquiries in the matter.

Free Press: The price of potatoes show a decided upward tendency. A few weeks ago Ventura county potatoes could be purchased at 75 cents per 100 pounds, then \$1, then \$1.25, and now there are no potatoes except those that are shipped in, and they are retailing at \$1.75 to \$2 per 100 pounds. Considering the fact that from 100 to 500 sacks, averaging 125 pounds, can be raised in the Colonia district, it can readily be seen that there is money in the business.

A two-year-old orange tree on the ranch of W. E. Nilsie, situated at the eastern end of the Ojai valley, and which for the sake of experiment was allowed to mature its fruit, has produced 13 oranges this year. The largest orange of this number measured 12½ inches and weighed one pound. The smallest measured 10½ inches circumference, and weighed ten ounces. The total weight of the 13 oranges was nine pounds and ten ounces. This very clearly demonstrates the excellence of the Ojai valley for the culture of citrus fruits.

Yolo.

Woodland Mail: P. Beck brought to this office a cane from a California grapevine which had attained during last season a growth of 30 feet. The vine from which it came is one of a vineyard on the old St. Louis place, two miles below Knights Landing. The vines are at least 30 years old.

Yuba.

The green-fruit shipments to the East from Marysville for 1892 are given at 1927 tons, most of which was grown in this county.

Marysville Appeal: Supervisor Conrath is very anxious that something should be done regarding the roads in the county. He thinks that each supervisor should make an estimate of the probable cost of repairing the roads in his district, so that when the tax is levied a sufficient sum should be put in the different funds for that purpose.

OREGON.

In eastern Linn county, Or., Mongolian pheasants are to be found in great bands, swarming around barns and haystacks for food. The cold weather does not agree with them.

WASHINGTON.

A farmer living about four miles west of Pomeroy, Wash., has about 20 five-gallon oil cans, which he fills with water, and then lets them freeze over night. He then warms the sides of the can so the cake will slip out. It is then left another night, and it remains a solid cake of ice weighing about 40 pounds. He has now about two tons of ice put up in this way.

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Berkshire Hogs and Plymouth Rock fowls.

H. J. PHILPOTT, Niles, Cal., importer and breeder
of Tecumseh and other choice strains of Registered
Poland-China Hogs.

J. P. ASHLEY, Linden, Cal., breeder and importer
of Thoroughbred Swine. Small Yorkshire Victoria,
Essex and Poland-China. Superior stock. low prices.

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Importers and Dealers
Direct from Europe,
English Shire Draft,
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CLYDESDALE STALLIONS!
Descendants of the Best and Most Fashionable Strains.
Further Particulars, with pedigrees, upon
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One and a half miles northeast of San
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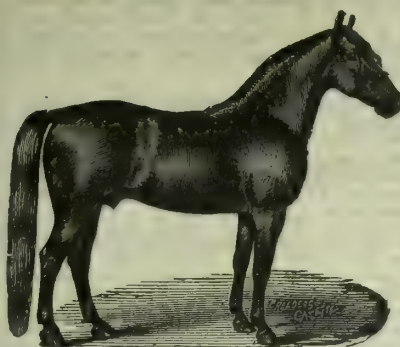
Every Facility for Breaking Colts Properly
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HORSES BOARDED AT ALL TIMES.

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OF STANDARD AND HIGH-BRED
TROTTING

**BROODMARES, COLTS and
FILLIES,**

The Property of **MR. J. A. McDONALD**,
HOPLAND STOCK FARM,
TO TAKE PLACE AT 10 A. M., AT
BAY DISTRICT TRACK,
— ON —
THURSDAY and FRIDAY, MARCH 2d and 3, 1893.

The sale will comprise 125 head, and will represent all the popular breeds known upon the coast. Prominent among the strains represented are GUY WILKES, DIRECTOR, SABLE WILKES, LEO WILKES, RUPEE, SIDNEY, GEN. BENTON, ECLECTIC, DAWN, DEXTER PRINCE, PANCOAST. The colts and fillies are mostly by sons of Electioneer, Director Jr., Stamboul, Simmicolon and other noted horses. This will be the choicest offering ever made in this State, and is worthy of the closest attention of breeders and the public generally. The catalogues will be issued at as early a date as possible, and will be forwarded upon application to

KILLIP & CO., Live Stock Auctioneers,

22 Montgomery St., San Francisco, Cal.

AT AUCTION, Feb. 23, 1893.

**Grand Clearance Sale of IMPORTED Prize-Winning Stallions and
Broodmares.**

SHIRE SUFFOLK, FRENCH COACH and PERCHERON.

The Entire Stud of **MAGNOLIA STOCK FARM** to be sold at 11 A. M., at salesyard,
corner Van Ness Ave and Market St. Thursday, Feb. 23, 1893.

— 25 HEAD TO SELECT FROM. —

Catalogue mailed on application to **Theo. Skillman**, Petaluma, Cal.
Horses may be seen at yards for three days prior to sale.

LITTLE'S CHEMICAL FLUID NON-POISONOUS SHEEP DIP.

BEWARE OF CHEAP IMITATIONS.



One gallon, mixed with 60 gallons of cold water, will dip thoroughly 180 sheep, at a cost of one cent each. Easily applied; a nourisher of wool; a certain cure for SCAB. Little's dip is put up in red, iron drums, containing 5 English or 8 1/2 American gallons, and is sold to the trade by the English gallon. For the convenience of our many customers it is also put up in one-gallon packages, for which we make no extra charge. Each drum and package bears the label of "Little's Dip."

CATTON, BELL & CO.,

(Successors to FALKNER, BELL & Co.)

NO. 406 CALIFORNIA STREET, SAN FRANCISCO, CAL.



Mann's Green Bone Cutter FOR POULTRY FOOD.

Patented June 15, 1886; August 20, 1889. Canada Patent, June 12, 1890.

WE WARRANT this machine to cut Dry or Green Bones, meat, gristle and all, by Hand Power, without clog or difficulty, or MONEY REFUNDED.
GREEN CUT BONE WILL DOUBLE THE NUMBER OF EGGS, will make them 25 per cent more fertile, and increase the vigor of the whole flock. **COST OF FEEDING MATERIALLY LESSENED.**

These Cutters are endorsed by all the leading California poultrymen. Send for a Catalogue describing all sizes of Cutters and containing valuable information in relation to feeding green cut bones.

PETALUMA INCUBATOR CO.,

Pacific Coast Agents.

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IMPERIAL PEKIN DUCKS

Exceedingly Fine Breeding Stock For Sale at Reasonable Figures.
ALSO, DARK BRAHMA HENS and PULLETS FOR SALE.

The Best of Winter Layers.

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RED BALL BRAND.

Genuine only with **RED BALL BRAND.**
Recommended by Goldsmith, Marvin, Gamble, Wells, Fargo & Co., etc., etc.
It keeps Horses and Cattle healthy. For milch cows; it increases and enriches their milk.

625 Howard St., San Francisco, Cal.

EGGS! EGGS! EGGS!

S. C. White and Brown Leghorns, White Minorcas, Barred Plymouth Rocks, My pen of Barred Plymouth Rocks won second prize at the great Petaluma Show.
Eggs from Leghorns and Minorcas, \$2.50 per 13, \$4 per 20; B. Plymouth Rock eggs, \$3 per 13. Satisfaction guaranteed to all.

FRANK A. BRUSH,

Care Santa Rosa National Bank, SANTA ROSA, CAL.

Durham, Devon & Polled Angus BULLS AND HEIFERS.

Recorded and guaranteed pure bred, FOR SALE, single or in carload lots. Prices very reasonable. Address:

GEO. A. WILEY,

Oakwood Park Stock Farm,

DANVILLE, Contra Costa Co., Cal.

JACKS!

Imported and California,



FOR SALE.

None For Rent!

— ADDRESS: —

L. V. SHIPPEE. - - - STOCKTON, CAL.



SHEEP DIP

IS THE BEST.

Awarded Grand Silver Medal by the State Agricultural Society at the State Fair, 1892. This is the ONLY silver medal ever awarded by the Society for a Sheep Dip. It is the highest award.

J. W. GRACE & CO.,

430 California Street, San Francisco.
General Agents for the Pacific Coast.



**Is Your Stock
Worth Marking?**

If so, use the best mark for sheep or cattle, Dana's White Metal Label. Used by Recording Associations, leading breeders and ranchers. I stamp your name or address and consecutive numbers. Samples free. Mention paper.
C. H. DANA, West Lebanon, N. H.

Dr. A. E. BUZARD, VETERINARY SURGEON.

MEMBER OF THE ROYAL COLLEGE OF VETERINARY Surgeons, London, England. Late Veterinary Surgeon in the United States Army. Veterinary Contributor to the "Pacific Rural Press." The diseases of all Domestic Animals treated on Scientific Principles. Special attention given to Chronic Lameness and Surgical Operations. 406 BRODERICK ST., SAN FRANCISCO. Calls to the country promptly attended to. Telephone 270 447.



MONEY "HOW CAN I Make Some?"

By using the **Pacific Incubator and Brooder**, which will hatch any kind of eggs better than a hen. In universal use. Gold Medal wherever exhibited. Thoroughbred Poultry and Poultry Appliances. Send 8 cts. in stamps for 82-page catalogue, with 80 full-sized colored cuts of thoroughbred fowls, to **Pacific Incubator Co.** 1807 Castro St., Oakland, Cal.

Hatch Chickens by Steam.

IMPROVED EXCELSIOR INCUBATOR

Will do it. Thousands in successful operation. Simple, Perfect and Self-Regulating. Lowest-priced first-class Hatcher made. Guaranteed to hatch a larger percentage of fertile eggs at less cost than any other. Send 6c for Illus. Catalog. **GEO. H. STALL,** Quincy, Ill.



THE HALSTED INCUBATOR

COMPANY,
1313 Myrtle Street, Oakland Cal.
Send Stamp for Circular

ANGORA GOATS FOR SALE.

A number of pure-bred Angora Goats in lots to suit. This is the stock of goats formerly owned by Julius Weyand and will be sold cheap for cash. Address
WERNER WEYAND, Colusa, Cal.

APIARIAN SUPPLIES

Golden Italian Queens. Tested, \$2.00 each; untested, \$1.00 each. L Hives, \$1.90 each. Root's V groove sections, \$5 per 1000. Dadant's comb foundation, 58c and 65c a pound. Smokers \$1 each. Globe vials, \$1 each, etc. **WM. STYAN & SON, San Mateo, Cal.**

PATRONS OF HUSBANDRY.

From the Worthy Master.

Now for the early garden. Get good seeds, prepare the soil, and plant carefully.

The old hen and the little "chicks" are good friends of the farm and of the farmer.

What would you do without flowers and grass? Remember Flora's Day in June and observe properly.

Have you read all the State Reports? You helped pay for them.

When you buy a hen, be sure you get a business hen.

Is there any sweet in your heart? If not, look out.

Can you, and will you, make the greatest effort of your life for the Grange this year?

What has become of our Past Masters' columns? Where are the Coulters, Flints, Johnstons, Overhisers, Steeles and Websters of the other days, whose pens were ever ready?

Now for the new Grange! Which county and which deputy are to have first honors for 1893.

The Grange is a social order; all can find something to do and to enjoy in the Grange.

The State Grange canvass will probably open about the first of April and continue through May, and longer, if there seems to be a demand. County deputies will please prepare their Grange work so as to get the most good for the money to be expended.

Be as busy as the bee, as continuous as the ant, as harmless and attractive as the humming bird, as peaceful as the dove and as wise as a Solomon, in your Grange work, and success will surely follow your every effort.

Some people are like some chemical elements, they don't seem to mix very well. Yet there is always some other neutralizing element, if it can only be found. Perhaps the Grange is just what some people most need. One thing is sure; the Grange won't hurt any one, and it is almost certain to help a great many who have never given it a fair trial. Try a small dose of Grange.

Kind reader, may I ask you a few questions? Will you answer them to the best of your ability?

1—Do you know anything of the Grange, what it has done, and is doing, for the farmer?

2—Was there ever a Grange in your vicinity? If so, what has become of it, and why?

3—Is there a working Grange near you, and what is it doing to increase its numbers?

4—Would you join a Grange if one is organized near you, and will you assist in getting others to join?

5—How much time are you willing to give to active, earnest Grange work, if your expenses are paid?

6—Do you know that all engaged in agriculture above 14 years of age are eligible to membership?

7—Do you know the fee for all four degrees is but \$3 for a man and \$1 for a woman?

8—Will you communicate with E. W. Davis, Santa Rosa, California, if you have any interest in the Grange?

9—Will you help us make an all-around effort, and organize a lot of Granges this year?

The time for the Grange campaign of 1893 has about arrived. What is most needed in your county to revive the Grange, increase its membership and multiply the number of Granges? Don't be at all diffident in giving your views and in offering suggestions. The master treats all such correspondence as strictly confidential, and is obliged for hints, plans and helps. Can an organizing officer establish one or more new Granges in your county? If so, how, where, when? Let me hear from you soon!

There never was a time since the Grange was instituted when circumstances were so favorable for its growth as at the present. But, like all other deserving organizations, it must have friends and advocates. Not necessarily those who are to make speeches, or write paragraphs for the paper, though both are well enough in their way, but those who will work from house to field, and at home and abroad, for the Order. These are the ones who get the applications for membership. These are the husbandmen in the harvest field, who, with a few straws made into a band, bind the golden grain into the heavy sheaf which is ever so welcome to the tillers of the soil. Will you be a worker this year in the Grange harvest field?

Have you any idea how many of the unnecessary commissions with which this State is infested are to be abolished by the present legislature? At this writing, it looks more like commissions are to be created than abolished. The desire for office is the most universal desire now existing in America. When, where and how shall this clamor for public office be stopped?

There is nothing that hinders the growth of the Grange more than the lack of personal effort. The master of a Grange should be, at all times, a positive magnet. He must, if he would win, draw all to him, not alone the members of his Grange, but of the farming and business community as well. Then every member of a Grange ought to feel that he, or she, has a work to do, which no one else can do. By this line of personal work, each will feel his importance and the Grange will have a life and impetus that will surprise its foes and please its friends. Experience has shown, beyond any doubt, that in those Granges (even though their territory is limited) where personal work is done, the Grange is booming. There are several Granges that now have classes of 20 en route to the master's office, just through this personal work plan.

Santa Rosa, Feb. 13, 1893.

Farmers' Institute at Sacramento.

A Farmers' Institute will be held at Grangers' hall, corner of K and 10th streets, Sacramento, on Wednesday, March 1st, at 10 A. M., and continuing through the day and evening. An interesting pro-

gramme is in course of preparation. Prof. E. J. Wickson of the State Agricultural College will conduct the institute and deliver an address on "The Farmers' Institute: Its Aims and Accomplishments." Discussions will follow the reading of each paper, and all farmers and their families are invited to be present and participate.

MRS. HATTIE S. JONES,
Chairman Com. of Arrangements.

A Review.

Sacramento Grange During the Past Year.

The following is taken from an address by Mrs. A. M. Williams, Worthy Lecturer of Sacramento Grange, reviewing the social side of Grange work during the past year:

Is not Grange life very much like individual life? May we not draw lessons of profit and improvement from the pages of the past? If we have not as a Grange made that progress in the work of our Order that could have been desired, cannot each member as he reviews the past find some cause for this failure? Has the fitting word always been spoken, the kind act done? Have we in our every-day life so exemplified the principles of our Order that those without the gates will be willing to admit that we are better neighbors, better farmers, better in our moral life and in our physical and mental culture for being Grangers? If so, they will soon be asking to become one with us in an Order that is doing so much for frail humanity. If we are not doing this, then we have not far to look for the cause of failure, as a Grange, like a home, can be just what its members one and all desire to make it.

In looking over the record made by Sacramento Grange in the past year, I find we have every reason to congratulate ourselves on the progressive movements that have gained our approval. It is true that our numerical strength has not been increased, but we have some very strong proofs that the social branch of our work has not been neglected, and that joy, not sorrow, has prevailed.

In the early part of the year our worthy chaplain, after a long life full of love and good work, was called to his great reward; and though we missed him in our counsels, we have realized that a higher and better life was his.

Bridal favors followed, and we were informed that a bachelor brother, weary of his lonely life, had persuaded a good sister to brighten that life by helping him make a home for both that would be worthy of the name. Ere Pomona's golden fruit was ripe, one without the gates made good his claim to another fair sister, and as a Past Master and his wife, who were well versed in the case, did not deny his claim, we could do no less than place the seal of our approval on her choice.

After the harvesters and gleaners had gathered the waving grain, and culled from the orchard and vineyard their choicest fruit, a signal came to us from one of our officers—one, who by the faithful discharge of his duties, is held in high esteem—saying that business of importance required our presence at Granger's Hall. The charge made was that a member of our order had declared his intention to claim as his own the daughter of his heart and home, and that he and our good sister had decided that he must pledge his faith to care for one so dear in the presence of brothers and sisters true, who with many good wishes, sent them on their life's journey amid showers of pearly whiteness.

Then some of us were bidden to a brother's home, where in the presence of relatives and friends, another sister gave her heart and hand to one well worthy of our trust. As the year drew to a close the children of our Grange came to us pleading that we give them a social to which we might invite their very best friend, and as they were not to be denied, the fathers and mothers made ready for their pleasure, and while they danced the old year out and the new year in, looked on with happy hearts and smiling faces, feeling sure that with such recruits in the field, Sacramento Grange was in no danger of giving up its charter.

In Memoriam.

The committee appointed by Yuba City Grange to draft resolutions expressing the sentiments of that organization concerning the death of Past Master Willard Woodworth and Past Flora of the State Grange Miss Pauline Newkom, have prepared the following report:

Words are inadequate to express our unutterable sorrow over the terrible visitation that has befallen this community with a suddenness that bowed in grief the strongest hearts. We do not forget that all humanity owes the same debt of nature; but to pass from early manhood and womanhood, from blooming health and vigor, into eternity, without a moment's warning, is so startling as to render one almost speechless. What shall we say of these departed friends—of this worthy brother and sister? Their lives and history are known to all. No eulogium by us can do them justice. No praise bestowed upon their worth is unmerited. They were of the brightest and best in the Grange, the community, and in the family circle. We cannot say more in commemoration of their worth and their virtues. Their departure has left a void in our circles not soon to be filled. Brother Woodworth was an honored Past Master of Yuba City Grange, and Sister Newkom was Past Flora of the California State Grange, and both occupied minor positions in the Order with fidelity, zeal and ability. As a mark of respect, we recommend that our charter be draped in mourning for the period of 60 days, and that these proceedings be spread on the minutes of the Grange, and a copy be furnished each of the bereaved families.

Resolved, That we, the members of Yuba City Grange, while bowing in submission to the will of the Almighty, deeply deplore the untimely death of our brother and sister, and lament the sad affliction which has befallen their parents and relatives, and we tender them the heartfelt sympathy and condolence of the members of this Grange.

GEORGE OHLEYER,
N. B. KIRTLLEY,
E. F. WALTON,
MRS. W. E. TUCKER,
JOSIE R. HEDDON,
Committee.

The Secretary's Column.

By A. T. DREW, Secretary State Grange of California.

H. H. STEVENS is expected to speak on "Silver" before Temescal Grange, Saturday afternoon at 2 o'clock, Feb. 18th.

ALBERT J. WOODS, treasurer of Tulare Grange, residing with his family in Tulare city, has recently recovered from an attack of la grippe. Brother Woods is preparing for irrigating and cultivating some 80 acres of land for alfalfa and grain on shares, on land owned by A. T. Dewey, one mile south of the city limits.

WASHINGTON'S BIRTHDAY.—This noble holiday will be well celebrated by Eden Grange. Rev. A. T. Perkins, of Alameda, has been invited to deliver the anniversary address. Many members of Eden and San Jose Granges, it is anticipated, will be present, with other visiting Patrons. We hope to hear of the pleasant celebration of this patriotic day by many of our Granges.

FROM SANTA BARBARA.—Past Master Delos Wood wrote recently that he would be ready for Grange work as soon as the health of his family permits. He states "I received the U. W. from a priest of Demeter. My work in this line is correct and I have National Lecturer Mortimer Whitehead to back me in the assertion. I have attended dozens of my private meetings. He has rolled himself in my blanket and eaten of my salt in the East."

PATRONS AT THE FAIR.—W. W. Greer, W. S. of the S. G. has been in San Francisco frequently during the past four weeks, in charge of the Sacramento county exhibit. He has been assisted by Brother McMullin of Sacramento, Sister E. H. Kerr, of Elk Grove, and others. Much praise has been bestowed for the excellent manner in which the display has been made. Past Master Young of Arroyo Grande Grange, has also been in charge of the San Luis Obispo county display, which was principally contributed from his own farm.

EXECUTIVE COMMITTEE MEETING.

Continuing last week's mention, we have to report: Each member was requested to write out his views as to the plan and policy of the coming campaign and address the same to the master. From this latter will formulate an address for the uniform guidance of deputies and lecturers during the campaign. Great confidence was felt that a peculiar and successful canvass will be made with great improvements over the last, to commence about the first of April. The next meeting of the Executive Committee occurs on Tuesday, April 4th.

SEVENTH DEGREE CERTIFICATES.—The certificates for all California Patrons who received the seventh degree at the annual session of the National Grange at Sacramento in 1889, and elsewhere since that date, have been received at this office from National Grange Secretary Trimble for distribution. We received in all 240 certificates. The following Granges are among those having the largest number of Priests of Demeter (seventh degree) members, viz.: Sacramento, Elk Grove, Roseville, Lodi, Stockton. The certificates are being duly mailed to secretaries of subordinate Granges for delivery. Any Patron who, by reason of change of address, or any other cause, fails to receive his or her certificate, will please notify the secretary of Cal. S. G., and with as little delay as possible. Patrons knowing of the absence or change of residence of any who have taken the seventh degree will also confer a favor by notifying this office.

Petaluma is Pleased.

The selection of Petaluma as the next place of meeting for the State Grange, gives great satisfaction to the people of Sonoma county. The Petaluma Courier announces the news with elaborate

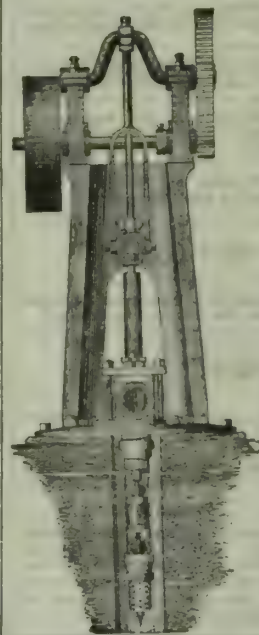
headlines, recounting the incidents of the negotiation and the satisfaction of the citizens of Petaluma as follows:

The local committees went prepared with a guarantee of the Petaluma theater as a meeting place free of charge, and positive assurances of adequate accommodations for all who may attend, either officially or otherwise. Their petition was from the outset, met with much favor, and in the end they succeeded in getting Petaluma unequivocally designated as the place of meeting, provided liberal arrangements can be made with the railroads for the transportation of delegates. So that all now depends on the public spirit and liberality of the transportation companies, especially our popular local road, the San Francisco and North Pacific, which, it is believed, can be relied on for half rates or better terms.

This is a big thing for Petaluma. The attendance of State Grange delegates will number about 250, with 150 more from subordinate Granges as a moderate estimate, besides a large number interested in agriculture as independent visitors. The session will last five days and nights, during which time it is safe to calculate on an accession of 400 to 600 to our population. And these people will be the very salt of the land; prominent farmers, their wives and friends; people who will be qualified to comprehend a good thing when they see it, and whose heralding of the beauties and advantages of this city and section will be of incalculable value.

It behooves every citizen of Petaluma, who has influence with the railroad managers, to at once bring that influence to obtain prompt guarantees of generous rates. It will not do to let this opportunity slip through our hands. On that point there is probably no reason for apprehension, but it is always "dangerous to be safe."

PERKINS, BRANDT & CO., 117 MAIN ST., SAN FRANCISCO.



This Low Price
PUMPING
MACHINE

.....Is Exceedingly.....
.....Designed for.....

Irrigation

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WATER SUPPLY

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WELLS.

The Pump is all
Brass and the Work-
ing Parts may be
drawn up Through
the Pipe for Repairs.
It has very long
stroke, great capacity
and durability.

IMPORTANT: Our
Economic Pumping
Equipments elevate
water for land irriga-
tion at a less cost
per acre than water
now supplied by the
canal systems in use.
SPECIAL ESTIMATES
ON APPLICATION.

BACK FILES of the PACIFIC RURAL PRESS (unbound
can be had for \$2.50 per volume of six months. Per year
(two volumes) \$4. Inserted in Dewey's Patent Binder
50 cents additional per volume.

ALL THE SAME, ALWAYS.

SPRAINS.

MT. PLEASANT, TEXAS,
June 20, 1888.

Suffered 8 months with
strain of back; could not
walk straight; used two
bottles of

St. Jacobs Oil,
was cured. No pain in
18 months.

M. J. WALLACE.

A PROMPT AND PERMANENT CURE.



BRUISES.

PITTSBURG, PA.,
302 Wylie Ave., Jan. 29, '87

One of my workmen fell
from a ladder, he sprained
and bruised his arm very
badly. He used

St. Jacobs Oil
and was cured in four
days.

FRANZ X. GOELZ.

TONCUELESS.
SELF-GUIDING.
NO POLE (except on
the road).
NO SORE
NECKS.
One Plowman
instead of Two

Wheel
landside.
No bottom or
side friction.
Weight of furrows,
frame and plowman
carried on three greased spindles.
Draft reduced to
lowest possible limit.

ECONOMIST PLOW CO., So. Bend, Ind., or Stanton, Thompson & Co., Sacramento.
Our book "Fun on the Farm"—sent free to all.



THE
WONDER
ON
WHEELS.
Seven Acres a Day of Two.

Four horses abreast—one in the
furrow, three on the land.
Foot brake prevents gang running
on team. Lowers within easy
reach

Easier Driving, Straighter Fur-
rows, and Lighter Draft
than any Gang in America.

Adjustable frame—can be narrowed or
widened at will and converted into a
single row in a few moments' time.

Made with Stubble, Sod and Stubble,
and prairie breaker bottoms, in steel or chilled
Metal. Right or left—10, 12 or 14-inch cut.

Special prices and time for trial given on
first orders from points where we have no Agents.

Seeds, Plants, Etc.

100,000 EXTRA FINE
BARTLETT PEAR TREES.Apple, Pear, Plum, Cherry, Peach, Apricot,
Nectarine, Quince, Grape Vines
and Small Fruits.

500,000 FRUIT TREES!

Orange, Lemon, Lime, Olive, Japan Persim-
mon, and all kinds of Nut-Bearing
Trees Shade and Ornamental
Trees, Shrubs, Etc.IMPORTED FRUIT TREE SEEDLINGS
Ask for Prices.

James T. Bogue, Marysville Cal.

SANTA ROSA NURSERIES.

R. W. BELL.

Santa Rosa, - - Cal.

AN IMMENSE STOCK OF

BARTLETTS & FRENCH PRUNES

ON PEACH, VERY CHEAP.

Freight paid on 500 or over of above surplus stock.

A fine lot of PRUNES on Myrobolan and
Almond.Muir Orange Cling and other PEACHES,
ALMONDS, APPLES, ETC.

All first class and raised without irrigation.

New price list free on application. Correspondence
solicited.

IMPERIAL PEACH.

The Earliest Yellow Freestone Known.

CURL LEAF PROOF.

TWO WEEKS EARLIER THAN FOSTER
OR EARLY CRAWFORD.The Best Peach Known for Early Ship-
ment East.Reasonable prices to dealers and canvassers. For
particulars apply toW. W. SMITH, Vacaville,
A. T. FOSTER, Dixon,
Or J. H. THOMAS & SON, Visalia.E. J. BOWEN,
SEED MERCHANT.

ALFALFA:

Grass, Clover, Vegetable and Flower Seeds,
Onion Sets.LARGEST STOCK AND
MOST COMPLETE ASSORTMENTIllustrated, Descriptive and Priced Seed Catalogue for
1893 mailed free to all applicants. AddressE. J. BOWEN,
815 & 817 Sansome Street, San Francisco,
or 65 Front Street Portland, Or

PACIFIC NURSERIES,

ESTABLISHED 1869.

A Large and Extra Choice Stock of
Fruit, Shade and Evergreen Trees
and Flowering Shrubs.—ALSO—
The Largest and Best Stock of Camellias,
Azaleas and Rhododendrons, consist-
ing of the Best European Sorts.Nurseries at Millbrae. Greenhouses and Office and
Salesyard at Baker and Lombard Sts., San Francisco.ADDRESS
F. LUDEMANN, Pacific Nursery,
Baker & Lombard Sts., San Francisco, Cal.
Send for Price List.

PRUNE TREES.

A few thousand No. 1 FRENCH,
1-year old, on 2-year-old
Cal. Peach Roots,

4 TO 8 FEET HIGH,

Warranted True to Name and Free
from Insects or Scale.

ADDRESS:

THOS J. DAVIS, Attorney in fact for
C. E. WATKINS, Portland, Or.

OLIVES FOR SALE.

NEVADILLO BLANCO, 4 TO 5 FEET,
THREE YEARS OLD.By the Hundred, 25c; by the Thousand, 20c;
Larger Quantities at Reduced Rates.

JOHN COOKE, Nurseryman East Berkeley.

LEONARD COATES,

PROPRIETOR

Napa Valley Nurseries,

..... HAS STILL ON HAND.....

CLYMAM PLUM TREES.

The CLYMAN is the earliest shipping plum, as
early as the "Cherry Plum," but of very superior
quality. It was introduced at these nurseries and
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DUANE'S PURPLE PLUM,All first-class shipping varieties and the safest and
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CLING PEACHES OF SEVERAL VARIETIES.

PAPER SHELL WALNUTS, PERSIAN, Etc.,
And other stock, both useful and ornamental.
(PRICES VERY LOW PER THOUSAND.)REMEMBER! This is not a puff ad., but a statement to
Planters, calling attention to as fine a lot of trees as were ever raised in
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All in bearing at test orchards at Sausal Fruit Farm.

All unirrigated, clean, well rooted and true to name.

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The New Yellow Freestone Peach.

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Fruit is round, of medium size, VERY HIGHLY COLORED, flesh firm and sweet.

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A limited number of yearling trees for sale this season. Apply early before stock is exhausted.

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2-yr. Roses of rare excellence—everything!
You actually pay less than for the puny
stuff. 1000 acres Nurseries. 20,000 acres
Orchards. Exact information about trees
and fruits. Stark Bros., Louisiana, Mo.

Mustard.

A writer in the *Pharmaceutical Record*, describes as follows the manner in which mustard is prepared for use as condiment, giving the results of his experience while in the employ of a leading spice-grinding firm:

The mustard seed used was a mixture of the white (California or European), two parts, and black (Trieste), one part; these were put through a winnowing machine to remove dust and other accidental material, and then ground together. The ground cake is then expressed to remove the fixed oil (mustard oil), again ground and then sifted twice. The resulting powdered mustard is not more than one-half the weight of the original seed employed, the color a grayish or ashen color, more like corn meal.

A record of one lot, showing materials used and entire product, will not be without interest: 1946 pounds (1300 pounds white mustard, 646 black) were cleaned and ground separately, the cakes, weighing respectively 1273 and 640, equaling 1913 pounds, a loss of 33 pounds. When pressed the yield of oil was 204 and 128, equaling 332 pounds. Subsequent sifting removed the hulls of the seed; the amount of powdered turmeric used to give it the desired color was four pounds, and the entire yield of ground product suitable to sell as pure ground mustard was 887 pounds. There was left 124 pounds of what was known as "tailings," which probably would, when mixed with the next lot, utilize about 30 pounds of mustard, but which could not be separated without adding comparatively too much cost to make it worth while.

The loss, therefore, in making a pure mustard from the seed will average one-half of the material used—1946 pounds original quantity; total product of ground mustard, 887 pounds. The oil, 332 pounds, equaling 44 gallons, is valued at about 60 cents a gallon, so that the total loss in dust, valueless husk, etc., is 727 pounds, which cannot be utilized except as the miller uses it as fuel.

Even a pure mustard may vary greatly in taste and effect. White mustard alone has nothing like the pungency of either the black or a mixture of the two varieties. Like the bitter almond or the peach kernel, the pungent volatile oil is not developed until it comes in contact with water, so mustard does not yield its pungency to alcohol, but to water. A pure ground white mustard is deficient in pungency; the black develops without the mixture of the white, but when blended as suggested above it is much more acceptable than either alone.

Big Locomotives for Mexico.

The biggest and most powerful railroad locomotive in the world, according to *Locomotive Engineering*, will soon be running on the Mexican railroad. It was constructed at the Rhode Island Locomotive Works, with a couple of like companions. The monster weighs 130 tons when in working order, and was built to climb steep grades in the mountains of Mexico and to drag heavy loads around sharp curves safely.

The engine looks like a couple of locomotives of the "mogul" pattern backed up together, with the two cabs joined. It is an odd form and was constructed after a design by superintendent of machinery F. W. Johnstone, of the Mexican Central, who realized that a special style was necessary for the work to be performed on his railroad. The idea was to secure a motor with flexibility sufficient to go round the sharp curves with least frictional resistance. This flexibility is gained by securing the driving-wheels in a truck which is free to move in a line different from that followed by the main frames.

The cylinder and boiler in the Mexican Central Goliath are carried on the main frames separate from the driving-wheel trucks. As the cylinders are not in line with the driving-wheels in rounding curves, it is necessary that a special method of transmitting power from the cylinders to the crank-pins should be employed. This is done in a very ingenious way through levers that transmit the power, and compensate for the varying distances between the pistons and the crank, due to the swiveling of the driving-wheels. But for this compensating arrangement it would be necessary to give the engine so much cylinder appearance that the loss of steam would be very great. The power-transmitting levers are seen at the back of the cylinders, connected at the top by a short link, and the bottom ends pinned to the front end of the main rods. There are two of the latter, one connecting with a crank-pin, the other with a return crank. The piston transmits motion to the back one of the two levers, and that gives motion to the front lever, which is

fulcrumed securely to the frame near its center.

The engines are compound, with annular cylinders, the high-pressure cylinder being in the middle and the low-pressure cylinder outside. The high-pressure cylinder is 13 inches diameter and the low-pressure 28 inches. The stroke is 24 inches. It is calculated that the cylinder capacity of each pair of cylinders is equal to a 19x24 simple engine.

The boilers are of Otis steel, 9-16-inch in diameter, and carrying 180 pounds of steam to the square inch. They are 54½ inches in diameter, and have 201 two-inch tubes, 15 feet 9½ inches long. The fireboxes are of the Belpaire type, 56 inches long and 56 inches wide.

The arrangement of working is that the valve-motion of the two engines is operated by one screw reverse lever.

In the new locomotive the engineer sets on one side of the cab with all the necessary apparatus for working the double-ender within easy reach. On the other side the fireman pours in the fuel through side doors. A coal-passer is necessary to aid him.

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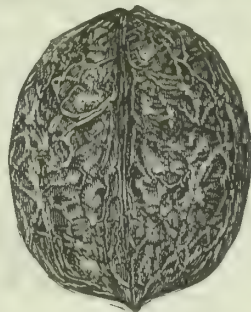
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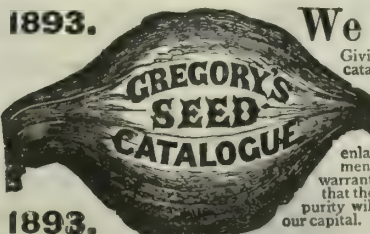
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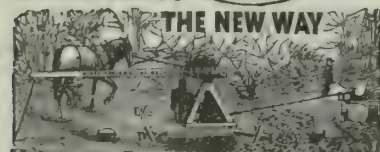
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RED SEAL GRANULATED 98% LYE

HAS NO EQUAL

FOR DESTROYING SCALE BUGS AND OTHER INSECT PESTS
ON TREES AND PLANTS.

FOR TREE WASH!

—USE—

One pound to 5 gallons of water.

Thousands of Orchardists testify to its
value, using it in preference to all other
preparations. Where the Red Seal is ap-
plied it kills the insects and at the same
time forms a coating through which
others cannot penetrate. When used in
the above proportions, it is a

**GREAT BENEFIT TO
THE TREES.**

Put up in SIFTING-TOP CANS, so that
any quantity may be used and the bal-
ance preserved uninjured.

MANSFIELD LOVELL,
124 California St., San Francisco.

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P. C. TOMSON & CO. PHILADELPHIA

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ALL GROCERS.

FOR HOUSEHOLD PURPOSES

The Red Seal Lye is indispensable.

USED AS DIRECTED it will take the
place, and at 75% less cost, of all other
alkaline preparations, soaps, etc., now on
the market. ONE CAN will make 10 to
12 lbs. of Hard Soap, or 200 lbs.
of Soft Soap. See Directions in Can.

It cleans floors, kills roaches and bugs
of all kinds, cleans milk vessels, tin or
wood; keeps farming implements bright
and free from rust; is a perfect disinfect-
ant; softens water, washes dishes and
clothes; and can be put to a thousand
uses in place of soap or other prepara-
tions.

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their many merits can be enlightened by writing for
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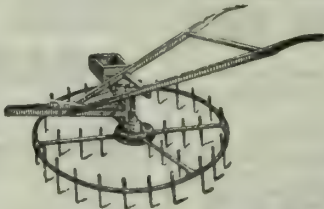
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Jackson's Rotary Vineyard or Orchard Harrow.

PRICE (five feet diameter), \$25.

It has half-inch steel
teeth, and is made to ro-
tate either way by simply
changing the cast-iron
weight from one side to
the other. The Harrow
weighs 170 lbs., and can
be taken down and
packed closely for ship-
ment.



The Jackson Vineyard
Harrow rotates either
way, at the will of the
driver, and by driving
the slow side next to the
vine or tree there is no
danger of hurting it, as
the Harrow will roll
gently around the tree or
vine.

THE JACKSON VINEYARD HARROW was designed especially for vineyards and orchards, where very
thorough and careful work is required. It was introduced to the orchardists in 1881, and perfected during that
season. It is made of gas-pipe, bent round like a wheel, and made perfectly smooth on the outer rim, and presents
no sharp corners to the trees or vines to injure them as it revolves. It is provided with handles, so the operator
can hold it to or from the row. Every farmer should have one for his garden, and to level any uneven land, or fill
up dead furrows. Every vineyardist or orchard owner should have a sufficient number to go over the whole
ground in a short time. When the surface is just in proper condition, one day's work is worth a week's out of
season. The Jackson Rotary Harrow is a perfect pulverizer, leveller, clod-crusher and weed-killer. It leaves
weeds on top of the ground—thoroughly shaken—to die.

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406 & 408 DAVIS ST. S.F.

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Grain, Wool, Hides, Beans and Potatoes.

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GENERAL

COMMISSION MERCHANTS

GREEN AND DRIED FRUITS,

POULTRY, EGGS, GAME, GRAIN, PRODUCE

AND WOOL.

WETMORE BROS.,

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PRODUCE, POULTRY, EGGS, ETC.

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WOOL, GRAIN, FLOUR

—AND—

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Members of the San Francisco Produce Exchange.

Personal attention given to sales and liberal advances
made on consignments at low rates of interest.

[ESTABLISHED 1864.]

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HAY and GRAIN

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SHIPPING ORDERS A SPECIALTY.

EVELETH & NASH,

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REGULATE THE
STOMACH, LIVER AND BOWELS,

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PURIFY THE BLOOD.

A RELIABLE REMEDY FOR

Indigestion, Biliousness, Headache, Consti-
pation, Dyspepsia, Chronic Liver Troubles,

Dizziness, Bad Complexion, Dysentery,

Offensive Breath, and all disorders of the

Stomach, Liver and Bowels.

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safe, effectual. Give immediate relief.

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WELLMACH'S All Kinds, Water, Gas, Oil,
Mining, Ditching, Pumping,
Wind and Steam Heating Boilers, &c. Will
pay you to send 25c. for Encyclopedia of
1500 Engravings. The American Well Works, Aurora, Ill.
also, Chicago, Ill.; Dallas, Tex.; Sydney, N. S. W.

S. E. MARKET REPORT

Market Review.

SAN FRANCISCO, Feb. 15, 1893.

The clear weather of the past few days gives farmers a chance to begin on the closing days of seeding. After the copious rains which have fallen so generally throughout the State, and after a somewhat unusual period of interruption for seeding, clear weather was needed; and, if appearances go for aught, we seem likely to have it for awhile. On the whole, the planting season has been surrounded by circumstances entirely favorable to the beginning of a heavy yield of grain for 1893. With ordinary good fortune from now on, the wheat crop is certain to be abundant, and the total will probably be much in excess of that of 1892.

No activity has manifested itself in the wheat market for the week. The same listless feeling prevails. Quotations in Liverpool have receded somewhat for cargoes afloat, and local prices, while practically the same as last week, are shaded to effect sales. At present buyers control the market. Moore, Ferguson & Co report the receipt of a consignment of 700 tons of wheat, upon which several shippers refused to make any bid whatever. Of course it is quite impossible to tell just how long present influences will continue to weigh down the market, but dealers do not look for any marked change either way for some time. It does not appear likely that it can go lower, and the improvement, when it does come, is likely to be gradual.

During the month there has been some export movement, and there is an improvement in tonnage conditions. Since Feb. 1st eight vessels have cleared with wheat, besides one cargo of flour and one of barley. There is now 4000 tons more tonnage under engagement for grain than at the corresponding time last year, and the disengaged list has been cut down considerably of late. Altogether the wheat tonnage market has recently assumed a rather more encouraging appearance.

The world's crop for the present year appears to be in excellent shape.

Shipments of the new crop are now due from Australia and the Argentine Republic, and by April 1st the crop movement in India will begin. Latest advices from Australia report a probable surplus of 1,350,000 quarters from South Australia and 900,000 quarters from Victoria, or 2,250,000 quarters, of which 1,750,000 quarters will be available for Europe. In addition, New Zealand will also have a surplus, thus increasing the total to about 2,000,000 quarters. It is also expected that the Argentine Republic will have a surplus of 2,250,000 quarters. Thus these two sources promise to give Europe a total of 34,000,000 bushels, against 24,000,000 bushels from the crops of 1892. The preliminary official report of the India wheat crop is said to be fairly satisfactory. There is time yet for unfavorable weather. Last year, drouth and hot winds damaged the yield. On the whole, however, it is likely that England can draw abundant supplies from these sources during the year.

A slow but steady feeling is notable in barley. The inquiry for feed and brewing has been light, but offerings are small and the market is able to retain its equilibrium. There has been a small export movement, but it has not changed conditions at all.

Oats are dull and steady. Corn is a little firmer under light receipts. Choice rye brings higher prices.

Fruits.

The fresh-fruit market shows lack of life, though fairly steady. Oranges are in plentiful supply, and the demand is somewhat better than a week since; Riverside seedlings being less, however, than last week. Sales are reported of choice Redlands navel as high as \$3.25 per box, but this is much above the average. The Panama steamer is due to-day, with a consignment of Mexican limes, and the quotation for that product is now nominal. Apples are unexpectedly weaker, though choice varieties continue to bring full market quotations. Dealers complain that apples are not packed as well as they should be and do not keep as long as expected. Prices are in some cases shaded on that account to clean up stocks. Prices for first grade apples are not reduced. Lemons sell slowly.

Provisions.

The scarcity of pork products continues to be the feature of the provision market. Quotations for medium bacon are again advanced, and lard is very firm and active. C. E. Whitney & Co. say in their trade circular: "The pork market continues to advance. The Chicago Board of Trade reports stocks on hand of prime steam lard the first of this month, 7136 tcs. against 88,218 tcs. Feb. 1, 1892, and 134,327 tcs. Feb. 1, 1891. Prices for live hogs are higher than they have been since 'war times,' but still receipts are less than half what they should be. In face of these facts, only one thing is possible, i. e., still higher prices all along the line."

The Cincinnati Price Current, a leading trade authority, says in its latest issue just at hand: "The marketing of hogs the past week has been very light indicating a total of but 190,000 handled by western packers, which compares with 275,000 the preceding week and 315,000 last year, making a total of 4,140,000 since November 1, against 6,985,000 a year ago—a decrease of 125,000 for the week and 2,845,000 for the season, compared with last year."

While the receipts at Chicago continue small the shipments have been well maintained, leaving a limited number for local killing."

The following reservation on the part of this paper as to the future of the market should be carefully noted: "The situation is so peculiar and the possible action of influential speculators so uncertain that the ordinary vision that with all the shortage in supply there is hesitation in assertions with reference to the future of values, in view of the extreme point already reached, and the conjectured influence of high prices in reducing the demand for consumption."

There appears to be a positive shortage in the supply of fats of all forms including the product of hogs, beaves, cotton-seed, etc."

Dried Fruits.

dried fruit, and the little lots that arrive from the country are being picked up quickly at full quotations. Raisins have taken a decided advance during the past week, the demand from the East being heavy at the advanced prices. Stocks in the State have been materially reduced, and it is probable that present prices will be considered low 30 days hence.

"Shipments of prunes have also been quite heavy, and as the demand for these continues good, the market is expected to clean up at present prices. Stocks of other dried fruits are extremely light, and it is probable the consumptive demand from the Northwest and Texas will shortly clean up everything there is left."

"The ideas of Eastern buyers are advancing, but with light stocks of all kinds of fruit here, there is but little to go East, with the exception of prunes and raisins."

"The apple market continues strong, though since the advance has taken place orders come in only as the goods are absolutely required; but, with six months in which to use this fruit, there is no doubt but that higher prices than those now prevailing will be realized."

"Trade in dried fruits since January 1st has been exceptionally good, with nearly all the business done on the basis of F. O. B. sales. The absence of consignments is having a strengthening effect on the market East, and late inquiries indicate an advancing market there."

Poultry.

Poultry is scarce and high. The Chinese New Year has begun, and the demand for choice poultry among the celebrants is very general. Receipts are comparatively light, and, from all reports, stocks in the country are not at all plentiful.

Game has no new features. Quotations are generally the same as a week ago.

Butter, Eggs and Cheese.

Butter is in much weaker condition than a week since, and quotations are down. Dealers are willing to shade even present low prices to dispose of stocks.

Eggs are on the decline. Prices are comparatively low, though about the same as a week since. Receipts of cheese have been heavy, and the market is weaker, except for very choice varieties.

Vegetables.

Potatoes are not as firm, though the change is not material except in River Reds, which are lower. Other varieties bring prices quoted a week since. Onions are scarce and higher.

Tomatoes rule lower, though when repacked they do better. New vegetables, except peas, are anything but plentiful. Choice asparagus brings fancy prices.

Lima beans are firm. Whites are very active. Colored are weaker.

Live Stock.

Mutton is firm at an advance and beef is steady. Hogs are very active and firmer. There is little spring lamb in the market.

Miscellaneous.

Hop and wool markets present no changes, and quotations are practically nominal. Alfalfa seed is strong. Honey is firm. Hay is very dull.

Local Tonnage Statistics.

The following is a summary of the engaged and disengaged tonnage here and on the way to this and neighboring ports yesterday morning:

	1893.	1892.
Chartered for grain.....	52,050	47,285
Miscellaneous charters.....	10,160	15,635
Disengaged.....	86,857	54,180

Totals.....149,067 117,078

Chartered and disengaged at neighboring ports—

Total tons for 1893.....24,857

Total tons for 1892.....39,514

TONNAGE ON THE WAY.

	1893.	1892.
To San Francisco.....	250,853	247,485
To San Pedro.....	5,798	2,414
To San Diego.....	17,460	21,908

Totals.....274,291 271,808

The disengaged list consists of 47 vessels, of which seven are American, one is German, one is Norwegian, one is Italian, 35 are British, one is Hawaiian and one is Ecuadorian.

The list of vessels in port chartered for grain numbers 23, of which 27 are British and one is American.

Exports of Oats, Corn and Rye.

The shipments of oats, corn and rye by sea during each month of 1892, and the aggregate for the year, in comparison with the four preceding years, as compiled from the United States Customhouse returns for the San Francisco Produce Exchange, makes the following showing:

	Oats.	Corn.	Rye.
January.....	2,711	3,945	11
February.....	2,487	10,504	.....
March.....	1,923	6,870	.....
April.....	1,467	8,967	20
May.....	1,392	8,198	3
June.....	445	7,600	.....
July.....	1,410	5,789	.....
August.....	1,092	5,898	.....
September.....	2,282	6,722	.....
October.....	2,504	4,144	.....
November.....	2,578	949	32,386
December.....	1,706	1,122	.....
1892.....	21,982	70,648	32,420
1891.....	12,399	123,994	93,615
1890.....	28,447	78,937	96,012
1889.....	59,343	26,486	.....
1888.....	35,985	51,041	.....

Combined Flour and Wheat Exports.

Reducing flour to wheat, and adding the product to wheat exports, the equivalents in wheat for the first seven months of the cereal year compare as follows:

	Centals.	Value.
1888-89.....	10,833,800	\$16,325,100
1889-90.....	10,104,300	\$13,314,400
1890-91.....	8,426,200	\$12,881,500
1891-92.....	12,940,300	\$21,970,600
1892-93.....	9,434,500	\$12,464,600

The shipments last month were equivalent to 76,471 short tons, and for the first seven months of the cereal year 471,726 tons. On the 1st February there was 150,222 tons wheat in Call Board warehouses in

San Francisco, Port Costa and Stockton, or 45,000 tons in excess of the same time a year ago.

Wheat and Flour Receipts.

The receipts of wheat and flour at this port in January were as follows:

	Wheat, cts.	Flour, bbls.
Sources—		
California.....	1,073,940	93,883
Oregon, etc.....	163,140	9,955
Totals.....	1,237,080	103,838
1892.....	1,175,458	83,546
1891.....	1,482,012	127,319
1890.....	1,535,355	123,140

Both wheat and flour ran ahead of January, 1892. In the case of wheat, however, the receipts were no indication of a larger export movement, the shipments having been less than in January, 1892. Most of the wheat received from the interior of the State comprised cargoes loaded at Port Costa. The flour trade was more active last month.

Receipts of Wine and Brandy.

The receipts of California wine and brandy at this port were as follows:

	Wine.	Brandy.
January—		
1893, galls.....	1,138,705	111,690
1892.....	887,837	196,791
1891.....	864,083	104,355
1890.....	685,967	73,818
1889.....	788,892	72,756

The past month's receipts of wine were considerably larger than during the corresponding time in previous years, being 250,168 gallons more than in January, 1892. Brandy fell off 85,101 gallons, as compared with the same month last year, but was somewhat ahead of the previous years mentioned.

Receipts of Barley.

The receipts of barley at this port in January were as follows:

	1893, cts.	1891, cts.
1893, cts.....	68,040	130,671
1892.....	112,007	124,200

The deliveries last month were unusually small, in keeping with the light demand for local use and export.

Wheat Situation in United Kingdom.

Complete statistics are said to be at hand, says the Bulletin, concerning supplies of wheat and flour in the United Kingdom on the first of January. Reduced to the basis of wheat these are equal to 27,236,563 bushels, against 20,480,966 bushels on the first of January, 1892, and 15,856,500 bushels on the first of January, 1891. Adding the quantity afloat for the United Kingdom, the supply in sight on the first of January was 49,101,553 bushels, against 40,544,966 bushels a year before and 31,947,400 bushels two years ago. These facts are sufficient grounds for the indifference to English wheat-buying in this country at present. For the first 20 weeks of the cereal year, the United Kingdom has imported 90,160,000 bushels of wheat, against 100,680,000 bushels for the same time in the previous year. The estimated requirements of the United Kingdom for the harvest year are 220,000,000 bushels, and the quantity imported and in sight at the middle of January, including native wheat, was 173,712,000 bushels. It is claimed that 61,000,000 bushels foreign wheat for the last 32 weeks of the cereal year would meet all consumptive demands, and allow a carry-over stock of 10,000,000 bushels.

Produce Receipts.

Receipts of produce from all sources at this port for 7 days ending February 15, 1893, were as follows:	
Flour, qr. sks.....	181,175
Wheat, cts.....	481,011
Barley, ".....	51,734
Rye, ".....	4,941
Oats, ".....	3,021
Corn, ".....	1,599
Butter, ".....	751
Cheese, cts.....	489
do bxs.....	46,500
Eggs, doz.....	4,404
Beans, sks.....	23,813
Potatoes, sks.....	2,260
Onions, ".....	11,310
Bran, sks.....	1,310
Buckwheat, ".....	2,656
Middlings, ".....	2,656
Screenings, ".....	109
Chicory, bbls.....	109
Hops, bbls.....	109

Grain Futures.

Liverpool.

The following are the closing prices paid for wheat options per cbl. for the past week:

	Feb.	Mar.	April.	May.	June.	July.
Thursday.....	56 1/4d	56 1/4d	60 0d	60 1/4d	60 1/4d	60 2 1/4d
Friday.....	56 1/4d	56 1/4d	60 1/4d	60 1/4d	60 2 1/4d	60 2 1/4d
Saturday.....	56 1/4d	56 1/4d	60 1/4d	60 1/4d	60 2 1/4d	60 2 1/4d
Monday.....	56 1/4d	56 1/4d	60 1/4d	60 1/4d	60 2 1/4d	60 2 1/4d
Tuesday.....	56 0 1/2d	56 1/4d	56 1/4d	60 0 1/2d	60 1/4d	60 1/4d

The following are the prices for California cargoes for off coast, nearly due and prompt shipments for the past week:

	O. O.	P. S.	N. D.	Market for P. S.
Thursday.....	31 1/2d	31 1/2d	31 1/2d	Quiet
Friday.....	31 1/2d	31 1/2d	31 1/2d	Quiet
Saturday.....	31 1/2d	31 1/2d	31 1/2d	Unchanged
Monday.....	30 3/4d	31 1/2d	31 1/2d	Firm
Tuesday.....	30 3/4d	31 1/2d	31 1/2d	Quiet

To-day's cablegram is as follows: LIVERPOOL, Feb. 15.—Wheat, better tone. California spot lds, 6s 3/4d; off coast, 30s 3/4d to 30s 6d; just shipped, 31s 3d; nearly due, 30s 6d; cargoes off coast, rather firmer; on passage, steadier; Mark Lane wheat, quiet.

Eastern Markets.

The following shows the closing prices per bushel of wheat for the past week at

New York.

	Feb.	March.	May.	July.
Thursday.....	78 1/2	80 1/2	82 1/2	84 1/2
Friday.....	78 1/2	80 1/2	82 1/2	84 1/2
Saturday.....	78 1/2	80 1/2	82 1/2	84 1/2
Monday.....	78 1/2	80 1/2	82 1/2	84 1/2
Tuesday.....	78 1/2	80 1/2	82 1/2	84 1/2

The following is to-day's telegram—per bushel: New York, Feb. 15.—Wheat, 78 1/2c for March, 81 1/2c for May and 82 1/2c for July.

Chicago.

	Feb.	March.	May.	July.
Thursday.....	75 1/2	78 1/2	80 1/2	82 1/2
Friday.....	75 1/2	78 1/2	80 1/2	82 1/2
Saturday.....	75 1/2	78 1/2	80 1/2	82 1/2
Monday.....	75 1/2	78 1/2	80 1/2	82 1/2
Tuesday.....	75 1/2	78 1/2	80 1/2	82 1/2

The following is to-day's telegram—per bushel: CHICAGO, Feb. 15.—Wheat, 78 1/2c for May.

San Francisco.

WHEAT.

	Jan.	May.
Thursday, high at.....	\$1.33 1/2	\$1.31 1/2
lowest.....	\$1.30	\$1.31 1/2
Friday, highest.....	\$1.33 1/2	\$1.31 1/2
lowest.....	\$1.31	\$1.30 1/2
Saturday, highest.....	\$1.33 1/2	\$1.31 1/2
lowest.....	\$1.30	\$1.31 1/2
Monday, highest.....	\$1.33 1/2	\$1.31 1/2
lowest.....	\$1.32 1/2	\$1.30 1/2
Tuesday, highest.....	\$1.33 1/2	\$1.31 1/2
lowest.....	\$1.30	\$1.30 1/2

*Sample market—choice milling. The following are to-day's recorded sales on Call: Morning Informal.—Wheat—May, 100 tons, \$1.31 1/2; 300, \$1.31 1/2. Regular Session.—May, 1700 tons, \$1.30 1/2; \$1.30 1/2. December, 300 tons \$1.30; 100, \$1.30 1/2. Afternoon.—May, 600 tons, \$1.30; 100, \$1.30 1/2.

BARLEY.

	Jan.	May.
Thursday, highest.....	95	85 1/2
lowest.....	90	85
Friday, highest.....	95	85 1/2
lowest.....	90	85
Saturday, highest.....	95	85 1/2
lowest.....	90	85
Monday, highest.....	95	85 1/2
lowest.....	90	85
Tuesday, highest.....	95	85 1/2
lowest.....	90	85

*Sample market—choice brewing. The following are to-day's recorded sales on Call: Informal.—Barley—No sales. Regular Session.—May, 100 tons, 84c; 100, 84c. Seller 1893, new, 100 tons, 84c; 400, 84c. Afternoon.—May, 100 tons, 84c; 400, 84c.

Markets by Telegraph.

New York Markets.

NEW YORK, Feb. 10.—The specially cabled reports of stocks of available wheat held in Europe on Feb. 1st and supplies afloat, added to Bradstreet's total available wheat in the United States and Canada, show that the heretofore rapidly-increasing tide wheat in sight here and abroad was summarily checked in January. In January, 1890, the total American, European and afloat wheat stocks declined 9,550,000 bushels; in 1891, 6,400,000 bushels, and in January, 1892, 1,220,000 bushels, while last month the decrease was about 4,300,000 bushels. Following the average monthly increases of August to December, 1892, of 16,700,000 bushels, the three-fourths decrease of last month was due to the falling off of supplies afloat for Europe and in Europe. The exports of wheat (flour included) from both coasts of the United States this week, as reported in Bradstreet's, equal 3,931,000 bushels, a larger quantity than has been shipped abroad within a week for seven weeks. Last week the total was 2,531,000 bushels, and the second week of February, 1892, the total was only 3,641,000 bushels; so that, for the first time in two months do the week's exports of wheat and flour exceed the like total of one year ago. In 1891 the week's exports equaled 2,236,000 bushels, and in 1890 and 1889 from two-thirds to one-half that quantity respectively.

NEW YORK, Feb. 12.—Canned Fruits—There are no sales upon which straight quotations can be based. A cheap tone prevails, and prices would have to favor buyers even if prime standards were broken into. Prunes—Prices are a shade stiffer, and sales are only moderate. Four sizes have been sold at 11 cents for boxes, with selections of sixties and nineties at 11 1/2c.

Unpeeled Peaches—Firm at 13c to 14c. Raisins continue strong in price, and the situation is cheerful. Some holders are disposed to reserve perfect quality parcels for better prices in the spring. Three-crown bring 56 1/2c, with better prices for extra in a trade way: two-crown, prime 4c; choice clusters, boxes, \$1.85; good layers, \$1.60; loose range from \$1.20 to \$1.70.

Apricots—Strong at

Exchanges owing to the weather. The increase of 93,000 quarters of breadstuffs afloat more than balances the decline in stock. Compared with the corresponding period last year, the quantity of California wheat afloat is 251,000 quarters more than in 1892.

Visible Supply of Grain.

New York, Feb. 14.—The visible grain supply is as follows: Wheat, 80,994,000 bushels, a decrease of 395,000; corn, 14,152,000 bushels, an increase of 690,000; oats, 5,822,000 bushels, a decrease of 132,000; rye, 218,000 bushels, an increase of 1000; barley, 2,080,000 bushels, a decrease of 75,000.

General Produce.

Extra choice in good packages fetch an advance on top quotations, while very poor grades sell less than the lower quotations.

BEANS AND PEAS.		Do country m's. 3 90 @	
Bayo, chl.	2 50 @ 2 60	Superfine.	2 50 @ 3 00
Butter.	2 75 @ 2 80	NUTS—JONING.	
Red.	2 75 @ 3 00	Walnuts.	hard
Pink.	2 75 @ 3 00	Do soft shell.	6 @ 8
Small White.	2 65 @ 2 85	Do paper shell.	10 @ 12
Large White.	2 70 @ 2 80	Almonds, stsh.	12 @ 13
Lima.	3 00 @ 3 10	Paper shell.	13 @ 15
Fl. Peas, blk eye.	1 10 @ 1 15	Hard shell.	7 @ 8
Do green.	2 00 @ 2 25	Brazil.	10 @
Split.	4 50 @ 5 50	Pecans, small.	8 @ 10

BUTTER.			
Cal. poor to	15 @	Do large.....	14 @ 16
Do fair, b.....	15 @	Peanuts.....	34 @ 4
Do g'd to choice	24 @ 22 1/2	Filberts.....	10 @ 12
Do Gilt-edged.....	24 @ 25	Hickory.....	7 @ 8
Do Creamery.....	26 @	Chestnuts.....	10 @ 11
Do do Gilt-edge.....	26 @		
Eastern, ladle.....	15 @ 18	SILVERSKIN POTATOES.	
Cal. Pickled.....	17 @	.....	1 75 @ 2 10
Cal. Keg.....	17 @	POTATOES.	
Eastern Creamery	19 @ 20	.....
		River Reds.....	50 @ 60
		Early Rose, ctl. 1	00 @ 1 10
		Peerless.....	80 @ 90

CHEESE.				Burbank Seed's	75 @	85
Cal. choice				Do do Salinas..	1 30 @	1 40
cream.....	12 @	14		Do do Oregon..	1 15 @	1 25
Do fair to good.	10 @	12		Sweet.....	50 @	75
Do Giltedged..	14 @	—		Extra choice sell for more		
Do Skim.....	5 @	6 1/2		money.		
Young America	13 @	14 1/2		POULTRY.		

EGGS.		Hens, doz.	5 50 @ 7 50
Cal. "as is," doz	— @ —	Roosters, old.	5 50 @ 6 50
Do shaly.....	15 @ —	Do young.	7 50 @ 9 00
Do candled.....	24 @ —	Broilers, small.	4 00 @ 5 00
Do choice.....	24 @ —	Do large.	4 50 @ 5 50
Do fresh laid.....	— @ 25	Fryers.....	5 50 @ 6 50
Do do s'ed white	— @ 25	Ducks.....	7 00 @ 7 50

Outside prices for selected large eggs and inside prices for mixed sizes—small eggs are hard to sell.

FEED.		Manhattan Egg	
Brant, ton.	14 00 @ 15 00	Food (Red Ball	
Feedmeal.	26 00 @ 28 00	Brand) in 100-	
Gr'd Barley.	19 00 @ 19 50	lb. Caskets.	— @ 11 50
Middlings.	21 00 @ 23 00		
Oil Oake Meal.	— @ 35 00		

HAY.		GAME	
Compressed.	6 50 @ 10 00	Quail, per doz.	1 00 @ 1 25
Wheat, per ton.	7 00 @	Ducks.	1 25 @ 1 50
Do choice.	— @ 13 50	Do "A" doz.	5 00 @ 5 00
Wheat and oats.	7 00 @ 10 00	Do Sprig.	2 50 @ 3 50
Wild Oats.	7 00 @ 9 00	Do Teal.	2 00 @ 2 25
Cultivated do.	6 00 @ 9 00	Do Widgeon.	1 75 @
Barley.	6 00 @ 9 00	Do small.	1 25 @
Alfalfa.	8 00 @ 10 50	Gray Geese.	3 00 @
Olover.	7 00 @ 9 50	Do White.	1 25 @
Straw, bale.	50 @	Do Brant.	1 50 @ 2 00

GRAIN, ETC.		Snipe.				
Barley, feed, chl	75 @	80	Do English, doz	2 50 @	3 50	
Do good.	81 @	—	Do Jack, per doz	75 @	1 25	
Do choice.	84 @	—	Hare, per doz.	1 00 @	1 50	
Do brewing.	99 @	—	Rabbits, large.	1 25 @	1 50	
Do do choice.	92 @	—	Do small.	1 00 @	—	
Do do Giltedge.	95 @	—	PROVISIONS.			
Do Chevalier.	82 @	—	Cal. bacon.			
Do do Giltedge.	1 15 @	—	heavy, per lb.	12 @	13	
Buckwheat.	1 75 @	2 00	Medium.	13 @	14	
Corn, white.	1 02 @	1 05	Light.	15 @	17	
Yellow, large.	1 02 @	1 05	Lard.	11 @	16	
Do small.	1 01 @	1 07	Cal sm'd beef.	11 @	16	
Oats, milling.	1 40 @	1 50	Hams, Calais'd	16 @	17	
Feed, choice.	1 37 @	—	Do Eastern.	17 @	18	
Do good.	1 35 @	—	SEEDS.			
Do fair.	1 30 @	—	Alfalfa.	10 @	10 1/2	
Do common.	1 25 @	—	Clover, Red.	15 @	—	
Surprise.	1 45 @	—	White.	30 @	—	
Black feed.	1 02 @	1 10	Flaxseed.	24 @	3	
Gray.	1 25 @	1 30	Hemp.	44 @	—	
Rye.	1 07 @	1 10	Do brown.	5 @	5 1/2	

WHEAT, MILLING		FALL, 1892.	
Giltedge.	1 35 @	S. Joaquin, plain	6 1/2 @ 10
Good to choice.	1 30 @ 1 33 1/2	Do mountain.	8 @ 12
Do fair to good.	1 27 1/2 @ 1 30	Do lamb.	18 @
Shipping, choice.	1 25 @ 1 28	Do Northern Choice	14 @
Do good.	1 27 1/2 @	Do Defective.	11 @
Do fair.	1 22 1/2 @	Do Lamb.	10 @ 14
Common.	1 25 @	HONEY—1892 Crop.	
Sonora.	1 20 @ 1 35	White comb.	9 1/2 @ 12 1/2
HOPS.		2-lb frame.	11 1/2 @ 13 1/2
1892, fair.	18 @	Do do 1-lb frame	11 1/2 @ 13 1/2
Good.	19 @	White extracted	8 @ 8 1/2
Choice.	20 @	Amber do.	7 @

The quotations given below are for average prices received by commission merchants for consignments by growers. Something very fancy fetches an advance on the highest quotations, while poor sells slightly below the lowest quotations. Prices, unless otherwise specified are for fruit in sacks; add for 50-lb. boxes 10¢ per lb. and for 25-lb. boxes 2¢ to 10¢ per lb.

The quotations given below are for average prices received by commission merchants for consignments by growers. Something very fancy fetches an advance on the highest quotations, while poor sells slightly below the lowest quotations. Prices, unless otherwise specified are for fruit in sacks; add for 50-lb. boxes 1c per lb. and for 25-lb. boxes 2 to 1c per lb.

APPLES—1892.		Do do fancy.....	@16
Sun-dried, 1's.....	4½ @ 5½	Evap., peeled, in box-	
Do sliced.....	5½ @ 6½	es choice.....	18½ @—
Evap. bl, reg, 50-lb. bx	8½ @10	Do do fancy.....	20 @21

Fancy, higher.	PLUMS—1892.
APRICOTS—1892.	Pitted, sun-dried.....10 @10½
Do bleached... ..13½@-	Do evap. boxes, choicest @12
Do do fancy.....15 @16	Unpitted 4 @ 5
Even choice in boxes 15 @16	PRUNES—1892.

Evap. choice, in boxes. 15 @ 16	PRUNES—1892.
Do fancy, do . . . 15 1/2 @ 17	Cal. French, ungraded 7 1/2 @ 8
FIGS—1892.	Do graded, 60 to 100.. 9 1/2 @ 10
Sun-dried, black..... 4 @—6	Do do 40 to 60..... 11 @ 12
Do white..... 3 1/2 @ 4	Fancy sell for more money.

GRAPES—1892.		RAISINS—1892.	
Sun-dried, stemless.. 2½ @ 3		London Layers,	
Do unstemmed..... 1½ @ 2		cluster per box.. 1 90 @ 2 00	
NECTARINES—1892.		Do choicest do... 1 50 @ 1 60	
Do do do do do do do do do do		Do do do do do do do do do do	

Red, sun-dried	7 @ 8	Do prime pr bx...	1 25 @ 1 40
Do Evap., in boxes...	11 @ 12	Loose Muscatels,	
White, sun-dried.....	9 @ 11	2-crown, pr bx...	75 @ 1 00
Do evaporated.....	12 @ 13	Do 3-crown do....	1 10 @ 1 20
PEARS—1892.		Do do do faced...	1 20 @ 1 25

Sun-dried, quarters...	2 1/2 @ 3	Unstem'd Musca-		
Do sliced.....	4 @ 5 1/2	lels in ska. pr lb.	2 1/2 @	3
Evap., slic'd, in b'xes.	7 @ 8	Stem'd 2-crown.	2 1/2 @	3
Unpl'd, q't'r'd, bl'ch'd.	5 @ 8	Stem'd 3-crown..	3 1/2 @	4 1/2

PEACHES—1892.		Se'd'l's M'ac't'l'sks	4 @ 5
Sun-dried, unpeeled..	7 @ 7½	Dodo in bxs.....	- @1 00
Do do prime, bl'ched.	9 @ 10½	Do Sultanas, sks.	6 @ 7
Do do choice, do.....	11 @ 11½	Do do bxs.....	- @1 40
Sun-dr. pl'd bl'ched.	10 @ 11	Halves, quarters and eighths	

VEAL.		HOGS.	
Range, heavy.	6 @ 7	Light, 10 lb. cwt.	6 1/2 @
Do light.	6 @ 8	Medium.	7 @
Dairy.	8 1/2 @ 9	Soft.	6 @
		Feeders.	6 1/2 @
		Stock Hogs.	6 1/2 @
		Dressed.	10 @ 11

Fruits and Vegetables.

Choice selected, in good packages, fetch an advance on the quotations, while very poor grades sell less than the lower quotations.

Limes, Mex.	7 00	@	—	Carrots, sk.	30	@	50
Do Cal.	—	@	—	Okra, dry, lb.	15	@	—
Lemons, box.	2 50	@	3 50	Farmips, chl.	1 00	@	1 25
Do Sicily choice	5 00	@	5 50	Peppers, dry, lb	5	@	70
Apples.	35	@	65	Turnips, chl.	—	@	70
Do Good.	75	@	1 25	Cabbage 100 lbs	75	@	80
Do Extra choice	1 50	@	1 75	Garlic, 10 lb.	1	@	1 1/2
Pears.	25	@	1 00	Marfat Squash,			
do Winter Nella	1 00	@	1 50	Do ton.	15	@	17 50
Persimmons.	50	@	1 00	Cauliflower.	50	@	60
Oranges, pr bx.	—		—	Celery.	50	@	65
Navela, River de	2 50	@	3 00	Mushrooms, 10 lb	10	@	15
Do, Butte Co.	2 00	@	2 50	Do, Common.	20	@	30
Seedling, River de	1 25	@	1 50	Do, Button.	20	@	30
Do, Fresno.	2 00	@	2 50	Tomatoes, box.	50	@	1 50
Do, Butte Co.	1 75	@	2 00	String Beans.	15	@	20
Extra choice fruit for special				Rhubarb.	10	@	—
purposes sells at an advance				Green Peas	4	@	6
on outside quotations				Asparagus.	15	@	35
Beets, sk.	—	@	75	Cucumbers, doz	1 00	@	1 50

WATER IN PLANTS.—A problem familiar to all students of botany is that relating to the ascent of water in plants. Text books explain the phenomenon in more or less plausible ways, and doubtless it may be news to many to be told that they knew nothing about it. The latest, and perhaps the most thorough investigation in this direction, is that by Prof. Strasburger, of the University of Bonn. The evidence all appears to favor the conclusion that the ascent of water in plants is a purely physical process. That it is not a vital one was proved by the ability to cause an upward flow in plants previously killed by various methods. The conditions necessary for the ascent of liquid are stated to be that the cell walls should be in a state of imbibition, while the tracheae are within certain limits filled with water and isolated from the air. The learned professor definitely disposes of some time-worn explanations when he states that atmospheric pressure simply helps to keep the water suspended, that the only importance of transpiration in this connection is that it makes room for the ascending fluid, and that root pressure is not immediately concerned in the process at all. Capillarity has long been known to be insufficient to account for the phenomena, and the net result of the research is that we are left in the position of knowing nothing whatever concerning the cause of sap in plants, save that the process is a purely physical one.—Scientific American.

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NOTICE.—There are delinquent upon the following described stock, on account of Assessments No. 9, levied January 10th, 1893, the several amounts set opposite the names of the respective shareholders, as follows:

Names	No of Cert.	No of Shares.	No of Amt.
Harvey J. Lewelling, Tr. for			
Lewis L. King.	3067	50	\$500
Harvey J. Lewelling, Tr. for			
Clinton M. King.	3068	50	500
Harvey J. Lewelling, Tr. for			
Elva C. King.	3069	50	500

And in accordance with law, and an order of the Board of Directors, made on the 10th day of January, 1893, so many shares of each parcel if such stock as may be necessary will be sold at public auction at the office of their Bank, No. 300 California Street, corner of Battery Street, San Francisco, California, on Thursday, the 9th day of March, 1893, at the hour of 1 o'clock P. M., of said day, to pay delinquent assessments thereon, together with costs of advertising and expenses of sale.

Office—300 California Street, N. W. corner of Battery Street, San Francisco, California.

Harvey J. Lewelling, Trustee, has commenced suit in the Superior Court of Alameda county against Alva C. King et al. to have the present trust ended and the stock sold.

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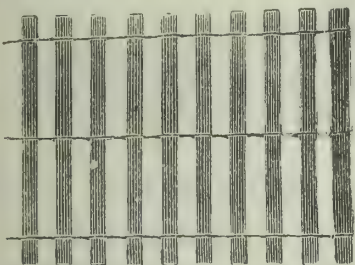
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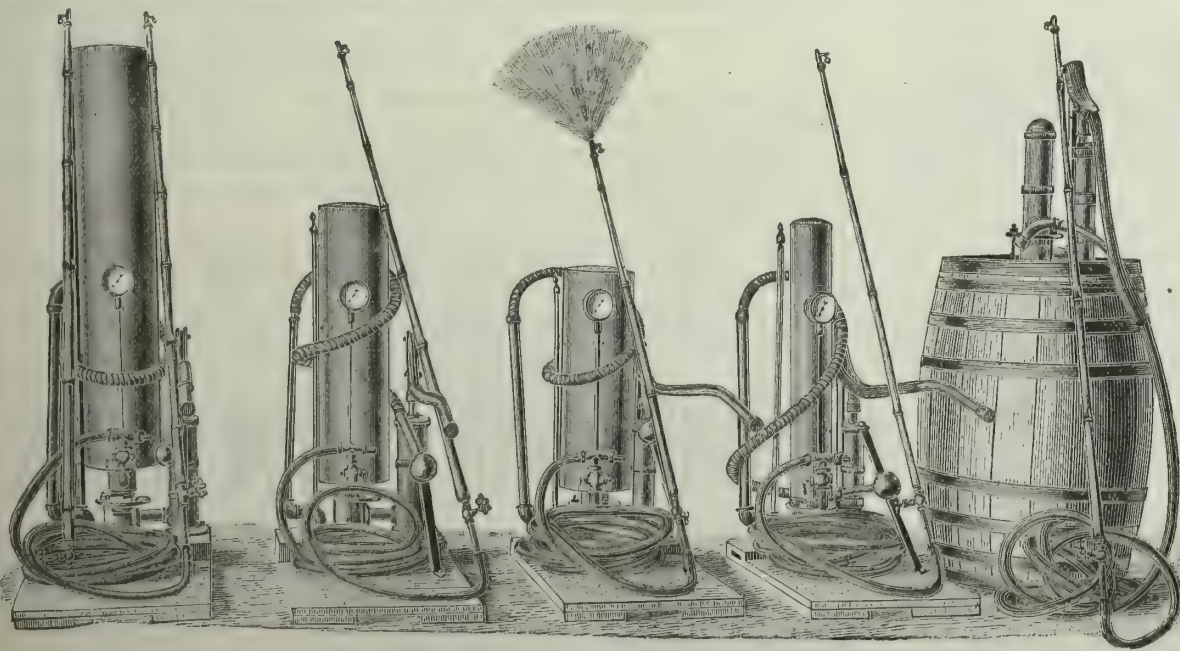
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THE MORGAN SPADING HARROW.

The Best Pulverizer in the World.

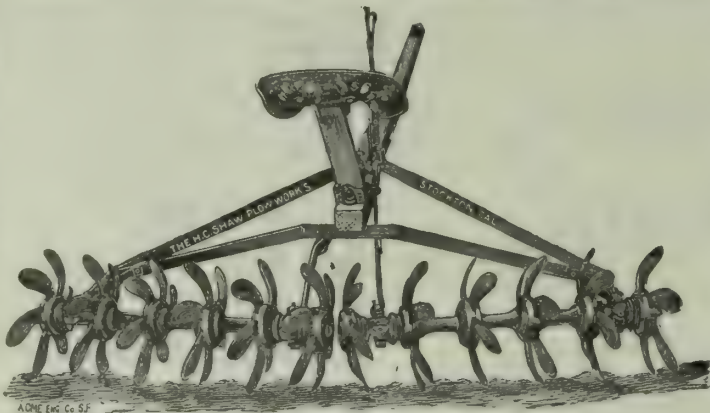
HORTICULTURISTS AND FARMERS, TRY IT.

NOTE THE FOLLOWING TESTIMONIALS FROM OUR OWN PEOPLE.

GRANDEVILLE, CAL., Dec. 25th, 1891.
Mr. James Porteous, Fresno, Cal.—Dear Sir: Your favor of 22d, asking me how I liked the Triumph Spading Harrow I used on the "Oothout Vineyard and Orchard," received. In reply would say that I have used almost all the modern implements, but as a pulverizer and cultivator combined I never saw anything to equal them. I used two two-horse and one four-horse. Yours truly,
H. H. CLARKE,
Formerly Supt. and Manager of the "Oothout Vineyard and Orchard," at Fresno, Cal.

STOCKTON, August 15, 1892.
H. C. Shaw Plow Works—Gentlemen: I have used exclusively a Morgan Spading harrow purchased from you, in cultivating an orchard of 40 acres planted to apricot trees, in February of this year, near Brakes Landing, in this county. By the use of this harrow the ground has been kept free from weeds and well pulverized, thereby causing a retention of moisture and a rapid and healthy growth of the trees; the branches of some of them having grown nearly six feet within six months after planting. I consider the Morgan Spading Harrow the very best implement in use for tree and vine culture. The work is much better done than it can be done with a plow and at one-fourth of the expense.
JOSEPH H. BUDD.

FRESNO, CAL., Jan. 20th, 1892.
Mr. James Porteous, Fresno, Cal.—Dear Sir: In reply to your inquiry regarding the Morgan Spading Harrow will say that it is by far the best tool I have ever seen used in a vineyard. I had the Disc Harrow, the Draper Spading, the Clark Cutaway and the Morgan Spading Harrows all at work in our vineyard last year and soon discovered that the Morgan was the boss of them all. The draft is much lighter and its work more complete, besides being the easiest handled of all others. The Morgan will be the only cultivator seen at work in our vineyard the coming season. All others will be found at rest in the fence corners. Yours truly,
S. K. LEMMON, Supt. Oakland Vineyard Co.



Especially Adapted for Orchards and Vineyards.

CONSIDERING THE IMMENSE AMOUNT OF LABOR DONE

THE DRAFT IS VERY LIGHT.

NOTE THE FOLLOWING TESTIMONIALS FROM OUR OWN PEOPLE.

FRESNO, CAL., Dec. 10th, 1891.
Mr. James Porteous, Fresno, Cal.—Dear Sir: Last winter I purchased a ten-foot Triumph Spading Harrow, and am pleased to say that I found it a most satisfactory tool. I used it in both my nursery and orchards and found that it left the ground in better shape than any cultivator I had ever used. For pulverizing rough and cloddy ground I don't believe there is an implement superior to it in the market. Yours truly,
GEO. C. KOEDING,
Manager for the Fancher Creek Nursery, Fresno, Cal.

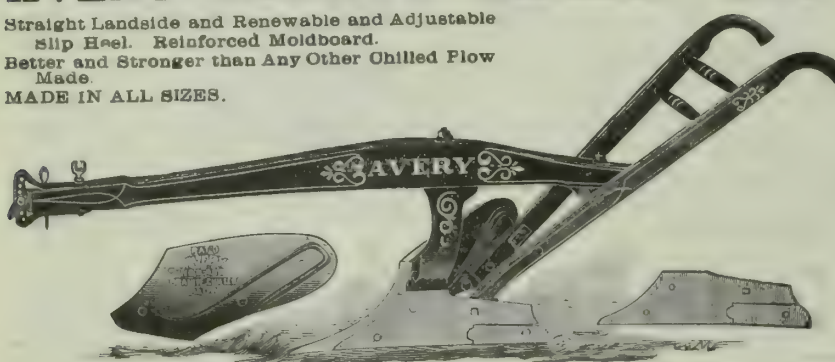
FRESNO, CAL., Dec. 19, 1891.
Mr. James Porteous, Fresno, Cal.—Dear Sir: Having used the Morgan Spading Harrow last season I can well recommend same for vineyard use; it is economical and does its work well. In heavy ground it is the best tool I have used for a pulverizer and it leaves the ground in good condition. Respectfully yours,
E. I. BABER, Manager for Eisen Vineyard, Fresno, Cal.

SACRAMENTO, CAL., Dec. 31st, 1891.
Gentle:—In reply to your inquiry concerning the Morgan Spading Harrow purchased by me last spring, would say that I ordered it for the purpose of experimenting in my orchard to ascertain whether or not I could get an implement that would combine the qualities of the disc and cultivator. I find upon trial that the harrow above referred to is the most complete tool that can be used in an orchard. As a pulverizer, leveler, and cultivator, I do not hesitate to say it is the best I have ever seen. It thoroughly stirs the ground beneath the surface without opening it to the sun's rays and keeps the ground loose of sufficient depth to retain necessary surface moisture. I do not hesitate in recommending it. Very truly,
EDWIN F. SMITH,
Secretary State Agricultural Society.

BERKELEY, CAL., Dec. 17th, 1891.
Dear Sir:—Enclosed find check to pay for Morgan Spading Harrow. It is the best implement ever invented for the cultivation of the soil. Respectfully,
J. F. WARD.

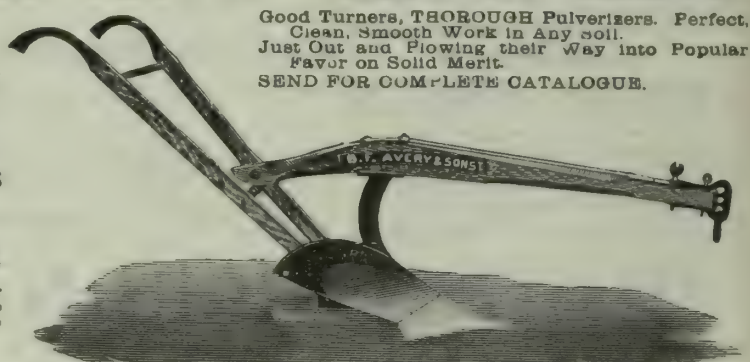
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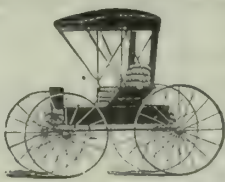
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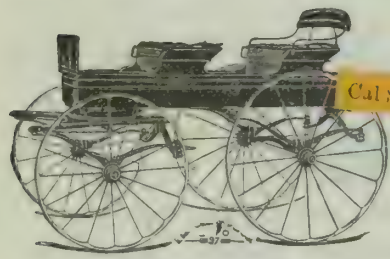
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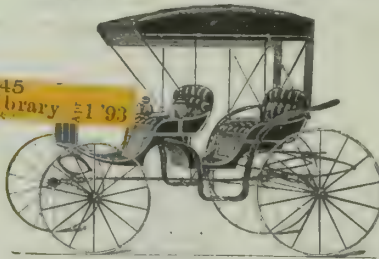
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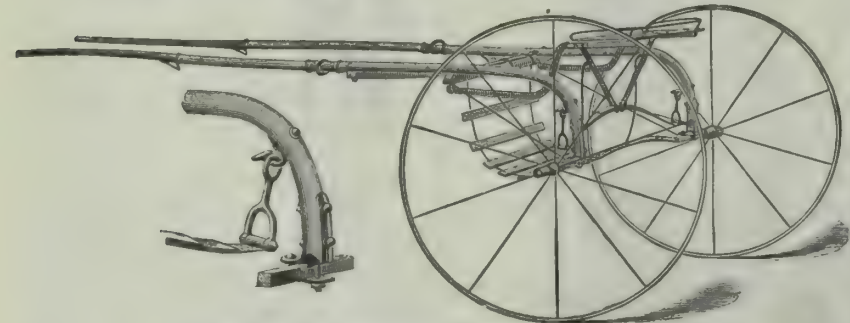
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TOP BUGGIES.**

We have decided to close out our Entire Stock of END SPRING and Brewster Spring BUGGIES, and confine our efforts in the BUGGY line to the celebrated RICE COIL SPRING

We now offer you your pick from 3 1/2 CARLOADS of End Spring, Piano Body, Leather 1-4 Top Buggies at \$75 each; Brewster do do do, at \$80 each; Leather Top, \$5 extra. Storm Apron, Boot and Carpet furnished with each buggy.

These buggies are all B grade, of best material and workmanship, and equal to any \$115 to \$125 buggy to be found in the San Francisco market.

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ORANGE AND LEMON TREES.

Fruit, Shade and Ornamental Trees of all Varieties.

We have an extra large and fine stock of Peach, Prune, Apple, Apricot, Nectarine, Pear and other Fruit Trees.

Largest and Best Stock of Orange and Lemon Trees in the State.

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W. R. STRONG COMPANY, - SACRAMENTO, CAL.



Vol. XLV. No. 8.

SAN FRANCISCO, SATURDAY, FEBRUARY 25, 1893.

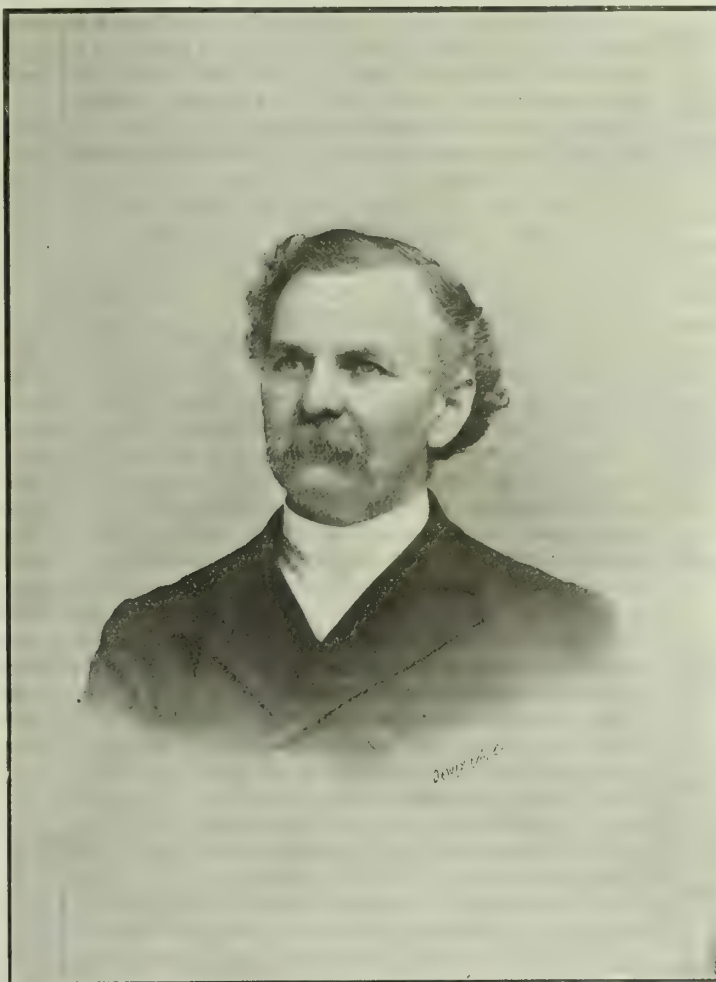
THE DEWEY PUBLISHING CO.
Office, 220 Market St.

The Battle-Ship Oregon.

One of the largest modern ships of war yet attempted by our Government is the battle-ship Oregon, now in course of construction at the Union Iron Works shipyard in this city. This vessel is to have a displacement of 10,000 tons, and her principal dimensions are: Length, 348 feet; breadth, 69 feet 3 inches, and depth, from keelplate to superstructure, 42 feet. She was contracted for under the Naval Construction Act, passed by Congress, June 30, 1890, and is to cost, exclusive of armament, nearly four million dollars. The minimum speed to be maintained for four consecutive hours is to be not less than fifteen knots. The hull is to be of steel, not sheathed. Her framing will be on the bracket system, and she will have a double bottom extending from armor-shelf to armor-shelf, and forward and aft. The armor on her sides, for protecting the water-line, will have a maximum thickness of not less than eighteen inches, with a mean depth of seven feet, and the transverse armor at the ends of the belt-line will not be less than seventeen inches thick. The sides, from armor belt to main deck, will be protected by not less than five inches of steel armor. Coal is to be carried back of this casemate. An armored deck, not less than three inches in thickness, will extend forward and aft from the ends of the armor belt, being curved down on each side to meet the side of the ship below the water-line. Over the side armor belt this steel deck will be not less than two and three-quarters inches in thickness. The Oregon will have an approved water-excluding material equal to woodite or cellulose, fitted along the sides, forward and aft, on the slopes of the three-inch protective deck.

She will be supplied with powerful guns, aggregating in all six hundred and thirty-one tons. They will include four 13-inch breech-loading rifles, weighing sixty tons each, with their mounts, shields and equipments; four 8-inch breech-loading rifles; four 6-inch breech-loading rifles; sixteen 6-pounder rapid-firing guns; six 1-pounder rapid-firing guns, and two Gatlings, with all necessary mounts and shields therefor. It will require 306 tons of ammunition to complete the vessel's fighting outfit.

Her 13-inch guns will be protected by 17 inches of armor. The axes of these guns are to be not less than six feet above the deck, and due regard must be paid to interference of fire and the effects of the blasts of the various guns. The six and eight inch guns will be protected by shields and, in addition, by barbettes or otherwise, carrying our-inch armor for the six-inch guns, and six-inch armor for the eight-inch guns. The ammunition for the eight-inch guns will be supplied through armored tubes. The Oregon will carry twelve torpedoes. There will be seven above-water torpedo tubes—two forward, one aft, and two on



DR. J. N. BIRD THE CAL. COMMISSION'S SUPT. OF AGRICULTURE.

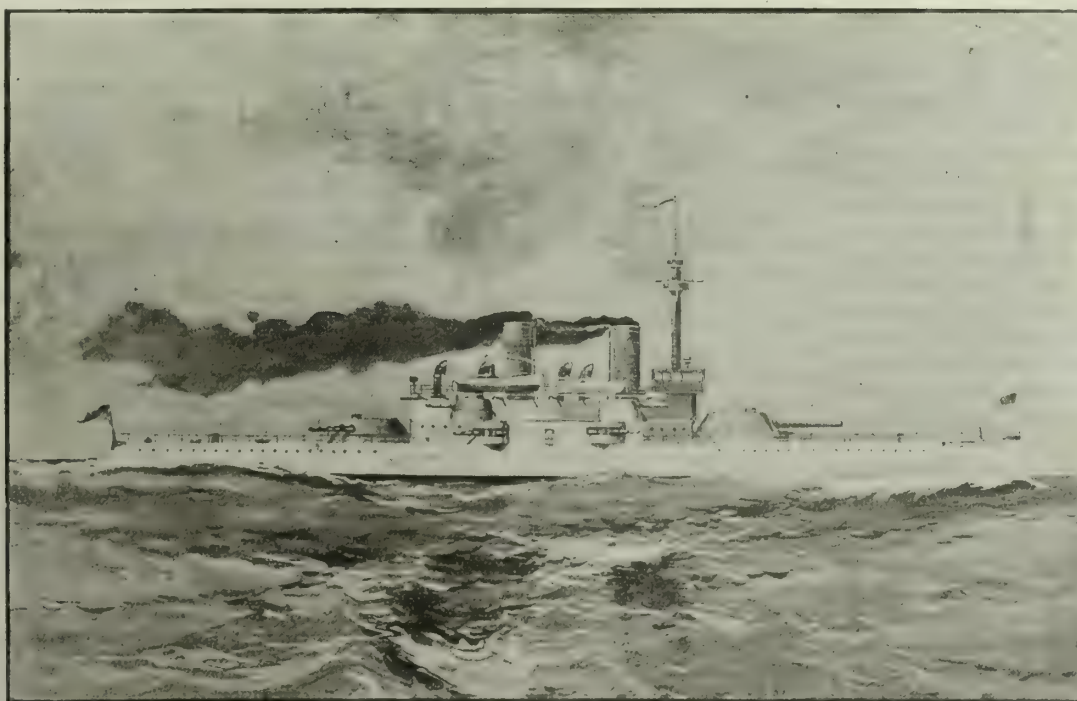
The Superintendent of California's Agricultural Exhibit.

Two weeks ago we gave a sketch of the glass house in which it is proposed to ensconce California's contribution to the display in the general agricultural building of the World's Fair. The design was by Dr. N. J. Bird, who is one of the staff of superintendents appointed by the California World's Fair Commission and has for his specialty the agricultural exhibit. We have the opportunity now of presenting a portrait of Dr. Bird, whom doubtless many of our readers will meet during the fair if not before.

Dr. Bird has been a practicing physician and surgeon in this city for over twenty years. He is a graduate from Queen's University, Canada. He early invested in real estate, which induced him to study carefully the agricultural and horticultural resources of the State. He has traveled extensively throughout California with a view to familiarizing himself with the extent and character of our arable lands, the adaptability of the soil to cereals and plants, and the most desirable localities for colonization. Under the auspices of the Southern Pacific railroad his influence in colonization in several localities has been an appreciable factor. His knowledge of the State and its products will serve him well in the important trust which he now has in hand.

THE leading fruit-growers of the county have formally organized the Butte County Horticultural Society and elected the following officers: President, W. P. Hammon; vice-president, Fred Franks; secretary, Geo. Ditchler, and treasurer, Eben Boalt. Outside of their regular duties these officers are to act as an executive committee in connection with the following gentlemen: Col. Royce of Chico, C. H. Legget of Oroville, and T. B. Hutchins of Gridley. The meetings of the new society will be held on the first Thursday of each month, the next one taking place at Chico, and the ones following at Palermo, Gridley, Oroville and Biggs, in the order named. Important subjects will be taken up and discussed at these meetings, which should prove very interesting and add considerable to the membership of the society. Pruning will be the subject at the Chico meeting.

ADVICES from Idaho are to the effect that the horse market is in a very much glutted condition. Samuel Rich, a wealthy stockman of Bear Lake county, who has carefully investigated the matter, declares that the prevailing dullness in the horse trade is traceable chiefly to electricity. The large cities of the East, South and West have for years purchased their street-car horses in Idaho, but the horse car has been superseded by the electric and the cable car, and horse flesh is not wanted. Many stockmen purpose allowing their animals to run at will until a demand arises.



THE UNITED STATES BATTLE-SHIP OREGON.

each side. She will also carry a distilling apparatus, which will supply fresh water; the allowance of water to be carried is to be enough to last fifteen days.

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By THE DEWEY PUBLISHING CO.

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Our latest forms go to press Wednesday evening.

Registered at S. F. Post Office as second-class mail matter.

ANY subscriber sending an inquiry on any subject to the RURAL PRESS, with a postage stamp, will receive a reply, either through the columns of the paper or by personal letter. The answer will be given as promptly as practicable.

ALFRED HOLMAN.....General Manager

San Francisco, February 25, 1893.

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The Week.

The sun is rapidly gaining power, and growth is beginning to put on vernal aspects. Deciduous trees are in bloom in the earlier sections, and the tardy pruners are making full use of the lengthening days to finish their work. Grass and grain are still advancing slowly, because of the prevailing low temperatures which are now yielding away. The next few days, if existing weather continues, will work notable changes in the landscape. None but the hardier wildflowers have yet unfolded.

Fruit prospects continue of the best. Whether the eastern reports of injury to fruit buds and trees be exaggerated or not, California bids fair to have a crop beyond any gathered before. This year's orange crop at the south will be but the forerunner of the summer fruit crops of the whole State. It is now proposed to have a grand citrus display at the opening of the World's Fair in Chicago, on May 1. Space for this display has become available through the failure of cold storage fruits of the last Eastern crop. This is an opportunity which has not been counted upon by Californians. Fortunately the chance comes soon enough to enable the Southern growers to take full possession of it. The Southern citrus fair at Colton next month should be the gathering point for the Chicago effort.

Indications are that the opening of the World's Fair will be even more widely attractive than has been anticipated. It will be the show chance of the century.

THE *Orange Belt* calls attention to the fact that it is only 14 years since the first Navel orange was ripened in this State. And now the production of that variety of fruit in southern California amounts to several thousand carloads a year. The growth of the industry has certainly been most astonishing. In that short period it has become one of the leading interests of California.

AN ELECTRIC ROAD is to run through Santa Clara valley from San Jose to Saratoga. The proposed route is through a very productive region, and fruit-growers anticipate that their facilities for reaching a cheap and quick market will be much improved.

Young Aliens in California Agriculture.

The farther our duties lead us into the regions of the State which are now undergoing most rapid and satisfactory development the deeper our impression of the service which is being rendered in the upbuilding of the commonwealth by the young men. We have never attended agricultural meetings anywhere in which so large a percentage of participants are those with well-thatched polls and downy cheeks. They gather from miles around with faces bronzed by the sunshine, hands hardened by contact with soil and tools and in clothing which befits such occupation, and yet one can see at a glance that they are young men who have the polish of the schools and the behavior of gentlemen. Even their manner of listening discloses their training and their entry upon discussion evinces thought. They are young men whom California is drawing from all parts of the world to develop her resources and extend her peerless productions.

As a rule, these young men come to California with a certain amount of capital besides their own physical strength and intellectual culture. They are often younger sons who come with paternal coin to help them toward a career in a new world. Some of them, no doubt, are a prey to the wily schemer who sells them land which no experienced person would select, and perhaps charges them for advice which they could better pay to withhold. Still, such cases are not numerous. As a rule, these young men have not undergone the knocks of school and college life and of travel for nothing. They are usually shrewd enough to detect interested friendship and purposeful advice. Generally their investments are wise and serve as a good foundation for the later superstructure of labor and industrial devotion which they erect.

We never meet a group of such young men anywhere in the State without thinking how important a factor they constitute in our agricultural outlook. They certainly deserve our fullest interest and encouragement. They are in a sense pioneers, though they come to a country well known and prosperous. They undertake no perilous journey and experience no narrow escapes. Still they come to make homes in a new part of the world, and if they go to an undeveloped region they undertake a season of cabin and tent life and deny themselves the society of the gentler sex while they are bringing their enterprises to the point of profitable return. Such a life demands considerable devotion and persistence and entitles one to the success which it usually commands.

We make these references just at this time because it occurs to us that there are many of the native sons of golden sires resident in and around our larger towns who do not know how large a part the foreign-born youth are taking in the building up of our new regions. It is unquestionably true that while these California young men are striving for chances to creep into professional and mercantile back-seats in cities and towns, the bright young aliens are possessing themselves of the best of the country, and will make themselves the coming men of the State. They will soon perceive the advantages of the new land and the benefits of American citizenship. As their properties are developing, they are themselves becoming Americanized. They will bring here more capital to reinforce what they will accumulate by their own industry. Before the city-born Californians get half-way to the front in the crowded ranks of professional and business life, the agricultural young aliens will have their ventures yielding a profit, their new residences models of taste and comfort; and before our own young men can show to the world visible means of support, the charming native daughters will be enwreathed with orange-blossoms from trees tended by alien hands and led away to grace the triumphs of the enterprising invaders.

Let us tell you, California young men, you must wake up and go forward. Not alone do youth from beyond the sea menace you with their better deeds. All the other States are sending their best sons and establishing them in our best lands and in our most promising enterprises. It is not an influx of farm hands or of clodhoppers. It is a marching in of young men of education, of good manners, of winning address. They are not strangers to the drawing-room. They come to California with a love of land, which is a sign of nobility in the oldest nations. They propose to succeed and to possess the land, and in so doing they will dispossess our own young men unless they cherish similar purpose and are willing to strive for ends similarly honorable.

This issue will bring a new future and a new population to California. It will advance the State. It will make California young men of to-day the uncles of the grand race of Californians that is to be.

THE Northern Citrus Fair is at an end, after a most successful six-weeks' session. Its results have been so satisfactory that there is little doubt succeeding fairs will be held in San Francisco each year.

From an Independent Standpoint.

Within the past week Mr. Cleveland has named two more members of his Cabinet—Hon. Hoke Smith, of Georgia, for Secretary of the Interior, and Hon. Sterling Morton, of Nebraska, for Secretary of Agriculture. Only two places remain to be filled, namely, the Secretaryship of the Navy and the Attorney-Generalship. The interest of our readers will naturally center about the new Secretary of Agriculture; and they cannot fail to be gratified by the fact that he is an actual, practical farmer, and that he has been a farmer and a pioneer all his life. Mr. Morton lives in a fine country home adjoining the town of Nebraska City, on the Missouri river on land originally settled by himself. His house is known as Arbor Lodge, in recognition of the fact that he is the author and promoter of the idea known as Arbor Day. He is an enthusiastic advocate of forestry. He has four stalwart sons, and sometimes says that his principal agricultural product is his twenty-five feet of boys. Each of these sons is more than six feet in height.

While Mr. Morton has all his life lived upon and worked a farm, he has for a quarter of a century been an active figure in the political life of the West. He has been a persistent writer on economic topics, and in the past five or six Presidential campaigns has made a general stump canvass of his State in the interest of the Democratic party. Of late years he has not been in harmony with the ideas that have ruled his own class and section, being outspoken against the financial and other propositions of the Populist movement. In the late campaign he took the stump against the People's party candidates in Nebraska, canvassing the whole State in opposition to ex-Senator Van Wyck. He is, in short, an Old Line western Democrat holding to extreme theories of tariff reform, to hard money as against greenbacks and to gold as against silver. It is curiously notable that while he and Cleveland are in general accord as to economic questions, they are wide apart in political associations and tendencies.

Apparently, Mr. Cleveland is seeking to organize a Cabinet of all shades of political sentiment. Gresham is a Republican with strong Populist leanings; Carlisle is an Old Line Democrat with before-the-war connections and tendencies; Hoke Smith is a southerner of the new type; and Morton is a westerner of westerners, representative of a species of Democracy absolutely unknown east of the Alleghenies. Former presidents, since Washington, have sought to make their Cabinets harmonious rather than representative of different opinions. Mr. Cleveland's experiment is an interesting one to say the least.

It is a very notable fact that every man thus far selected for Mr. Cleveland's Cabinet is, like Cleveland himself, country born and country bred. The country keeps up its habit, begun in the early days of the Republic, of supplying all the active and really effective men in political life. Not alone in politics, but in law, trade, finance, war, medicine, the pulpit, science, literature and railroad administration the country born and bred man bears off the palm over his city born and bred brother. Some time back the *Seattle Post-Intelligencer*, writing of this subject, said:

There is not a United States Senator or Representative of either party of eminence who was city born and bred. There is not a lawyer of first rank in New York City, or any other great city of the nation, who is city born and bred; there is not a great merchant, banker, doctor, scientist, preacher or editor who is not country born and bred. Ninety-nine per cent of the great railroad men of the country, from presidents and general managers down to the heads of departments and bureaus, are country bred.

Rarely does a city born and bred man become a leader in any walk of useful and elevated human activity. The city training stands for the annihilation of individuality; the suppression and stunting of versatility; the emasculation of rugged, boisterous verity of mind and body. During the war New York and Brooklyn, with a united population of 1,500,000, never sent a man to war that rose to signal distinction as an able soldier compared with country communities of equal population. Not a single volunteer soldier of distinction was contributed to the war by Philadelphia, Chicago, Boston or Baltimore.

The city-bred man has plenty of courage and brains, but he is cynical, indifferent, languid and non-enthusiastic compared with the country-bred man. The men who have ruled America in the world of inspiring ideas and the world of innovating revolutionary action that makes for national progress have been country bred, whether we consider the world of affairs or the world of contemplation that includes literature. Mental and moral virility, vivacity, intense and energetic individuality flock to the cities, but they are not born nor bred there, for such qualities dwindle and die there and have to be constantly recruited from the ranks of country born and bred men. Men become machines, not leaders, organizers and executives under the pressure of city life from birth, and it takes an infusion of the ruddy drop of manly blood that perennially flows in the veins of the ambitious and aspiring countryman to make the life of a great city more spiritual and attractive than the spectacle of a great machine, an automaton, whose breath is steam, whose heart is a force-pump and whose soul is electricity.

Nothing in system, nothing in machinery, nothing in the harnessed powers of earth, air, sea or sky can supplant the

functions of soul, and that is the reason why the training and atmosphere and experience of great cities do not educate their native-born stock so often to the pitch of greatness as the country where nature's kindness is inexhaustible, and where nature's nobility are suffered to become men before they are brutally bent and forced to become machines, or rather one of the cogs on a million merciless wheels.

Seldom has more truth been better spoken. It cannot too often be impressed upon parents that the best place to bring up their children is in the country, where not only the physical, but, as well, the mental, moral and spiritual faculties can develop amid surroundings calculated to bring them to the highest possible degree of perfection. The early habits of city life are not favorable to the assertion of independence and individuality of character, or to the practice of indomitable industry and economy. The city intellect gets lost in the whirl of social life; the opportunities for refined pleasure are extraordinary; the temptation to luxurious habits of self-indulgence are numerous; the pressure to make a worker a machine rather than a man is immense and intense.

The center of political interest during the past week has been Topeka, Kansas, where there has been a series of riotous collisions between the rival Populist and Republican Legislative bodies. The facts leading up to these events, and which must be understood before they become intelligible, are as follows: The official report of the Kansas State Board of Canvassers showed that the Populists had elected the Governor and had a majority in the Senate, but had failed to carry a majority of the House. When the Legislature met, the official returns showed that sixty-four Republicans, fifty-eight Populists and two Democrats had certificates of election and were entitled to participate in the organization of the House. Subsequently, the Republican majority of the House voted to throw out one of their own partisans on grounds of fraud and give his seat to a Democrat, decreasing the Republican total to sixty-three and making the Democratic total three. Thus the Republicans had a majority of two, and could organize the House, choose the speaker and various officers, and gain control of the various committees. But the Populist secretary of State refused to read the list of members-elect according to official returns of the State Board of Canvassers, whereupon the Republican members, being in a majority, at once effected an organization, which the Populist members would not recognize. They effected a second or Populist organization, and thus there came into being two rival Houses, occupying the same hall with their respective speakers wielding gavels at the same desk. The Senate and Governor, being Populist, recognized the Populist House, but the three Democratic members of the lower branch soon decided to cooperate with the majority organization. The Populists, although in number less than a quorum, proceeded to elect a speaker, and then this minority, calling itself the House, proceeded to vote out of their seats without inquiry or hearing enough of the duly elected Republicans, and to vote into seats enough Populists who had not been elected to make up a quorum. The Populist Governor refused recognition to the duly organized majority made up of Republicans and Democrats, and recognized the Populist minority. After a day or two of confusion, the rival bodies, by private agreement, occupied the hall of Representatives at different hours, the Republican-Democratic House holding its sessions in the morning, while the Populists met in the afternoon and evening. This was the situation up to Thursday of last week.

On that day the Populist House, in conjunction with the Governor, attempted to force the issue by denying the Republican-Democratic or majority organization entrance to the State House. To this end, several companies of the local militia were by executive order called into service, and directed to prevent the Republican-Democratic body from entering the building; and to make assurance doubly sure, the officers of the Populist House were ordered to barricade the doors. At nine o'clock the barred-out majority appeared in a body, pushed the guards aside, broke down the doors and took possession of the hall. Gov. Lewelling called out the whole force of the State militia, but upon assembling the next day it was found that its sympathies were not with the Governor's party, and that it would not be employed to intimidate the Republican-Democratic House, but that, on the other hand, it stood ready to defend that body. But, though deserted by the militia, the Populists were not without resources, for their partisans came in from the surrounding country in large numbers and were sworn in by the Populist sheriff of Shawnee county as deputies, organized into companies and set to guard the State House, which the Republican-Democratic outfit had not abandoned. Nobody was allowed to enter the doors, but squads of the militia forced their way through the line of Populist pickets stationed around the grounds and brought pro-

visions which were hoisted in baskets and received by the imprisoned legislators through the windows. This absurd situation continued till Saturday night, when the Populists gave up the siege and established their official residence elsewhere, leaving the Republican-Democratic House in possession of the regular hall. During the siege passion ran high on both sides and there were numberless free fights, but, happily, no general conflict.

The dispersion of the rival armed forces is only a truce and by no means closes the issue. Each of the rival Houses continues to regard itself as the official body; and the question is one which can only be settled by the courts. To this method of settlement the majority has from the beginning invited the Populists, but the latter have refused on the ground that the judges were Republicans and that they would, therefore, decide in favor of the majority body. The Populist Governor has claimed the right to arbitrarily decide which House is legally organized and his partisans have refused any other plan of adjustment. Of course, the matter will in the end have to be settled by the courts and it is possible that all the proceedings of the Populist House will be declared illegal; and that the election of Judge Martin to the United States Senate will be pronounced irregular and void.

Ex-Gov. John P. St. John, of Kansas, is now in California, and since the incidents related above has, through one of the city papers, given the Populist side of the case—a side with which he is evidently in close sympathy. The view which he thus opens is especially interesting, because the Populists, having no great daily newspapers of their own and no connection with the Associated Press, or other news systems, seldom get their side fairly before the public. The great development of Populist sentiment in Kansas is due, the ex-Governor declares, to the fact that the State has, under Republican administrations, been ridden almost to death by corporation and money interests. Times were so bad that four years ago the private mortgage indebtedness of the farmers of the State amounted to \$24,000,000. The result was that in 1890 enough Republicans left the party and joined the Populists to reduce the Republican plurality of 82,000 to nothing, and in 1892, to give to the Populists the entire list of State officers. In the State Senate they had an unquestioned majority. As to the lower house—we quote Gov. St. John's words—"on the face of the returns the Republicans claimed it, but the Populists charged that it was obtained by the grossest kind of fraud. The majority either way was very small. It is not probable that anyone will ever know which party has an honest majority." The judicial organization of the State, like the militia, is still largely Republican, and this puts the Populists, who are clearly in popular majority, at a disadvantage, and explains their unwillingness to appeal to the courts. In concluding his statement, Gov. St. John says:

Governor Lewelling is a plain, practical sort of a man. He has sense enough to know that a conflict of arms would, under the circumstances, result in his defeat. Besides, there is no necessity for "war." His party can better afford to let the Republicans batter down the State House doors and enter and hold the hall of the House of Representatives by force, and let the Populists secure another place in which to transact their legislative business, and take the whole question two years hence to the people for settlement at the ballot-box. Then the farmers will likely be heard from. To say the least of it, the whole affair is extremely disgraceful and should serve to impress the people with the necessity of putting a party in power that will engage in a better business than a mere scramble for office.

Rapid progress is being made in the Hawaiian matter and if signs do not fail the island realm will be American territory before the Harrison administration goes out of office—one week from Saturday. Secretary Foster acting for our government, and the five commissioners who represent the provisional government of Hawaii have agreed upon terms of annexation which are now before the Senate for ratification. The treaty—for the matter takes the form of a treaty—states its objects and purposes to be the annexation of the islands to the United States. The great problems which have confronted the friends of annexation—the provision for the Queen, the Chinese residents and the Hawaiian debt—are disposed of in succinct and comprehensive paragraphs. The royal family is liberally provided for. The deposed Queen is to receive \$20,000 a year, and the heiress apparent is to receive a lump sum of \$150,000. As for the Chinese, they are to be regarded as sojourners, having no rights as citizens under the laws of the United States. They are not to be taken into citizenship by the acquisition of the territory where they happen to now reside. It is also provided that no Chinaman shall be received into this country from Hawaii, but it is said that this is an almost unnecessary safeguard, as the Chinese on the islands are too prosperous and contented to care to emigrate. The debt of Hawaii is disposed of by the United States assuming responsibility for it in its entirety. The debt is \$3,000,000. In return for this assumption, how-

ever, the United States is to be the recipient of all the revenues for the islands. This income, although the fact is not made apparent in the treaty, is about \$10,000,000 annually. The form of government for the islands is, of course, left open for the decision of Congress. It is proposed that Hawaii shall either have a Governor, like the Territory of Alaska, or a Commission similar to that which presides over the affairs of the District of Columbia. These are details, however, to be settled after the ratification of the treaty. The last section of the document provides that the provisional government of Hawaii must accept the terms of the treaty within two months from the time it is ratified by the United States Senate.

This treaty, it will be seen, gives the islands to the United States upon our own terms, leaving all matters of detail to be adjusted after the fact of annexation. It is much less than the Hawaiian commissioners asked for, but they profess themselves satisfied and give assurances that the engagement will promptly be accepted by the powers that be in the islands. It is asserted that a canvass of the Senators has been made privately, and that the treaty is certain of adoption by the Senate. The deposed queen, the heiress apparent and the representatives of an older royal line have all addressed protests against annexation to the people of the United States, but it is believed that they will be disregarded. Up to the present time no foreign government has filed a formal protest against our absorption of the islands.

MR. ADAMS, a dairyman of large experience, proposes to erect and operate a creamery at Petaluma. The only condition he makes to consummation of the project is that he must secure contracts for the milk of 200 cows. The matter therefore rests largely with farmers. The stipulation Mr. Adams makes is founded on knowledge that success of a creamery depends on a stable and copious supply of good milk just as fully as on proper and intelligent methods of operation and a favorable condition of markets for creamery products. The last named will generally take care of itself; the first must be a matter of contract, or at least of specific agreement. On his part the creamery man should be required to pay full prices for milk; and then all elements of success will be present with dairymen and creamery operators.

THE Assembly at Sacramento, after a fierce parliamentary fight, has decided to re-enact the coyote-bounty law in substantially its old form, with the important exception that the amount of the bounty is cut down from \$5 to \$2.50. Inasmuch as the expense to the State for extermination of these pests has been very heavy, no serious objection will be made to the reduction. The feeling on the financial feature of the law was very significantly shown, however, when it passed the amendment by a vote of 36 to 35, while the main bill passed by a vote of 41 to 24. New features of the proposed law are that coyote scalps shall be burned in the presence of boards of supervisors, and it is unlawful to import the scalps from another State.

SHIPMENTS of fruit in Southern California are held back by reports of prevailing cold weather in the East. The prices of oranges at Pomona are now \$1.10 to \$1.25 per box for seedlings, and \$2.15 to \$2.50 per box for navels. Fruit growers can make money at these figures, but they are convinced there will be material improvement in the market within the next 30 days. Much depends, of course, on the condition of the Florida crop. Advices from that State confirm previous statements that the late frosts were most damaging, not to say destructive.

FULL PARTICULARS of the proposed consolidation of the spring wheat flour millers in the Middle Northwest show that it will be the most powerful trust yet organized in America, outside of the Standard oil and steel beam combines, but its features are claimed to be an improvement on those of most trusts. Pillsbury and other prominent men are in the directory. Up to date, however, it has not been explained in what particulars it will be an "improvement" on other trusts. Perhaps it will be in advantages to those in the trust.

THE Sutter Horticultural Society has elected the following officers to serve for the ensuing year: B. F. Walton, President; B. F. Frisbie, Vice-Pres.; F. D. Walton, Sec.; W. H. Campbell, Treas.; H. P. Stabler, Entomologist. Directors—R. C. Kells, H. P. Stabler and P. L. Bunce. Steps toward formation of a local fruit union have been taken. The Sutter County Society is developing into a very efficient organization.

RELATIVE to the orange season, the Santa Ana Blade says: "The crop is the largest ever grown in this county, and in size and quality the fruit can hardly be excelled. Prices are all right, and growers are well satisfied." Truly, a most happy combination of conditions.

Proposed Changes in Road Laws.

A strong effort has been, and is being made in the legislature to change the new road laws, and several bills have been introduced for that purpose. A Senate substitute for these has been adopted in committee. Following are the salient features of the proposed amendments:

An owner or occupant of land adjoining a highway may plant a line of deciduous fruit trees along the road, provided that the supervisors may order the whole width of the road reserved for traffic.

Each supervisor should be road commissioner in his supervisor district; see that all orders of the Board are executed, and receive as commissioner 20 cents a mile while traveling in the interest of the roads.

The boards of supervisors shall have general supervision over the roads of their county. They must by proper ordinance: 1. Lay out and work all necessary highways. 2. Keep a record of public roads. 3. Abolish or abandon roads. 4. Acquire right of way over private property for roads. 5. Levy a tax for road purposes. 6. In their discretion, erect mile posts and guide boards. 7. Cause the road tax to be apportioned to the several districts. 8. Audit claims against the different funds. 9. In their discretion, establish gates on the highways. 10. Provide for the watering of roads. 11. In their discretion, advertise for bids to grade, construct or otherwise improve or maintain roads.

The road commissioners must take charge of the highways within their respective districts and shall employ all men, teams, etc., to maintain the roads, construct new ones, etc., when such work is not let by contract.

Stamboul's Record Stands.

The board of appeals for the Pacific district of the National Trotting Association, after an investigation lasting some days, have found that Stamboul's 2:07 1/2 record, made at Stockton, November 23d, 1892, was properly and fairly made. Henry M. McHugh, who attempted to levy blackmail by threatening to disclose alleged facts about the performance, is expelled from the association and John S. Kearny and John A. McCloud, his coadjutors, are suspended.

It is further found that all the records made on the Stockton track from October 13th to November 23d, 1892, inclusive, shall stand, all requirements having been strictly and legally complied with. The Board says in making the findings for Stamboul: "We believe the effort made to discredit the time was for a malicious and dishonest purpose, and we find the charges supported by no reliable evidence, but that the parties active in making the charge are implicated in a conspiracy to levy blackmail."

Mutton Goes Up.

A scarcity of fat stock has caused the price of choice mutton to mount a few cents on the pound, and a corresponding wail goes up from the housewife. The advance, however, will not last long, as grass-fed sheep will soon be on the market, causing the price to drop again.

The butchers say it is the usual spring rise in this channel of commerce, which came a little earlier on account of the severity of the winter all along the coast. Food was scarce and it has been close cropping for the flocks. The new grass crop has been delayed and sheep are somewhat emaciated in consequence.

Juicy sheep are scarce in California at present, choice stock being drawn from the hay-fed folds of Nevada. Chops have advanced about three cents on the pound, but with the advent of the new grass crop the supply will increase.—The Call.

Sale of Desirable Horses.

On Thursday and Friday of next week, March 2 and 3, Messrs. Killip & Co., live-stock auctioneers, will offer at the Bay District track a fine lot of standard and high-bred trotting mares, colts and fillies and first-class roadsters—the property of J. A. McDonald. The sale will comprise 160 head, and will represent all the popular breeds known upon the coast. Prominent among the strains represented are Guy Wilkes, Director, Sable Wilkes, Leo Wilkes, Rupee-Sidney, Gen. Benton, Eclectic, Dawn, Dexter Prince and Pancoast. The colts and fillies are mostly by sons of Electioneer, Director Jr., Stamboul, Simmicolon and other noted horses. This will be the choicest offering ever made in this State, and is worthy of the closest attention of breeders and the public generally. The catalogues are now ready and can be had of Killip & Co., San Francisco.

Another Bit for a Self-Sucker.

TO THE EDITOR:—I see in the RURAL PRESS a device to prevent a cow from sucking herself. I had one of the worst cows I ever saw. I tried this same thing, but it was not a success. I then took a common bridle bit and put it on as you would on a horse, leaving the bit a little loose in her mouth. It broke the cow entirely of sucking herself. She will soon become used to it, and will eat and drink without any inconvenience. S. S. INGHAM, Ingham's Ranch, Tulare.

A New Nursery Firm.

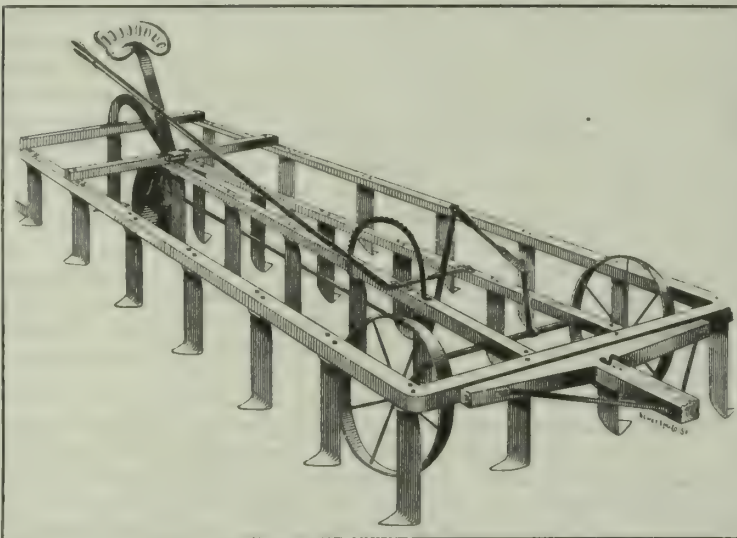
Articles of incorporation of the Pacific Floral and Seed Co. have been filed with the County Clerk. The purpose of the corporation is to do a wholesale and retail nursery business. The capital stock is \$25,000, divided into 25,000 shares of the par value of \$1 each. The directors for the first year are J. E. Depue, Isaiah Bray, W. W. Saunders, C. A. Smith and F. J. Brainard.

The Webster Cultivator.

The illustration given herewith shows the improved cultivator patented by J. V. Webster, of Creston, San Luis Obispo county. The teeth of the cultivator are so constructed that they will present as little obstruction as possible, will cut up and loosen the soil, and may be made adjustable with relation to the line of travel to suit the conditions under which they are to work. A combination of levers is adopted by which the whole of the framework of the cultivator may be raised or depressed simultaneously without changing its plane of motion.

The arrangement of the timbers is such that the teeth on the outside timbers stand with relation to the line of travel so that each tooth stirs and cultivates the soil in a line which will just meet and overlap the line of the next adjacent tooth; and the rear tooth upon each of the outer timbers is in such a position with relation to the front tooth of each of the inner timbers that these latter just overlap and continue the track made by the outside teeth. Land-sides extending backward steady the machine and prevent it sliding. By this arrangement the whole of the soil from one side to the other for the complete width of the cultivator is thoroughly disturbed and agitated by once passing over the ground.

A peculiar tooth is employed consisting of a broad, thin blade of steel. The front edge of the shank of the tooth is beveled upon one side, this side being the one which will travel next to the land; the attachment at the upper end of the shank is such that the shank and tooth may be turned with relation to the line of travel so as to be thrown a little to one side or the other of this line, so as to lessen the draft or give a greater or less turning capacity. The front edge of the shank is made so sharp that it will cut up soil of the hardest description. At the bottom the shank is turned abruptly into a nearly horizontal position with reference to the vertical plane, but the rear portion is turned up slightly



J. V. WEBSTER'S CULTIVATOR.

more than the front and is extended so that it makes a triangular-shaped tooth having a beveled edge which is sharpened in the same manner as the front edge of the shank and in continuation of the same. By turning the shank of this cutter and adjusting it with relation to the line of travel the position of the foot or lower portion will be correspondingly changed and the cut will be varied to correspond. By means of a single lever the whole of the teeth of the cultivator may be correspondingly raised or depressed to vary the cut which they take in the soil. It is thus easily adjusted to a practicable weedcutter operating at any desired depth. We have good reasons to believe the patentee has made a good invention that will render cultivation practicable to a wider range and extent than heretofore. The inventor is a practical and studious farmer who has made this marked improvement as a matter of necessity for the better and more economical cultivation of his soil. He will give further information on application.

Gleanings.

ORANGE is raising \$1000 as a bonus for a cannery. California needs not only more canneries, but more henneries.

THE Anaheim irrigation district has closed a cash deal for the sale of \$170,000 of its bonds at 90 cents on the dollar.

A GRAPE-SYRUP FACTORY will probably be established at Fresno, by capitalists interested in the California Grape Food Company at Los Gatos.

WHATEVER ELSE may be said about the causes of the late war in prohibition Kansas, let no misguided moralist raise his voice in horror and cry that whisky did it.

"CALL it Lee-lee-wo-ka-la-nee and you will have it right," confidently asserts the Los Angeles Express. Call it anything else, and nobody will know you're wrong.

SCHOOLS of curious eyeless fish are said to infest the dark sewers of Fresno. They are not the only creatures in California who are blind on the question of good sewerage.

BUTTE COUNTY SUPERVISORS have awarded a number of contracts for repair of old and construction of new roads. Butte is in the van of progress for the good-road movement.

NOTHING short of act of Providence will avert the threatened invasion of crinoline, it seems. Fashion papers are all in a bustle, "hooping up the crinoline," so to speak.

TWO deaths occurred near Santa Cruz last week from eating mushrooms. They were Christopher Patton and his three-year-old son. It is thought the mushrooms grew in poisonous soil.

A TWELVE-FOOT SECTION of a twenty-nine foot redwood tree will be sent from Humboldt county to the World's Fair as a small specimen of what that fine county will produce in the timber line.

A YOUNG MAN died at Santa Paula the other day from excessive cigarette smoking. Tobacco is bad enough, but cigarettes (nobody knows what's in them—it's not tobacco) ought to be wiped out.

A DRUGGIST on the sunny side of Market street, San Francisco,

whose thermometer registered 90 degrees last Monday, found it necessary to add the following postscript: "This thermometer is correct."

IT has been decided that the chief articles of decoration for the California State building at the World's Fair shall be palms, imitation redwood trees, pampas plumes and stuffed bears, ostriches and peacocks.

THE dog-poisoner is pursuing his wicked practices in Chico. The penalty to the perpetrator of such meanness ought to be a sentence to eat his own food for ninety days, or a less time, if satisfactory results can be reached.

AN ABSENT-MINDED CITIZEN of Sonoma County, much annoyed by raids of his neighbor's chickens in his garden, creeping through holes in his fence, used all his spare stove-pipe stopping up the holes, and hasn't yet found out why the chickens still keep coming through.

TWO steers, weighing 8040 pounds, are on exhibition in the southern part of the State. One is named "Cleveland," the other "Harison." These names are conspicuously proper, for the respective admirers of these distinguished gentlemen are convinced that each weighs several tons.

THE bacon house of a citizen of Truesdale, Monterey county, was recently robbed while the proprietor was at church. This is not necessarily a warning to stay away from church. Not at all. It will simply teach lucky owners of such tempting luxuries to take their bacon to church with them.

A TULARE DEBATING SOCIETY has decided that Hawaii should be annexed. Well, we're glad that question's settled. Now we can devote our entire time to solemn contemplation of the Woman's Press Association wrestling with that other great problem for women and statesmen, the crinoline.

A GOOD HOUSEWIFE over in Alameda, who read of the recent atrocious death by fire of a negro in Texas, and who was in some manner thus reminded of her daily experiences frying meat over a hot fire, remarked that this was not the only instance she had heard of a person "burning at the steak."

JAMES F. BOTHWELL has returned from the East with agreements from Eastern capitalists to furnish money for the completion of the Mokelumne canal. This is an enterprise which has been undertaken and abandoned by two separate companies. Citizens of Lodi are much pleased over the prospect of final success.

THE Oroville Register lays down the following as a rule of conduct for road supervisors: "The road overseer who hauls red dirt on a highway ought to be sued for damaging a public road, for the dirt grinds up into a thick, sticky, paste-like mud that makes a road as bad as any road can be during wet weather."

SOME NEWSPAPER MAN having started the report that a girl at St. Helena kneads bread with her gloves on, an esteemed contemporary rises to remark: "We need it with our shoes on, with our pants on, with all our clothes on. We need it doggoned bad, and if our delinquents would pay up we would buy a whole baker shop."

AN UNKIND CRITIC suggests that those virtuous legislators who defend the coyote bounty law on the ground that coyotes devour the other great pests, the jackrabbits, might simplify matters a great deal and prevent predatory raids on the public treasury, if they would place the bounty on jackrabbits and pay it directly to the coyote.

FRANCIS MURPHY, the famous temperance orator, intends to locate and make his home in Butte county. He has purchased a forty-acre tract of land near Oroville, and will at once have twenty acres of it planted to oranges. Next in order will be the "blue ribbon" orange. It is likely also that Mr. Murphy designs raising potatoes and other Murphies.

AN EXCHANGE at Covina deplors the fact that a barber shop has been opened up there in the front part of a saloon. Speaking of the tonsorial artist it says diplomatically: "We look upon him as a gentleman and understand he is a first-class barber." Naturally the editor wants to avoid any risk of having his spirits served up in a shaving mug.

THE ladies of San Mateo county have decided to erect a redwood pavilion at the World's Fair as a part of the county exhibit. An interesting part of the exhibit will be Pigeon Point lighthouse in miniature, constructed entirely of pebbles from the famous Pebble beach near Pescadero, the work of the ladies of that place. There will also be a complete exhibit of the wild birds of the county, and of wild flowers, ferns and mosses.

A CITIZEN of Sanger put meat on a hook, dropped a line over a neighbor's fence, and, one night, in a moment of abstraction, pulled in the line and hook, and to his surprise found a neighbor's chicken had swallowed the bait. Much embarrassed, he concluded the best way out of the trouble was to kill and eat the chicken. The neighbor had seen the piscatorial feat, and demanded the highest market price for the fowl. Now the chicken-fisher is engaged in a holy crusade for revision of the fish laws.

THERE is a scheme on foot to reclaim 250,000 acres of the Mojave desert by building a dam across Victor Narrows, forty-five miles north of San Bernardino, to collect the water of Mojave river and irrigate from it. The proposed dam will be 171 feet high and 75 to 150 feet long. The plan would necessitate the removal and rebuilding of eight miles of the Southern California track; and altogether it is estimated the dam and canal will cost at \$1,500,000. Los Angeles, Riverside and Eastern capital is interested in it.

THE following are given by the Newcastle News as fruit shipments from Placer county during 1892:

	Pounds.
Newcastle	14,132,143
Penryn	5,224,505
Loomis	1,250,800
Auburn	789,589
Colfax	512,415

Grand total, 1892..... 21,999,452
Grand total, 1891..... 18,650,669

Total increase..... 3,258,783

THE following restrictions to hunters are now in force, and may be altered at the present session of the Legislature, but until change is made, must be enforced: Every person who in the State of California, between the first day of March and the first day of October in each year, hunts, pursues, takes, kills or destroys any quail, partridge or grouse, or any kind of wild duck or rail, is guilty of a misdemeanor. Every person who, in any of the counties of the State of California, hunts, pursues, takes, kills or destroys any male deer, antelope, mountain sheep, or buck for the period of two years from the date of the passage of the act, March 1st, 1891, is guilty of a misdemeanor. Persons having in their possession any green hides or any green skins of these animals after the passage of the act, and before the expiration of two years from the date of the passage of the act, are also guilty of a misdemeanor.

VIC PERRY informs the Lassen Mail how he has "got the drop" on numerous jackrabbits that have been foraging on his hay of late. In building an inclosure for his favorite cow he boarded the fence up tight, leaving, not by design, however, a small hole. The rabbits were quick to take advantage of this opening, and slipping through it they very materially assisted the cow in getting rid of her regular allowance of alfalfa hay. Vic discovered them at their pleasant pastime, and sallied out among 'em with his old dog. In their fright the rabbits could not see the opening by which they entered, and consequently paid the penalty of their love for alfalfa. Tuesday morning, Vic says, the victims were seven in number, and as the trail on the outside is by this time pretty well marked, he expects to continue on in the good work indefinitely. Now, if Mr. Perry will again forget himself and leave another hole through which coyotes may creep and allow them and jackrabbits to fall on each other, he will have discovered a scheme for killing the two pests in one pen that beats the ordinary bounty scalp-getter all hollow.

RURAL IMPROVEMENT.

Farmers' Institutes.

TO THE EDITOR:—Mr. W. H. Morrison, superintendent of the Wisconsin Farmers' Institute, University of Wisconsin, having favored me with a copy of Bulletin No. 6 of said institute, by your leave, I wish to tender my thanks for the same through the columns of the RURAL PRESS.

In a circular letter accompanying the work Mr. Morrison says:

"We hold from 76 to 100 two-day institutes each winter. At the closing institute all our workers come together for a three-days' conference or experience meeting, and an experienced stenographer gives a verbatim report, and Bulletin No. 6 is the result.

"Our workers are all farmers, the most successful that can be selected, and their talk and experience smacks of the soil. We long ago came to the conclusion that the only way to reach the farmer was with the intelligent business farmer.

"In your writings, and when attending farm institutes or conventions, please say a good word for the Bulletin, and advise every farmer to send for a copy."

On the title page it is stated that 40,000 copies are issued; also on the same page are some words of encouragement to young men on the farm, from our worthy Secretary of Agriculture, J. M. Rusk, which are as follows:

"I say understandingly that the young of our country who will bring to agriculture the education and intelligence—the industry and perseverance essential to success in every other career, whether mercantile, industrial or professional, will, in the course of the next twenty years, attain a far greater degree of material well-being, on the average, than awaits them in any other calling."

Such words, spoken in a time of general agricultural depression, by one who has had large opportunities for observation in matters pertaining to farmers and their calling, are well calculated to encourage young men who intend to follow agricultural pursuits to use every means in their power to improve their opportunities for learning all that is to be known of the most improved methods in any branch of agriculture that is likely to be applicable in the particular or special branches they may intend to follow.

The discussions on the various subjects embraced are mostly interesting and instructive, yet I cannot but think that some of the speakers claim that too much can be learned by students for the time given, especially in what is called the short course of study, which consists of two terms of 12 weeks each, both of them in the winter of two consecutive years. The long course requires four years of study, which is not too long a time for an ordinary student to accomplish all that is claimed can be learned in the short course in a paper by Hon. C. R. Beach, of Waite-water, Wis. He says: "Let us look for a moment at what is taught in this course: Breeding and all that pertains to it; how breeds originate and how perpetuated; the points that indicate excellence in the various breeds of horses and cattle, so as to qualify one for judging or selecting them; feeding for certain purposes; the composition of the various feeding crops grown on the farm and how to combine them so as to get the desired results," and so on through several other branches, not the least of which is "dairying, the composition and handling of milk," besides "something of veterinary science, so as to determine unsoundness in animals or detect and administer to common ailments." In the next paragraph he says: "It aims to give the scholar a start in a scientific direction; to teach him to plan intelligently rather than depend upon chance or to work blindly."

That it may do. It no doubt does ingraft in the mind of the student a more intelligent way of thinking and planning than he might ever have been able to put in practice without first having gone through certain courses of study which have the advantage of training one to fix his thoughts entirely on the work under consideration for the time being.

But what about experience? Some, ranking among the best farmers that ever lived, have been wont to say that that is the best teacher. In any case, it would require a good deal of it, added to what is learned in the courses, as outlined above, before a man would be able to at all times act in a thoroughly intelligent manner in all things connected with farm work. Then, too, a smack of *perseverance* needs to be added to the experience, for, taking one year with another, there are discouragements and drawbacks, to say nothing of losses, in all our undertakings, and these must be overcome before success is attained in all things.

Experience will also apply in a very practical way to what the same speaker says further on, viz.: "We may say that men become successful farmers without scientific learning or much learning of any kind except what they have learned from experience and observation. True, but it requires the experience of a lifetime, and then in the special line in which they have qualified themselves they are not half so likely to be right or half as able to give a philosophical reason for what they do as the boy fresh from the short course in agriculture. A milk-tester in the hands of one of these boys will beat the judgment of the best dairymen in the State in determining the value of a dairy cow, or in mixing a ration for a fattening steer he will match the best cattle-feeder in the State, or the best jockey in pointing out the indications of speed in a trotter."

Not many practical men will be ready to admit of the correctness of all that is claimed for the college boy in the above quotation.

Boys are apt to presume a little too much on their learning, and think they know all about many things that they can practically know very little about without first having gone through a few years' course of "experience and observation." With all due deference to chemically-composed "complete rations," these (experience and observation) have been the best teachers of successful cattle-feeders, and, if I had a

steer in course of preparation for the fat-stock show, or a herd of cattle to exhibit at the State Fair, it would be the experienced feeder I would want to have prepare them, and not one who had little or nothing but theories and recipes for "complete rations" to depend on.

In regard to "determining the value of a dairy cow," if the writer had said milk instead of dairy cow, he would have been quite right, but there are so many things which go toward determining the value of a dairy cow, that few dairymen will admit of the milktester deciding on every point of value.

By all means let "practice and science" go hand in hand, but it is not well to claim too much for either one separately, in matters that pertain to agriculture.

The principal topics discussed in the bulletin are: "The making, saving and application of manure;" "Thorough tillage of the soil;" "Maintaining the fertility of the farm;" "The feeding of sheep and swine;" "Dairying in its various branches;" "The importance and economy of good roads, and how to make them;" besides several other interesting subjects intelligently discussed.

All who are interested in the subjects above named should send for Bulletin No. 6, Wisconsin Farmers' Institute, to W. H. Morrison, superintendent, Madison, Wis., who says: "You can recommend it as a guide or manual for farmers' meetings, as the short papers or talks, questions and answers, all have a tendency to elevate farming to a profession." Whoever sends for it will be sure to find much of interest in it.

ROBT. ASHBURNER.

Baden, San Mateo Co., Feb. 22, 1893.

THE APIARY.

Bees vs. Fruit.

Read before the California Beekeepers' Association at its late session, Los Angeles, by R. Touchton.

This subject has been pretty thoroughly canvassed, and settled to a great extent, in the Eastern States, without prejudice to either industry, but it is different here. It is true there has been considerable agitation on the subject, but the only settlement of the dispute so far has been when the beekeeper moves out and leaves the field to the fruit-raiser. Some fruitraisers—but not all, I am glad to say—seem to think that they have certain inalienable rights which all beekeepers are bound to respect, and foremost among these, the right to compel every beekeeper to move his bees away and out of reach of their fruit, without regard to the proportions of the business. The beekeeper may have been established in business for a number of years, producing 10 or 20 tons of honey annually. His neighbor, a farmer, sets out a few fruit trees. As soon as they begin to bear and the fruit ripens he finds the bees working on it. It is then he goes to the beekeeper, with blood in his eye, and demands that the bees be removed. They are eating up his six bit's worth of fruit. They must be moved or he will poison them. Well, a great many beekeepers have moved out on this account, and some have sold out and quit the business to save trouble. Being good-natured themselves they wanted to keep their neighbors good-natured also.

But is it not time to call a halt? It is useless to move. The fruitraiser follows up close in the rear. Every beekeeper in California would soon be driven out of the business, if he were compelled to move his bees away from and out of reach of every vineyard or orchard. But let us go a little deeper into this subject. Do bees puncture sound fruit? I answer, No! And it is the answer of all scientific men who have investigated the subject. I once placed a bunch of ripe but sound grapes among a cluster of bees, and confined them to the hives, taking away all their stores. The bees starved, but the grapes were not punctured. Similar experiments have been tried at the experimental stations, with similar results.

If it were the nature of bees to puncture or tear open fruit to get at the juice, they would also tear open flowers, too deep for them to reach the honey; but I have never heard of a case of this kind yet. It is generally conceded that red clover contains more nectar than white clover, yet it is very rarely that honey bees work on it; and some beekeepers have been trying to breed a strain of bees with a proboscis long enough to reach the nectar in red clover. If there is any fruitraiser who knows of any honey bees that will bite into sound fruit, he can make a fortune by buying up those bees and sending them to the red clover fields of the East, for if they will bite into the fruit they would also tear open the clover, and many other flowers that contain so much honey that I have seen children pluck them and suck out the honey, but were too deep for the bees to reach. But let me consider one of their main arguments. "Seeing is believing," they say; "don't you see the bees there on the fruit?" "Yes," said I to one neighbor who used this argument, "I see; but do you see these little holes here in your grapes made by the bill of a bird, with the skin flaked up as though it had been done with a sharp stick?" "Oh no," said he, "the birds did not do it. There are no birds here. The bees did it all." "Yes," said I, pointing to a watermelon close by, "they have bored a hole in your melon there, too, and are sucking out the juice." "Oh no," said he. "A squirrel did that." "But," said I, "there are no squirrels here. Seeing is believing; here is the evidence; the bees are working on the melons just the same as on the fruit. If they bit into one they did into the other also."

No, seeing is not always believing, especially when you don't see aright. A lady was telling me once how the ladybugs were eating up and destroying some of her flowers, but I soon convinced her that the ladybugs were her friends. They were simply feeding on and destroying the real enemy—lice.

"But," says one, "conceding that bees do not puncture sound fruit, do they not injure fruit?" Yes, the fruit of the

careless fruitraiser, fruit that becomes overripe and begins to decay or cracks, or is punctured by birds, wasps, etc. That is, the bees will follow up the birds or insects, and suck the juice out of every crack or crevice they can get into, if at the time there is a dearth of honey.

I presume that some people think when they see bees working on grapes or other fruit that they are storing honey and perhaps making a surplus for their owner. And I think this is one reason why fruitraisers are so opposed to having bees near their orchards. I mean other folks' bees, for they often have a few hives of their own. They think the beekeeper is making money off of their fruit; when the fact is they would starve if they had no honey in the hive and were depending solely on the fruit for a living.

"But," says another, "I can't dry my fruit in the sun on account of the bees." Well, my good friend, will you quit burning coal in your kitchen stove, because the soot from your chimney falls on and blackens my washing hanging out in the backyard? I think not. And are you as scrupulous in regard to the rights of others as you would have them be toward yours? If so, why do you allow trees infested with scale or other injurious insects to grow in your orchard to the detriment of your neighbor? Why do you not spray your trees, and pick up your wormy fruit, and use all necessary means to protect your own interests as well as your neighbor's?

The fact is the bees are the friend of the fruitraiser. If they would make war on the real enemies of fruit culture, and pick their fruit before it becomes overripe, allow no decayed or overripe fruit to lie exposed to attract bees, and screen in all trays of fruit to be dried in the sun, and all wine or cider presses and leave nothing exposed to attract the bees, there would be but very little trouble from this source.

Beekeepers and fruitraisers, instead of being enemies, should be friends. And a good many beekeepers already have orchards growing in the vicinity of their bees. I have in mind one beekeeper who has a vineyard of four or five acres only a few hundred yards away from his bees, and who has made raisins for a number of years—raisins that have taken the premium both in Los Angeles and Ventura counties. During this time there has been as many as 1000 hives of bees located within a mile of his vineyard, yet I have seen 10 yellow-jackets to one honeybee working on his grapes and raisins.

Yes, I think the honeybee a friend to fruitgrowers. Some trees and plants require the agency of bees or other insects to fertilize and make them fruitful. In fact I believe that they are a benefit to all flowering trees and plants. I have been informed by good authority that the cherry orchards of this State became unfruitful after the bees were removed from the vicinity, and that they became fruitful again after the bees were brought back for that purpose, and I have read of similar instances East. Where the bees were removed out of a fruit-growing belt, the trees became unfruitful and the orchardist glad to get the bees back again. There are some varieties of strawberries that are not self-fertilizing, and require the agency of either the wind or bees to transmit the pollen from those that are self-fertilizing. If they were depending solely on the wind a great deal of the pollen would waste its sweetness on the desert air. I have also heard it stated that in New Zealand they had to import bumble-bees to fertilize red clover in order to produce the seed in that country.

The foothills that skirt the valleys of southern California from Santa Barbara to San Diego—and I presume in many other portions of the State also (but I am only acquainted with southern California)—should be the homes of beekeepers and fruitraisers, living together in harmony. Or, what would be still better, every such fruitraiser should be a beekeeper and vice versa. There are a great many practical beekeepers who would like to engage in the business if they could live in society and have the ordinary home comforts, such as they could have along the foothills of our valleys, but if they have to go back into the mountains and away from society, they beg to be excused. I have had numerous letters from eastern beekeepers inquiring about the business and a chance for investing in it. But when I wrote them the true facts in regard to the business as carried on here now, they were satisfied to stay at home. Therefore, in the face of the existing facts it is time to come to the front and defend their interests as against the encroachment and opposition of the fruitraiser, and adjust the differences existing between them if we hope to maintain our position as the banner honey State of the Union.

This is an era of trusts and combines, and cooperative institutions are the demand of the hour. Then let us cooperate, let us stand as a unit for our just rights.

The fruitraisers by concerted action have done, and are doing through State aid, good work in destroying and checking the ravages of fruit pests. The beekeepers have also secured State aid to help fight the ravages of foul brood among bees, all of which has my hearty sympathy and support. I do not wish to be understood as antagonizing the fruit industry. Quite the contrary. But I do not propose to be driven to the wall through ignorance or misconception of the facts without entering my feeble protest, and any effort on the part of the fruitraisers to secure legislation unfriendly to the interest of the beekeepers should be properly checked. Legislators are not always posted on bee-culture, and are often misled, and I would suggest that this convention, being a State convention, appoint a committee to look after our interests along this line, prevent any unfriendly legislation and secure needed legislation if any is needed in the interest of bee-culture.

The National Beekeepers' Union is an organization for the better protection of the interests of beekeepers, and has done good work in defending its members, when prosecuted by fruitraisers and others. It is an organization that deserves our hearty support. It only costs \$1 a year to become a member, and as there is no State in the Union where a conflict between fruitmen and beemen is more likely to arise, every beekeeper of this State should become a member and have its protection. You can then say to your unfriendly neighbor who is about to raise a rumpus

on account of your bees: "My friend, you had better go a little slow, you will have a big job on your hands. I can not call 12 legions of 'Angeles' to my assistance, but I can call legions of beekeepers, with the best legal talent in the United States to defend me." And if he is a wise man, he will consider the error of his way and let the matter drop.

SWINE YARD.

A Word About Swine.

TO THE EDITOR:—I do not remember whether or not I have ever said it in the RURAL PRESS, but it will bear to be said (and will probably have to be said many, many times before it is heeded) that one of the most widespread and calamitous obstacles in the pork-raiser's career is just the simplest, most ancient and least noted thing imaginable, being nothing more nor less than *constipation*.

If a valued pig or a herd gets the "scours," the owner knows the cause of the subsequent disasters; but not one out of a thousand ever notes the contrary case when it happens, which is much oftener. The poor constipated pig suffers on, languishes and loses money for his unobserving owner. The owner wonders why he does not eat. If he bought the pig, he perhaps concludes he has been cheated, and did not get a healthy animal. Seeing no sign of "scours," nor of any other disease he knows of, he gives it up as a case beyond his comprehension.

When I am told that a particular pig or litter does not seem to thrive as it ought, my first question is "Are you sure it is not constipated?" The answer is too often unsatisfactory, for the trouble is one by its very nature not easily detected. It should be looked out for at all times and in all cases where it can be and corrected at once. If the average value of an ounce of prevention is equal to that of a pound of cure, it should be rated half a ton in complaints as easily overlooked as this.

A man knows, if he thinks of it (which of course he never does), whether or not he is keeping his herd under conditions tending to constipation. A stubble field, any exclusive diet of dry feed, close confinement preventing exercise, especially on a floor, and of course any kind of astringent food or the lack of sufficient water, are but a few, if the commonest causes, of the trouble. It is not always possible, but neither is it necessary, to avoid these conditions. They may instead be counteracted.

Pigs living under constipating conditions should always have free access to salt (rock salt is preferred), ashes, coal (either mineral or c ar) and the largest obtainable lumps of brimstone. They will eat all these greedily, though not in large quantities, if regularly supplied. The ashes will not only keep off rheumatism, but will make the bones grow. A pinch of bonemeal in each feed is said by U. S. experiment stations to have similar and very striking effects. The brimstone alone will keep the bowels open, and besides is cleansing to the pig's flesh and death on his internal parasites. The coal has, in addition to other medicinal properties, that of absorbing and condensing the gases that form in the stomach and bowels from certain diets, thus keeping the pig from getting "pot-bellied." The good effects of common salt in the system are not yet all known.

At one time during the Dark Ages the Jews had a monopoly of the practice of medicine. Like the Jews of sacred history they had a penchant for proverbs. One of the most ancient and universally honored of these I would recommend to every hog-raiser: "Trust in God and keep the bowels open." If you can't do it by affording a grass or other vegetable or loosening diet, do it anyhow.

As a diet for this purpose California's barley is better than Iowa's corn. The long dry summer is perhaps worse than the cold winter, so far as goes bringing in the disease, but the danger of overdoing the cure is not so great. Purging in cold weather weakens and chills either man or beast.

Niles, Cal. HENRY J. PHILLPOT.

P. S. A purgative dose for a hog in ordinary flesh is the same in size and material as for a human being of the same weight. For an injection a tablespoonful or two of warm water mixed with half as much glycerine is better than any amount of water without the glycerine, and will do for any hog or any man.

H. J. P.

Fattening Food for Hogs.

The following seasonable advice is given by the Santa Maria Times:

"For profit and for making meat of the most desirable quality, pigs should be brought to a marketable size and weight as early as possible. When from 200 to 250 pounds for the dressed pig is reached, it will be, if properly fattened, in the best condition for family use. Corn is the usual fattening food for hogs, but it is becoming understood that a diet which will give a better distribution of fat and lean makes more desirable meat. This means that other substances besides corn should be used for the growth of the young animal. Alfalfa is excellent; pumpkins are good and cheaply raised; skim milk is one of the best, and during the summer a variety of foods are available for forcing the growth of pigs, leaving corn to round up with at the close. Again, hogs cannot be profitably fattened in cold weather, and keeping them late into the winter for a gain in weight is not practiced by our progressive farmers."

Swine Notes.

Watch the pigs and see that they keep in good condition. Their tails are a valuable index, as kinky tails mean lively pigs.

A streak of lean and a layer of fat, the latter not too thick, is what the consumer demands. Can you meet his requirements?

When buying a new boar get one of the class whose

business it is to turn farm products into pork. There is a wide difference as to the adaptability for this work, both breeds and in individual animals.

Good breeding and good feeding are so closely related that they must go together; one is useless without the other. By neglect we can run down a herd of pigs as fast as a good breeder can breed them up, and, on the other hand, we can feed up a herd of swine as fast as they can be bred down. In other words, a good feeder, but bad breeder, can bring up a herd as fast as a good breeder, but bad feeder.

POULTRY YARD.

Hen and Duck Account.

Mrs. James Colvin, a lady living near Kent, Wash., is an expert in keeping fowls for profit. She succeeds with them because she takes an interest in them and studies their likes and requirements. By request, she gives the Kent Journal her hen and duck account for 1892. There is no guesswork about it, for each day's receipts and expenditures were accurately recorded.

On January 1, 1892, Mrs. Colvin started in with 75 hens, a mixture of Leghorns, Black Spanish and other breeds. From these she sold:

35 dozen eggs at 40c per dozen	\$ 14 00
15 dozen eggs at 35c per dozen	5 25
63 dozen eggs at 30c per dozen	18 90
209 dozen eggs at 25c per dozen	52 25
200 dozen eggs at 20c per dozen	40 00

Total.....\$130 40

During the season 95 chickens were sold at a little over 40 cents each on an average, realizing from their sale exactly \$40, making the total received from eggs and chickens \$170.40.

With the ducks (five White Pekin) the account stands thus: They began laying in January, 1892, and continued laying until July 6th, giving a grand total of 596 eggs. Of these, 42 dozen were sold at 50 cents a dozen—\$21. Young ducks were sold at ten weeks old to the amount of \$46, making the duck returns figure up at \$67. She has now on hand the original number of each, viz., 75 hens and 5 Pekin ducks.

Mrs. Colvin did not keep separate accounts of cost of feed for hens and ducks, but the total expended for all during the year was exactly \$52, or \$1 per week on the average.

She has seven persons in her family, and no account was kept of the eggs consumed. Allowing that not over two dozen per week were used—a very low estimate any one would say—and call them worth 25 cents per dozen, deduct the amount \$25 from the expense side of the account, and the outlay would have been but \$27.

The Breeding Turkeys.

New blood shows more improvement with turkeys than with any other kind of poultry. The best foundation is the common flocks. Discard all the males and procure a gobbler of some pure breed, and the next year let the gobbler be procured from some flock different from the first. A surer plan is to use a gobbler of one breed the first year and one of a different breed the next. As to which is the best breed of turkeys, we doubt if any breed can be said to excel the others. The Bronze turkey is the largest, but the point to observe is to secure hardiness and vigor, without regard to size, and this must be done by selecting the best hens and procuring a vigorous male each year.

Variety and Results.

In England, quite a variety of food is allowed, and the hens over there lay more eggs than the hens here, on the average. Barley, oats, rice, carrots, cabbage leaves and cooked foods from wastes are allowed. Wheat and corn are also given, but principally to the hens for market. Laying hens receive meat and bones, and milk is added to any ground grain that may be fed. The hens that are selected for laying are not expected to be of much value for the market, as there are special market breeds which are not, however, equal to other breeds as layers.—Farm and Fireside.

THE DAIRY.

How to Start a Creamery.

We make the following extracts from an address by a committee of the Indiana Dairy Association, entitled "How to Start a Creamery," and designed as advice to farmers of that State:

"We advise that creameries should be started by business farmers in localities where there will be guaranteed a sufficient number of cows to keep the creamery running and make the business profitable. The building should be built economically, costing not to exceed ten or fifteen hundred dollars, and the equipment should be purchased from a firm of known reliability as dealers in first-class dairy supplies. While the building is being erected, find out who are dealers in dairy supplies, correspond with all of them and let them know that, on a certain date, your creamery will purchase, if prices and equipment suit, their equipment at the creamery and that you would be pleased to have them there with samples. You will find that agents will be there with the best of goods and that they will want to sell. Thoroughly investigate all of the samples, and all that is said in their favor, and then buy the best; recollect that dairy supplies have rough usage and that they must be strong, stout and of durable nature. It might be advisable for the farmers in the vicinity of the creamery to go into the business as stockholders and secure some one who is a first-class dairyman to

come and help plan the building, select the equipment, and make the butter or cheese, as the case may be, for a while, until they can train one of their number or some person in their vicinity to do the work for them. Keep the building and every article in it perfectly clean; cleanliness is absolutely necessary to successful dairying. Recollect that no man can taste or smell perfectly that takes his toddy, smokes or chews tobacco, or has the smell of barn upon his clothes, it takes a perfect smeller and perfect taster to be a perfect butter-maker.

"There are four breeds of dairy cows from which you can choose, and they are Jerseys, Guernseys, Holstein-Friesians and Ayrshires; each breed has its friends. A cow for butter purposes is not profitable unless she is capable of producing enough fat in her milk to make, at least, three hundred pounds of butter a year. Any cow that will fill that requirement is a good butter cow, no matter to what breed she may belong. We advise every farmer that has a half-dozen cows, to build a silo at once and commence feeding silage as soon as it reaches the feeding state, which is about thirty days after being put in the silo. With silage we would advise that the cows be fed linseed-oil meal, or ground oats mixed with peameal, cornmeal and good, nice, bright oat straw, or clover hay. Without food and lots of it a dairy cow cannot be made profitable. Use pure spring or well water. Do not allow your cows to drink out of puddles, ditches or small streams; death and disease lurk in all such places. Keep the cow up. Keep her warm. She does not need much and she does not ask for much exercise. Buy a Babcock milk-tester and frequently test your cows, for the purpose of weeding out all unprofitable ones.

"Raise your heifer calves until they are old enough for you to make up your mind whether or not they will prove profitable if permitted to enjoy life.

"When the creamery is ready for business buy the milk or cream for the amount of fat there is in it, as shown by the chemical test. Don't let any dishonest farmer or any other man persuade you to buy or sell by the pound. By the chemical test you get pay for the actual amount of fat that you bring to the creamery. Keep it in mind that in buying by weight the dishonest man gets as much money for his one hundred pounds of water as the honest man gets for his one hundred pounds of milk which may contain four or more pounds of fat."

A Striking Difference.

The following, from the Inyo Register, carries its own moral:

"J. H. Bulpitt recently made a shipment of butter to Los Angeles, the lot including creamery butter, in rolls, and ranch butter, in both rolls and firkins. The creamery product sold for 66½ cents per roll, and the purchasers, noting the address, wrote at once to the factory, offering to take the entire output at the regular price, 55 cents per roll. The dairy butter sent at the same time was of good quality, but, being without the creamery stamp, sold for but 25 cents a roll, and 12½ cents a pound in bulk. This strongly illustrates the advantage which system in butter-making and uniformity of product gives in the outside market, and shows clearly that the creamery method is recognized as the true business in the general market."

THE FIELD.

Statistics of Farm Animals.

The report of the Government statistician upon the comparative numbers and value of farm animals, based on the returns of January, 1892, is nearly ready for publication. It shows an increase in horses, mules and sheep, but no material change in the number of milch cows; a decrease in oxen and other cattle, and a very heavy reduction in the number of swine. The estimated number of domestic animals on farms, ranches, ranges, etc., are as follows:

Horses.....	16,206,802	Other cattle.....	35,954,186
Mules.....	2,231,125	Sheep.....	47,252,553
Cows.....	16,424,087	Swine.....	46,094,807

The average values declined as to horses and mules and advanced as to cattle of all kinds. A greater gain appears in the value of sheep and a very large advance is seen in swine, amounting to 39 per cent, and has been progressing since the returns were made. The average value of horses is \$61.22; mules, \$70.68; cows, \$21.75; other cattle, \$15.24; sheep, \$2.66; swine, \$6.41. The increase in the aggregate values, as estimated, of all farm animals is from \$2,461,755.678 to \$2,483,506,676. The aggregate valuations are given as follows:

Horses.....	\$992,225,185	Sheep.....	\$125,909,264
Cattle of all kinds...	95,181,984	Mules.....	164,763,751
Swine.....	29,542,649		

Awards at the Citrus Fair.

The committee on rules and awards of the Mechanics' Institute and Citrus Fair made a number of awards of medals and premiums, of which the following are of public interest:

Class No. 40—Alameda county, for best display of California beet sugar, gold medal.

Class No. 45—Humboldt county, mineral water, bronze medal; Plumas county, gold medal, for best mineralogical display; the State Mining Bureau, diploma, for large, varied and valuable collections from various sections of the State.

Class No. 46—Sacramento county, gold medal and \$1000, for the best, most extensive and varied exhibit of farm products; Placer county, grand silver medal and \$600, for second best display; Alameda county, grand silver medal and \$400, for the third best display; Humboldt county, bronze medal and \$250, for the fourth best display; Butte county, silver medal and \$100, for the best display of wheat in grain and sheaf, silver medal and \$50 for the best dis-

play of barley in grain and sheaf, and silver medal and \$50 for the best display of oats in grain and sheaf; Sacramento county, silver medal and \$50, for best display of rye in grain and sheaf; Sonoma county, silver medal and \$50, for best display of corn in ear and stalk, excellence and variety considered; Sacramento county, \$100, for best display of cured forage plants and grasses; Sonoma county, silver medal and \$25, for best display of hops; Alameda county, silver medal and \$15, for best display of Chevalier barley in grain for brewing; Sacramento county, silver medal and \$25, for best display of jellies in glass (home-made), silver medal and \$25 for best display of jams in glasses (home-made), silver medal and \$25 for best display of preserved fruits in glasses (home-made), and silver medal and \$25 for best assortment and quality of pickles (home-made); San Luis Obispo county, silver medal and \$50, for best general display of vegetables, quality and quantity considered; Sacramento county, bronze medal and \$25, for second best display of vegetables.

The Hop Supply.

The New York Homestead of Feb. 15 publishes a complete exhibit of the world's supply and demand for hops for the current season ending August 31, 1893. The exact shortage in the world's supply is 3,500,000 pounds, which must be made up by the consumption of old stock. There will be enough on hand for the purpose. There is an estimated shortage of 6,000,000 pounds in the English supply, and England has yet to secure enough hops to meet the demand before the end of the season. It is noteworthy that while every effort has been made to keep the price of American hops much below 25 cents per pound foreign hops have been imported at a cost of 39 cents in addition to duty, thus showing that American brewers are willing to pay fully 55 cents for foreign hops while they begrudge 25 cents for American hops, which, on the whole, are infinitely superior to the imported article, which are mostly of cheap Russian growth, repacked in Germany and labeled as "Choice Bavarian hops, especially for export trade." The output of beer in this country increased by 500,000 barrels during the first four months of the present season ending January 1, 1893.

ENTOMOLOGICAL.

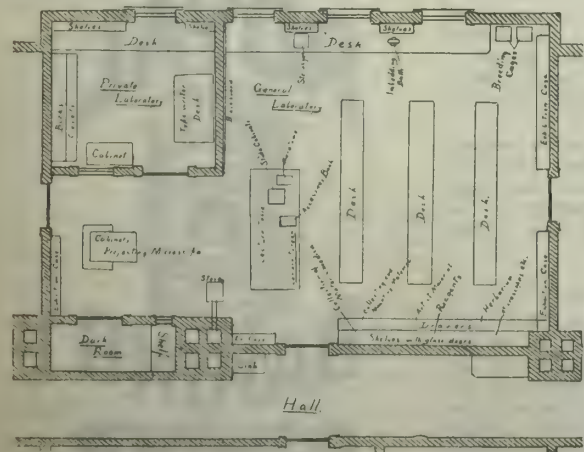
The University Laboratory of Entomology and Plant Diseases.

The growing demand for instruction in economic entomology and plant diseases has led to the equipment of a special laboratory for this class of studies in the Agricultural Experiment Station at the State University. Prof. C. W. Woodworth, who has charge of these subjects, recently prepared for *Science* a description and sketches of this arrangement and equipment, which we believe many readers of the RURAL PRESS will examine with interest. We reproduce from *Science* the full showing, as it embodies an arrangement for insect cases and a style of student's desk which may be suggestive to others who are working in this line on this coast.

There has recently been equipped at the University of California a laboratory for the study of the subject of plant diseases in its broadest sense; and, as there are but few if any others where the whole subject is taught as a unit, it may be well to give an outline of the equipment for this class of work.

We will not consider that part of the equipment for this work afforded by the grounds, orchard, nursery, gardens and greenhouses of the agricultural department, but confine ourselves to the laboratory proper. The subject of plant diseases is now, and will continue to be, associated with that of entomology, so that the same equipment, to a considerable extent, serves for the two subjects.

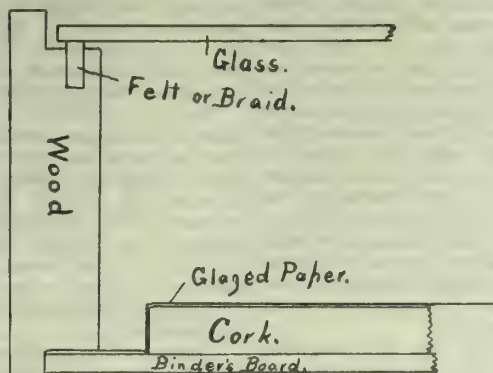
The laboratory-room is something over 20 x 30 feet, and is situated on the north side of the Experiment Station building. It is lighted by four windows, having an entirely unobstructed view, and so giving ample light for microscope work. A corner of the room is partitioned off for a private laboratory, and a closet is fitted with a ruby window, affording an opportunity for photo and blue-print work. The figure below will give a good idea of the arrangement of the room.



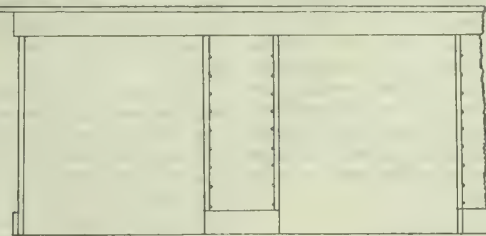
The windows are all fitted with heavy shades working in grooves, enabling one to darken the room very easily and quickly when the lantern is to be used for illustration. The views are projected on a screen of tracing-cloth, which is mounted on an ordinary spring-roller and is ordinarily rolled up out of the way.

Besides the benches near the windows, which are used by advanced students, there are also three long desks, 1 1/2 feet wide by 12 in length, that have proven themselves so

convenient that a sketch of one is presented. As can be seen on the plan, these are so constructed that at the side of each student, boxes, the size of those of the collection, may be used as drawers, or boards may be inserted, forming shelves.



The boxes used for the collection are made as shown in the accompanying figure, and are, from their peculiar construction, not liable to warp or crack, and so remain perfectly insect proof. The cloth bearing for the glass is treated with corrosive sublimate, and the paste and glue used are arseniated. These boxes are kept in cabinets, the glass doors of which are fitted with a rabbited groove on all four sides, thus making them also dust and insect-proof.



The collections kept in these cabinets are arranged in three series. Series one is the systematic collection, where the organisms producing injuries to plants are grouped in the ordinary order, beginning with mammals and ending with the higher plants. The second series is the "host" collection, where the various plants are taken up in an agricultural order, as, for instance, seed crops, fruit crops, etc., and the injuries to each particular crop illustrated. In the third series, the symptomatic collection, all diseases having a common symptom are brought together, thus all galls and distortions from whatever cause, or on whatever plant, are assembled and classified.

Besides these there are the beginnings of a cryptogamic herbarium in drawers and a collection representing the *materia medica* of plant diseases.

There are in the laboratory a sterilizer and all the other necessary apparatus for this class of bacteriological work. For microscopical and histological work there is also a good equipment, including paraffin bath, microtome suitable for the highest grade of work, compound microscopes and accessories, and a very good outfit of reagents.

All reagents, as far as possible, are kept in standard strengths, and the bottles marked to serve as graduates for dilution. Thus the chromic acid is made up in a large bottle into a 5 per cent solution. The 1 per cent solution is made by filling the bottle to contain it to a mark and adding water. Most of the chromic mixtures are made from the 1 per cent. The chromic-acetic killing mixture, for instance, is made, as is indicated on the label, from 1/2 per cent chromic acid to the first mark, 95 per cent alcohol to the second, and 10 per cent acetic acid to the neck. Mixtures liable to deteriorate are kept in small bottles, and such as the acid alcohols, for decolorizing, are not kept mixed at all, but large homo vials are properly labeled and the mixtures made up as used.

This sketch gives merely the present condition of the laboratory; it is expected that apparatus will be added from time to time, as opportunity offers, and as it is needed for the work in hand. Indeed, there is considerable new apparatus at the present time being constructed for the laboratory.

HORTICULTURE.

The Southern California Orange Crop.

A dispatch from Los Angeles is as follows: The orange market of southern California is in a peculiar condition just now. The largest crop on record is on the trees awaiting shipment, amounting probably to 6500 carloads, against 2800 last year and 4600 for the previous season. Only a few hundred carloads have been shipped so far.

It has been reported that there is a combine among southern California orange-growers to hold their crop for \$3 a box. This is only true to a limited extent. There is no general combination among growers. Local unions have been formed in several localities to maintain prices and facilitate shipments, but these only represent a portion of the crop and do not work in unison. The most important of these unions is that of Riverside, which represents seven-eighths of the crop of that place, or about 1700 boxes. The rest of the crop controlled by local organizations will probably bring up the aggregate so held to about 2500 boxes, or considerably less than half the total crop.

Buyers are holding off, being unwilling to consign while the Eastern purchasers are not inclined to risk buying. The weather in the East has been very cold and there is still a large quantity of good Florida fruit to be shipped, hence there is at present a sort of deadlock. Local firms are offering for choicest Riverside navels \$3 per box at the shipping point and lower, according to quality, and for or-

dinary San Gabriel valley navels \$1.75 is about the best price obtainable, which does not satisfy the growers.

The method of disposing of the orange crop is worrying growers considerably, and becomes more complicated every year as the crop increases. Last year an orange-growers' union was formed, which proved a dismal failure, partly owing to the partial destruction of the crop and partly to an attempt to conduct a business requiring \$100,000 with a capital of \$500. The members of that union are now being sued for a deficiency in the expense account. Consequently growers feel discouraged and scarcely know what course to pursue.

An attempt is now being made to get up a trial shipment for the English market. California oranges being much better keepers than those from Florida, it is believed they will arrive in good shape. At the present rates of freight and the prices in London oranges laid down there would only net southern California growers from 50 cents to \$1, but it is believed this might be considerably increased later on. It is generally recognized that the present obstacles are merely temporary and that the future of the industry is bright.

Roses in the San Joaquin Valley.

I think I can name 20 roses that are indispensable in a well-ordered rose garden. My experience with their cultivation in this valley would recommend as follows, the first in each class being thought the highest in merit:

Climbing roses—Marechal Neil, La Marque, Cloth of Gold, Banksia and Reine Marie Henriette.

Tea or everblooming—Bride, La France, Perle des Jardines, Bon Silene, Papa Gontier, Etoile de Lyon, Glorie de Dijon.

Hybrid perpetuals—Louis Van Houtte, Jacqueminot, Black Prince, Giant of Battles and Paul Neyron.

The measures of success largely depends on the kind of stock in which they have been budded or grafted. The old Manetti, the cuttings of which are imported from France, are the best, as they are deep rooted and furnish a continuous flow of sap, which is seldom found in plants grown from their own cuttings.

The pruning of the rose is quite an art. Climbing roses should only be pruned to cut dead branches and keep in symmetry, as they are more largely an atmospheric plant than the bush. Care should be taken to cut off all suckers that come out below the graft; this should be done during the summer.

Red and highly colored roses should be given the sunny places, and the white rose should be partially shaded to give best results.

Roses may be budded or grafted any time from April 1st to October 1st. When so budded into lively stocks they will bloom in about six weeks time. Roses having very thin petals seem to dry out and blast in our climate and are not recommended for use in this valley. Rose scales are destroying many plants in the city. Persons should sprinkle with warm and strong soap suds, and while still wet powdered sulphur should be sprinkled over them. A second application is often needed.—E. V. Upton in Fresno Examiner.

Value of Irrigation to Fruit Trees.

S. H. Cole, Mayor of Fresno City, read a paper before the State Board of Trade last week on the benefit of irrigation in Fresno county. Prior to the introduction of irrigation fourteen years ago, land was only worth 10 cents an acre. Since then and at the present time land has increased in value from \$50 to \$300 an acre. These results have been accomplished by one of the largest and most practical systems of irrigation in the United States, consisting of about 4000 miles of canals and ditches, including 10 canals, each running from 200 to 1000 cubic feet of water a second.

On a large portion of what is known as the California Bank tract of land, consisting of 35,000 acres, the water level of forty feet in 1892 has been raised to within twenty feet of the surface, and as a result this year 96 per cent of vines planted grew, and 99 per cent of fruit trees planted reached vigorous growth.

Some acres in vineyards produced last year 20 tons and as high as 1200 pounds of fruit was produced on one tree.

W. H. Mills in discussing this paper, dwelt at considerable length upon the benefit of irrigation in California, indicating in a careful and instructive review the various portions of the State to be benefited by irrigation.

C. C. Hutchinson stated that land in Lassen county, which was formerly comparatively useless, is now worth \$7.50 an acre, because irrigating ditches had reached it. "There are," he said, "150,000 acres in Honey valley which can be irrigated with little cost."

W. H. Mills, N. P. Chipman and L. C. McAfee were named as a committee "on irrigation in California as a factor in the development of the State."

A New Weed Cutter.

At the shop of S. H. Bradley, a Marysville Democrat reporter was shown a small plow-shaped contrivance manufactured by him. It is the invention of Mr. Chas. Weeman, of Yuba city, and is intended to be used in plowing up weeds in orchards and vineyards. It has a wing running at right angles from either side of the beam extending nearly eighteen inches, and about six inches in width and very sharp on its edges. The handles are so adjusted that when cultivating among trees whose branches put out close to the ground, can be lowered, and again the handles can also be adjusted to left or right, to avoid coming in contact with the trees or vines. The share or blade is made in two sections—one about twelve and the other six inches in length—so that when cutting weeds in narrow or wide spaces between the trees or vines, the shorter blade can be removed, adjusting the plow to suit the width between the tree or vine.

Mr. Weeman, on the 8th of this month, applied for a patent for this new invention, and expects to receive it at an early date.

THE HOME CIRCLE.

Sheep Bells In Tulare.

Written for the RURAL PRESS by LILLIAN H. SHURY.

Golink, golank, golink, clink, clink, clink,
The quiet twilight sounding through
Over the garden wet with dew;
Golink, golank, golink,
Those are the neighbor's sheep, I think,
The sheep bells sounding through.

Golink, golank, golink, clink, clink, clink,
I hear the bells through the gentle rain
Wandering over the grassy plain;
Golink, golank, golink,
Out by the river's sandy brink,
Bells—through the gentle rain.

Golink, golank, golink, clink, clink, clink,
The herder watches with staff and cloak,
His tent in the distance white, like smoke;
Golink, golank, golink,
Safe are the neighbor's sheep, I think,
With tent, and staff, and cloak.

Golink, golank, golink, clink, clink, clink,
And the faithful sheep dog watches too,
You've only to tell him what to do;
Golink, golank, golink,
When you drive the sheep to drink,
The sheep dog watches too.

Golink, golank, golink, clink, clink, clink,
Sweet are the bells as dreamy tunes,
Ringing over the knolls and dunes;
Golink, golank, golink,
Of childhood's happy hours, I think,—
As sweet as dreamy tunes.

Golink, golank, golink, clink, clink, clink,
Shadows are gathering long and deep,
The woolly herds curl down to sleep;
Golink, golank, golink,
Hushed are the tunes on the river's brink,
Dying and echoing, clink, clink, clink,
Through shadows long and deep.

For One Sweet Day.

Written for the RURAL PRESS, by CHAS. P. NETTLETON.

Now just for this sweet day, dear Nature, let
Thy soul draw mine away from human fret
And careless grief, to perfect bliss with thee.
This day let singing brook and murmuring tree
Teach me thy secret strength and peace until
I reach thy heart of youth, from out the chill
Of wanton human love, too deep and cold,
For simple ones who love thee. Dear, withhold
No longer balm and blessing; purify
The one who waits on this sweet day—come nigh
And silently restore my youth, till frost
Of life and dark of death are swiftly lost
At touch of thine. Show me thy face, I pray,
For this sweet day, for one entrancing day.

Widder Rattlebee's Moral Suasion.

Written for the RURAL PRESS by LAURA J. DAKIN.

NOW, Mis' Toben, your Reubin
an' my Jasper's be'n plum
crazy ter larn ter be pudgy-
licks ever sense Co'bit fit
Sul'van. Jasper, he bet a
pair o' boxtoed gloves on
Sul'van an' was in a mighty stew ter git ter
town ter sell his kyotee scalps so he'd hev
money nuff ter pay up. An' now Reub's got
the reg'lar boxtoes an' lends the left-hand
one ter Jasper an' they go poun'in' each
other roun' right smart. Jasper has got a
pearl black eye, black ez enny pudgylick
need ter want, so I reckon they've larn't 'bout
anuff o' sech doins, an' it's got ter stop sure's
yer born; yis."

"I don't think, Widder Rattlebee, that
Reuben is any more to blame about the
fighting than—"

"Sho, now, Mis' Toben, don't less we'uns
quar'l. We'uns has allers neighbored to-
gether right peart an' I reckon we'll con-
tiner. I was on'y go'n ter tell ye how I'm
trainin' Jasper. I could er scolded an'
trounced the idee out'n him ef he is bigger'n
I be; but I'm a firm beholder ter mortal
suasion; so yis'd'y mo'nin' I didn't put no
cream er sugar on the table, an' when Jasper
come in, I sez, sez I:

"I reckon yer mos' too fat ter fite Reub'
reel good, an' ef yer boun' ter be a pudgy-
lick yer got ter hev a mighty p'tic'ler trainin';
thet's what they all got ter do ef they want's
ter make ther fortins," sez I. "Ye aint no
fatter'n a clothes line now, but thet's a leetle
more'n fit'n' wait, an' so ye better eat plain
milk on yer cracked wheat 'n in yer coffee
fer er while" sez I.

"Wal, he hung back some but fin'ly eat
his brekfus an' went ter wuk. When dinner
time come he sa'led in ez hungry's two folks.
I'd got ez good trainin' dinner ez I knowed
how ter, but he didn't seem ter depreciate it
ez he orter. He scowled an' rouser'd roun'
some, tho' I hed good baked 'tatoes 'n salt,
cold meat 'n bread, besides water.

"Lawsy me, Jasper," sez I. "W'y don't
ye settle down ter yer trainin' better'n this;
ye know ye kan't 'ford ter hire no tramer,
an' ye orter be re-l tickled thet I'm halpin'
ye out so peart." But he 'lowed he couldn't
wuk on no sich truck. 'It's plenty good
anuff,' says I. "Menny a pore boy would be

mighty thankful fer a meal like this, thet has
ter wuk harder'n you do an' don't have no
nice fit'n' game ter look for'ard to nether'

"I wis't you'd stop talkin' 'bout fit'n'
games, I'm sick on't," sez he. "Deary me,
sez I, 'w'y I haint on'y jes begun. I was
go'n ter fix ye some reel mild mustud plars-
ters to put on yer chist ter night ter
strengthen it an' make it kind er expensive,
like ye see em in picters. Ye know yer
ruther narrer-chisted now an' ye want ter be
draw'd out somehow; an' tud be a help thet
way ef when ye walk ye'd hole yerself ez
strait ez a bow 'n ar'er an' breath mighty
deep. I've heern tell thet's dretful good ter
expend the lungs an' make em stout," sez I.

"O, lawsy, yis, Mis' Toben, I got right
smart er plans prematurred fer halpin' Jasper
ef he don't wanten quit bein' a pudgylick, but
I know he will, fer mortal suasion ez mighty
reflective in sich cases, yis."

"But you mustn't be too hard on him,
Mrs. Rattlebee, the boys only want to eluci-
date the science—"

"Want ter see Lucy Date! Who is she?
An' why don't they go'n see her, 'stead er
kitin' roun' blackin' each other's eyes? I
didn't know thet was a gurl in the question;
but it makes no dif'unce, I don't hold ter no
du'l with pistles er boxtoed gloves nether.
Let 'em leave it to the gurl, she'll settle ther
quor'l mighty sudd'n."

"I allers say ef nabors quor'l an' kant
'gree twixt the'r selves, let 'em chuse some
refugees an' leave it ter them. An' ef na-
tions quor'l let 'em leave it ter arbitraters,
'stead er goin' ter war. Thet's what pore
Mr. Rattlebee uster say, an' I'm a mighty
pacifyin' woman, same ez he was. No need
ter shoot er punch 'n pound; mortal suasion
ez allers the best tread in the web an' taint
slack twisted nether."

The Beggar.

I was walking along the street. A beggar,
a feeble old man, stopped me. Inflamed,
watery eyes, blue lips, rags and tatters, ugly
sores—oh, how terribly had want gnawed
that miserable creature.

He held out to me his swollen, red, dirty
hand. He groaned and begged for help in
the usual style.

I began to search all my pockets. But I
found neither purse nor watch nor even a
pocket-handkerchief—I had nothing with
me.

But the beggar still stood, expecting some-
thing, and his outstretched hand slightly
trembled and quivered.

Surprised and embarrassed as I was, I
seized warmly that dirty, trembling hand.

"Don't be angry with me, brother, I have
nothing about me!"

The beggar raised his bleared eyes to me,
a smile hovered on his wan lips, and he
pressed my cold fingers.

"Never mind, brother," he murmured; "I
thank you all the same for what you have
done—that, too, is alms, brother!"

I felt that I also had received alms of my
brother.—Ivan Turgunief.

Washing Delaine Dresses.

It greatly depends on the quality and col-
oring of your delaine dress whether you will
be able to wash it without spoiling it. You
should, however, make a good lather with
the best yellow soap, and when it is barely
more than lukewarm wash the dress in it as
rapidly as possible; rinse in water in which
a handful of salt has been dissolved, and
hang out to dry at once. A dull, rather
breezy day should be chosen, if possible, so
that the dress may dry quickly without be-
ing exposed to strong sunshine. Some peo-
ple recommend the addition of a table-
spoonful of ox-gall to the lather, but this
leaves a rather unpleasant odor. The dress
should be ironed with a moderately cool iron
before it is quite dry.

To Remove a Mote from the Eye.

Let the person close the eye gently, as in
sleep, then with his thumb and forefinger
take firm hold of the lash of the upper eye-
lid, and pull the lid out from the ball far
enough to clear the edge of the lower lid.
Now, while the lid is held in this position,
let him give the eyeball a rotary motion from
above in toward the nose. This will be best
accomplished by keeping both eyes shut,
and moving the eye first down as if looking
at the feet, then out, then up and lastly
toward the nose, repeating this motion until
the mote is no longer felt in the eye, then it
may be found in the inner corner of the eye,
and may be removed by wiping it out with a
clean handkerchief or the end of the finger.

A Recommendation.

Blobkins—How do you like the new post-
age stamps?

Kiddins—They're splendid things for a
poor man. Licking two of them is equal to
a hearty dinner.—Nast's Weekly.

Home-Made Confections.

Home-made candy is a never-failing
source of delight to the youngsters. As an
amusement, it ranks above everything else
in the domestic catalogue, while as an ap-
petizing and toothsome incentive to good
behavior it stands at the very head of the
list. To be allowed to "make candy if they
are good" is, as a rule, all that is necessary
to restrain the most hilarious youngster.

Medical authority, in the light of the
latest investigation, seems to have arrived at
the conclusion that absolutely pure sweets
are not injurious unless indulged in to an
unreasonable extent, and that children,
in many cases, imperatively need a large
amount of saccharine matter to bring about
a healthy development. Sugar is inex-
pensive, and the accessories do not cost
very much, not as much as many other forms
of amusement.

Candy-making may be so arranged that it
is fairly clean work, and some of the pro-
cesses are useful in the way of training for
domestic work. Neatness, order and the
careful handling of ingredients can be as
well enforced in the making of confectionery
as in bread-making, and these facts should
not be lost upon those who have the
amusements of the young in charge; be-
sides, it is quite a triumph to be able to
send, in a gift-box, some home-made con-
fections that will be voted quite as fine as
the best French importations or the work
of establishments with world-wide reputa-
tions.

To make a delicious candy, break the
white of one egg into a large flat dish. In
one end of the dish put about one pound of
the very best confectioner's sugar, carefully
sifted. Beat the egg, taking up a little of
the sugar at a time and beating steadily for
about ten minutes. Before all the sugar is
in, add a large teaspoonful of some prefer-
red extract, vanilla, lemon or rose, the first
being most generally liked. Beat or stir
until the sugar is all in. When done, it
should stand up in a firm lump and should
settle but very little if left standing. Then
dust a little fine sugar on a pastry-board,
cut off with a sharp knife a part of the
beaten sugar, lay it on the board and roll
it under the hands until perfectly soft and
smooth; then make into a roll about as large
around as a 25-cent silver piece, cut off little
round cakes of this about half an inch thick,
put this between the hands until very
smooth, then place the half of an English
walnut on the prepared part of sugar and
press it a little to bring the two in close con-
tact. Have ready a plate rubbed over with
a bit of buttered paper. On this place the
candies as fast as made.

They may be set in the oven for a minute
or on a shelf above the fire. Many persons
put them on buttered paper, but they some-
times stick and tear the paper, which ad-
heres to them, and which is objectionable
when the confection is eaten.

Sugar prepared in this way may be used
to coat fruit or nut confections of various
sorts. Blanched almonds are rolled in little
cakes of it, care being taken to press and
roll the sugar so that the nut is entirely
covered. Various sorts of nuts chopped fine
may be mixed in with the sugar or fruits,
such as citron shredded, seeded raisins cut
up fine or candied, or preserved fruits of any
sort, care being taken that they are not too
juicy, as this would prevent hardening.

Fresh fruits may be put up in this way.
If grapes are dipped in the beaten white of
an egg, and allowed to dry, then rolled in
this same beaten sugar, they are delicious.
Sometimes the confection is made quite
soft, then placed in a hot oven for a moment
and allowed to remain until thoroughly
scalded through, care being taken that it is
not browned. In this way it gets the elas-
tic, firm quality so much liked in what are
called French confections.

An evening or afternoon at candy-making
once in a while is one of the most delightful
pastimes for girls and boys, and they may
eat to their heart's content, with little fear of
unpleasant consequences.—New York
Ledger.

Flannel Wrappers.

Flannel wrappers are a very useful addi-
tion to baby's wardrobe, both for use in the
cool morning hours, and to slip on over the
little nightdress to make a presentable ap-
pearance for company. The plainer ones
can be used as night slips, and the daintily
embroidered ones will take the place of
cloaks for a time. Many mothers consider
them indispensable.

To Polish a Stove.

"Women generally work twice as hard as
necessary over blacking a stove," said a lady
whom we found one day engaged in that un-
romantic occupation. She had on a pair of
stout leather gloves and was applying the

blackening with the round part of a shoe-brush,
which, she said, was lighter and therefore
much more easily wielded than the usual
stove-brush. The other side of the brush
she used in polishing, with light, even strokes
like an expert bootblack.

"I always keep soft paper bags from the
groceries tucked in this box nailed up near
the stove, and every day I slip two or three
over my gloved hand and give it a rub; the
consequence is that I only need apply polish
once a week."

Another little thing worth remembering in
regard to stove cleaning is to wipe the dust
from the stove thoroughly before you apply
any polish. There is always a right and a
wrong way to do a thing, and the wrong
way doubles the task.—Farm and Fireside.

Popcorn Balls.

The popcorn ball of the confectioner,
made of tasteless corn, a small amount of
white sugar and gum arabic, notwithstanding
its white beauty, is a very inferior
article in taste compared with the home-
made balls. In our family the little folk
are exceedingly fond of cornballs, and one
of the number, a young girl, quite prides
herself on her skill in making them. The
younger children shell the corn and assist in
the popping. A peck pail is almost filled
with the white exploded grains, excluding
those irreverently dubbed "old maids," the
grains that will not pop.

Half a pint of molasses and half a pint of
sugar are mixed together and put on to boil.
To this is added half a teaspoonful of salt
and a teaspoonful of butter. This must boil
until it is about ready to candy, when it is
poured over the corn. As it is poured the
corn should be gently stirred with the
handle of a long spoon, and the candy dis-
tributed through it as evenly as possible.
As soon as it is sufficiently cool, with
buttered hands the corn is formed into balls.
The corn must not be pressed too hard when
making the balls.

The butter and salt—so there is not too
much of the latter—improve the taste very
materially. Of course these balls are not so
nice-looking as those of the confectioner,
but they are far more palatable.—Albany
Cultivator.

Popular Similes.

As wet as a fish—as dry as a bone,
As live as a bird—as dead as a stone;
As plump as a partridge—as poor as a rat,
As strong as a horse—as weak as a cat;
As hard as a flint—as soft as a mole,
As white as a lily—as black as a coal;
As plain as a pike-staff—as rough as a bear,
As tight as a drum—as free as the air;
As heavy as lead—as light as a feather.
As steady as time—as uncertain as weather;
As hot as an oven—as cold as a frog,
As gay as a lark—as sick as a dog;
As slow as a tortoise—as swift as the wind,
As true as the gospel—as false as mankind;
As thin as a herring—as fat as a pig,
As proud as a peacock—as blithe as a grig;
As savage as tigers—as mild as a dove,
As stiff as a poker—as limp as a glove;
As blind as a bat—as deaf as a post,
As cool as a cucumber—as warm as a toast.

Best Way to Get On.

A young man once wrote to the celebrated
Thomas Carlyle asking his advice about the
best way to get on. The following was the



A cream of tartar baking powder. High-
est of all in leavening strength.—Latest U.
S. Government Food Report.
ROYAL BAKING POWDER CO., 106 Wall St., N. Y.

quaint answer: "Study to do faithfully whatsoever thing in your actual situation you find, either expressly or tacitly laid to your charge—that is, your post; stand in it like a soldier. Silently devour the many chagrins of it, as all human situations have many, and see that you aim not to quit it without doing all that it, at least, requires of you. A man perfects himself by work much more than by reading. They are a growing kind of men that wisely combine the two things—wisely, valiantly, can do what is laid to their hand in their present sphere, and prepare themselves withal for doing other, wider things, if such be before them."

Good Lemonade.

"I learned a new thing," said a woman recently, "while visiting last week an English friend who is living in this country. We had a small dance one evening of my stay, and my hostess served the most delicious lemonade I ever drank. I spoke of it the next day, and she told me it was made of freshly boiled water—the secret, she said, of thoroughly good lemonade. 'I have a regular rule,' she further informed me, 'which insures success if I am making a quart or a gallon. For a quart I take the juice of three lemons, using the rind of one of them. I am careful to peel the rind very thin, getting just the yellow outside; this I cut into pieces and put with the juice and powdered sugar, of which I use two ounces to the quart, in a jug or jar with a cover. When the water is just at the tea point, I pour it over the lemon and sugar, cover at once, and let it get cold. Try this way once and you will never make it any other way.'"—New York Times.

True, For "He" Said It.

The *Pioneer Press* whispers that it overheard the pretty school-teacher, for a little diversion, ask her class for the best original definition of "wife." After several boys had spoken there was a lull, and the pretty, dark-eyed girl said slowly:

"A wife is the envy of spinsters."

"One who makes a man hustle," was the next suggestion.

"And keeps him from making a fool of himself," put in another girl.

"Some one for a man to find fault with when things go wrong," said a sorrowful little maiden.

"Stop right there," said the pretty school-teacher. "That's the best definition."

Later the sorrowful little maiden sidled up to her and asked:

"Aren't you going to marry that handsome man who calls for you nearly every day?"

"Yes, dear," she replied, "but with us nothing will ever go wrong. He says so himself."

Making a Coal Fire.

There is an art in making a coal fire in a grate. An expert first clears the grate, then fills it half full of coal, on which is built a wood fire. The wood ashes on top of the coal, it is said, prevents its rapid consumption, and a fire thus constructed, burning slowly and with moderate heat, will last all day.

DOMESTIC ECONOMY.

ANGEL CAKE.—The whites of 10 eggs, beaten stiff; 1½ glassfuls of sugar, one teaspoonful of cream of tartar, salt, flavoring, put together; last, mix lightly with the eggs and bake.

FISH PIE.—Fish pie is made by using the cold cooked fish and potatoes sliced thin and parboiled; put them into the baking dish in alternate layers, season with salt, pepper and butter, cover with milk, and bake an hour.

SAUCE FOR GAME.—The juice of two lemons may be squeezed in the platter, a few drops of oil, a little salt, and some pepper, in which gravy the very rare slices should be soaked a moment before banding them around.

FOAMING SAUCE.—One cupful butter, two cupfuls sugar, one-fourth cupful boiling water, whites of two eggs. Beat butter and sugar to a cream, add the whites (unbeaten) and any preferred flavoring; when all is smooth, add the hot water. Set into a pan of hot water, and stir until smooth and hot. Serve at once.

BREAKFAST DROP CAKES.—Three-fourths teacup of buttermilk, one-fourth teacup of sour cream, two teacups of flour, and one-half teaspoonful each of soda and salt mixed with a part of the flour before adding; mix well, and drop in small tablespoonfuls an inch apart in a well-buttered biscuit pan, or in well-buttered gem pans.

YOUNG FOLKS' COLUMN.

To a Wee Laddie.

I call you many a name, my king!
No font-name is enough for me;
All prettiness of call I bring
From fairy tale and history;
But mostly after two whereon
A light from Shakespeare's spirit fell,
I love to call you little one;
Even after Puck and Ariel.

A hereby stranger, may you guess
A little of this laddie's kind,
His pretty ways and mischievousness,
In Ariel and Puck combined;
His nimble, supple movements—oh,
Full oftentimes I cannot tell
If here be Robin Goodfellow,
Or here be delicate Ariel!

But there be times, oh, rarely sweet!
Times when my whole soul knoweth well,
Beside me walk an angel's feet,
Not feet of Puck nor Ariel;
A human angel, with the eyes
That sure have met the eyes of God,
In walking through some Paradise
Where feet of mine have never trod.

I have no name to call you by,
My darling, at such times as this;
I only watch you reverently,
And in the silence bend to kiss
That sweetest face and loveliest
Has e'er been looked upon by me
Who entertain this angel guest,
Not unawares but wittingly.

—Longman's Magazine.

Vain Mr. Jenkins.

Jim Jenkins was the vainest man a mortal ever seed;
The people wondered at him fur an' nigh;
If he saw two women talkin' on the grocery corner
He'd swear they stopped to see him passin' by.

If you told him that the editor had made a little note
'Bout his bein' seen a-walkin' of the street,
He'd rummage all the papers 'till he found jes' what was wrote
An' read the thing to every man he'd meet.

There warn't a feller like him for a hundred miles around
For when he come to die he smiled an' said:
'The angels will be jealous, for I always knew a crown
Would be mightily becomin' of my head!'

—Atlanta Constitution.

The Hen That Had a Mind.

Written for the RURAL PRESS by MARY E. BARNFORD

HERE was a big fig tree in the garden, and one day some of the tree's large leaves were turning yellow. There were a good many greenish figs on the tree. A person could see them if he looked at the top limbs against the sky. But the hen did not look up. She was a brown hen, and she usually looked down. She would never see a fig unless it were on the ground.

"The figs fly down," thought the brown hen one day. "They fly down once in a while from the tree, and yet they do not have any feathers or any wings. I could not fly that way. How do figs fly?"

The brown hen thought, but she could not tell.

"It is a question for my mind," she said. The brown hen always had a great opinion of her mind.

After a while she walked again under the fig-tree, and she saw a quantity of yellow leaves on the ground. The hen looked at them.

"They are wings," she thought. "They are the wings of the figs! It seems so to my mind."

By and by a man came with a rake and raked together all the fig leaves. The man's little boy came too, and he gathered some of the most yellow fig leaves for his mother. But the brown hen did not see this done. When she came walking under the fig-tree again, the grass was clean.

"The wings of the figs have flown away," thought the hen. "Flown away! I should not like to have my wings fly away without me! That is the danger in leaving one's wings lying around. I will never do that with my wings. How much one can learn from the world when one has a mind!"

By and by the man put a tray of figs out in the sun to dry. The brown hen came along and saw them.

"O," she said to the figs, "are you waiting for your wings? They have flown away."

But the figs did not answer. They lay very still. The brown hen tried to rouse one of them by giving the fig a peck with her bill.

"Do you hear?" asked the hen. "Your wings have flown away. Flown away!"

Then the brown hen felt a sweet taste in her mouth. She had never felt that sweet taste before, for all the figs that she had ever

pecked before had not been ripe, and she had not liked them very well; but she liked the sweet taste now. She pecked the figs again and again, and the figs did not say anything.

"I am glad their wings did fly away and leave them," thought the hen.

By and by there was a great noise from the house.

"Shoo! shoo! shoo!" cried somebody.

The brown hen ran. She had heard that kind of language before. She ran into the pampas bushes and the grapevine and the ivy, but the man ran after her. He caught her at last, and took a pair of scissors out of his pocket and began to cut the feathers of one of her wings. The brown hen screamed.

"He is going to cut my wings off," she thought. "I shall be like the figs. I shall have to leave my wings behind me. They will fly away, and I shall never see them again!"

But the man only cut the feathers off the side of one wing, so that she could not balance herself to fly. Then he threw her over the fence into the chicken-yard. The white rooster cheered when he saw her coming through the air, and the other hens were astonished to behold her alight beneath the oak tree.

"It is the hen with the mind," they said. "What is the matter with her?"

But the brown hen felt very meek. She could not fly over the fence again for a long time, but in all that time she never said anything to the other hens about her mind.

Snowballed Their Queen.

Little Queen Wilhelmina, of the Netherlands, some weeks ago got into a muss which is probably without precedent in the annals of kings and queens. She and her mother had driven out from the city as usual in the afternoon for an airing. As is the wont of the unostentatious queen-mother, they drove in a plain carriage, unattended by outriders or footmen. In a hamlet about two miles from the capital, they came upon a crowd of young school-children in the midst of a hot snowball fight. The carriage was stopped, so that the little

sovereign might observe how her little subjects amused themselves.

It was give and take, hot and heavy, among the combatants. The weaker party began to go to the wall. Just as its discomfiture was aggravated by the fall of the boy leader, who had got a ball of slush in the eye, the young queen sprang to her feet and leaped from the carriage. She ran between the two parties of combatants and called out that the victors must at once stop snow-balling.

She had the proverbial luck of peace-makers. All the children turned on her, and before the coachman could come to her aid, had her half buried under a great pile of snow. When pulled out, Wilhelmina shook out her skirts, drew herself up, and said calmly:

"Boys and girls, I am your queen."

The agitation of the coachman corroborated this simple declaration. The children were too much frightened to run away. All of them became white and scared and most of them sniveled piteously. Queen Emma added to their terror by ordering the coachman to take their names. The next day, however, the mourning of every child was turned to gladness when it received a box of toys with the good wishes of the child sovereign.

The Use of Postal Cards.

A peculiar case came to the notice of the writer the other day. It was that of a man of ordinary intelligence, though not a business man, who for a long time after postal cards came into use did not "catch on" to the idea that they were to be posted by themselves. He thought it a handy little thing on which to write a brief note and then slip it into an envelope and put the address and the postage stamp on that. The printed stamp on the postal card he regarded as merely a picture or ornament. He thought the whole system a little cumbersome, and did not use many postal cards in that way. When he finally received one addressed to himself, without an envelope, his eyes were opened; but he did not tell of his mistake until long afterward.—New York Tribune.



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- 5 Seeds of this lovely WEeping FILIFERA PALM. Its chaste beauty will astonish you.
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- 3 Bulbs GLADIOLUS, beautiful named sorts, 1 white, 1 pink, 1 scarlet, all superb varieties.
- 1 Bulb TUBEROSE, DOUBLE DWARF EXCELSIOR PEARL, enormous spikes of elegant waxy blossoms.
- 1 Bulb ZEPHYR FLOWER, lovely free bloomer; large blossoms of exquisite beauty.
- 1 Bulb CINNAMON VINE, fine hardy climber, and our superb BRONZE BLUE, Catalogue of 156 pages and 7 Magnificent Large Colored Plates. All the above for only 30c.

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GEO. C. ROEDING, Manager.

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California Paper-Shell, Nonpareil, Ne Plus Ultra and
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FRENCH PRUNE All kinds of leading fruit trees for sale. No charges made for baling trees. Address

PERCY W. TREAT.

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Some choice Orange and Lemon land planted and
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—ALL KINDS OF—

FARM AND GARDEN SEEDS,
ALFALFA,Red and White Clover, Alsike Clover,
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On Myrobalan Stocks, at Low Rates.

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loam, without irrigation, which gives a fine proportion
of roots. I offer no trees but what are grown in my own
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Owing to age and poor health, I will sell my place and
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Stock, together with horses, wagons and implements,
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And all Citrus Trees in variety.

And especially PALMS AND TROPICAL FRUIT AND
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FRENCH PRUNES on Peach and Myrobalan, 1 Year Old.
CHERRIES, PEACHES and APPLES 1 and 2 Years Old.
Also a very Large and Complete Stock of SHADE AND
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Roses, Shrubs and Plants for Sale at bedrock
Prices.

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Oakland, Cal.

AGRICULTURAL NOTES.

CALIFORNIA.

Humboldt.

From the Camp Grant country comes favorable reports for a good fruit crop next summer, says the *Advance*. The Hansell Bros. are both busily engaged pruning their fruit trees at their ranch. They are also taking up nursery stock to meet the growing demands of their customers. The Camp Grant fruit, which includes A. Cusa's and J. J. Newman's productions, has a reputation extending all over the State. From what we can gather, the general outlook throughout the fruit sections of southern Humboldt may be characterized as better than for any previous year.

Kern.

It is said there will be 300,000 fruit trees planted in Kern county this season. They will be mostly prune, peach and apricot.

Kern Echo: It is now being developed that Tehachapi has great capacity in the growing of fruits. Peaches, plums, apples, pears, apricots, grapes and cherries all do well in every section of the valley. In peaches the "Old Town" stands preeminent. It is a well-known fact that fruit-dealers of Los Angeles prefer the Tehachapi peach to that of any other section of the State on account of its flavor. Its unexcelled flavor is probably due to the high altitude and dry climate.

Los Angeles.

Pasadena Star: In a lecture Prof. James gave a view of some calla lilies and commented on the fact that from a single garden in Pasadena there had been furnished for the Easter decorations of one of our churches 500 of these flowers. If he had been aware of the fact he might have told his audience that last Easter one of our citizens—Councilman Lukens—supplied from his premises on Moline avenue 3000 callas for decorative purposes.

Covina Argus: A strawberry grower stated to us that last year he picked and shipped from three acres the enormous amount of 14 tons. These berries brought as high as 15 cents and as low as four cents per pound, but netted an average of about eight cents per pound, or \$2240. That would make an acre of berries produce a cash return of \$746.66, which, considering the shortness of the berry season—from four to five months—is a pretty good income on the money invested. If these figures are correct, a man can support comfortably a large family from a three or five-acre tract of land and have several months in which to recreate.

Merced.

Merced Star: Mutton is daily quoted higher and will soon be a luxury. Merced can furnish the State of California with fat, alfalfa-fed mutton, and it is only a question of a short time when a move will be made in that direction.

Monterey.

San Lucas Herald: Never before in the Salinas valley was there a larger acreage sowed to grain. Between this place and Salinas it is one continuous grain field, and we might say the same is the case south of here.

Pajaronian: The daily shipments of apples are increasing. The packers realize that this is the time of the year when they will have to get the balance of last year's crop into market. A considerable part of the movement is toward the southern part of the State. The Pajaro apples about have a monopoly of the market at this period of the year.

Nevada.

Nevada City Transcript: Louis Hickerson, who resides 16 miles this side of Marysville, killed a large, jet-black eagle on his ranch the other day. The wings of the big bird measured 95 inches from tip to tip. Mr. Hickerson noticed the eagle swoop down, pick up a rabbit and fly into a neighboring tree. When shot, the eagle fell to the ground, his talons firmly imbedded in the rabbit's body.

Orange.

Santa Ana Blade: Two carloads of hogs were shipped to San Francisco yesterday on the Southern Pacific. It may not be generally known that the raising of hogs is an important industry in this county, but during the past four months 23 carloads of porkers have been shipped from this city, aggregating in value upward of \$12,000.

Santa Ana Blade: The Fairview Creamery is indeed a very busy place. Yesterday morning, bright and early, a *Blade* reporter visited that establishment and found eight wagons loaded with milk awaiting their turn to unload the liquid into the separator. Twelve hundred pounds of butter are made here every six days now, and it finds ready sale at satisfactory and paying prices. The creameries of this county contribute much to our prosperity.

Santa Ana Blade: We have often mentioned the fact that the Santa Ana district is a great egg-producing section, but we wish to again assert the truth of our statement and back it up with a few figures. During the past six days, 366 cases of eggs were shipped from this city. Each case contains 30 dozen, so that 10,980 dozen eggs were sent out in the past week. This means, still further reduced, 131,760 eggs. The average price paid was 18 cents per dozen, so that the income was \$1976.40. Considering the fact that the weather has been disagreeable, the hens of this district are to be commended for the industry exhibited.

Sacramento.

C. M. Webster of Grangeville, this county, has written a letter to the *Sacramento Bee* suggesting that sheet iron be placed in the center of levees to protect the country from floods. Mr.

Webster says he put a piece of sheet iron in a levee nine years ago, when it was always breaking. It never broke after that. Rust-proof sheet iron will last 30 years. It is very expensive, but will pay in the end.

San Bernardino.

Chino Champion: The work of putting 5000 acres to sugar beets on the Chino ranch will soon begin. The ground is already sufficiently saturated with water to produce abundantly.

Ontario Observer: C. H. Conant has in pickle a 12-inch member of the lizard family, which was found in a bundle of fruit trees brought from Santa Paula. He exhibits the ugly and venomous reptile as a Gila monster.

Rialto Orange Belt: We have in our editorial rooms a bunch of seven oranges, packed together in a compact group, on a stem less than a fourth of an inch in diameter, the whole weighing over four pounds. They are from a young tree on the Morse ranch, three miles north of town.

Ontario Observer: During the boom all of the hay, grain, potatoes, butter, eggs and poultry consumed in this locality were imported. Now, nearly all of these articles consumed are produced here. The money now left here by tourists remains. Before, it had to be sent East in payment for supplies. This is the difference between real and fictitious prosperity.

Redlands Facts: W. G. Campbell has raised a Navel orange on his place, on the corner of Highland avenue and Dearborn street, which measures 4½ inches in diameter and 14½ inches in circumference the smallest way and 16½ inches the large way. Its weight is 30 ounces. If there has ever been a larger Navel orange grown we would like to see the figures.

Redlands Citograph: Messrs. Biggin and Doty, who own 320 acres in the Yucaipa valley, will put 25 acres in deciduous trees this season. Their land is on the north side of the valley, close to the mountains, and they have had young lemon trees growing through the winter untouched by frost. Considering the altitude, 2000 feet, this is remarkable, and proves that some sections of that mountain valley will grow citrus fruit.

San Diego.

San Jacinto Register: Mr. James Kerr and son Charles finished plowing 4500 acres the first day of January. The prospects now are that they will obtain from the 4500 acres at least 45,000 sacks of wheat and barley. "This," says Charles Kerr, "will pay us \$73,000, less \$16,000 for expenses, or \$57,000 net." They are only one of the many extensive farmers in this valley.

Sonoma.

Tribune: Sunday the large fir tree opposite the residence of Mrs. Lambert, in Dry Creek valley, was blown down by the strong gale and fell across the county road. It was 165 feet long and was quite thick.

Santa Rosa Republican: There are about 13,000 fruit trees on the Home for the Feeble Minded farm. These include apples, pears, peaches, apricots, cherries, in fact a good general assortment. Pears are in the majority, and are of the best varieties. These range in age from 2 years to 15 years, and they are in good condition. There are 100 acres of vineyard on the Home farm. The pasture lands have been rented to a dairyman.

Tehama.

Red Bluff Sentinel: W. J. Clark informs us that farmers have finished shipping their wheat by boat from Tehama. Messrs. Schultz and Finnell have shipped 1866 tons to Port Costa, making a total of 3,732,000 pounds. This wheat was shipped from Tehama to Port Costa for the sum of \$3 a ton net. This is a saving of 60 cents a ton on railroad charges, to say nothing of charges for handling the grain, loading and unloading.

Tulare.

Tulare Times: A. Parker has a nice cluster of ten oranges picked from Major Richardson's place in Yokohl. Three miles from the place heavy snows lie on the ground.

Tulare Citizen: Joe McDonald, while trapping coyotes down near the lake, has caught several American eagles. A few days ago he had one in town, a fine specimen, with claws several inches across.

Hanford Journal: Pruning was begun on the McRae orchard and vineyard yesterday, a gang of 12 men being employed. There are 270 acres of vines and 22 acres of orchard in the tract, and it is one of the finest tracts in the Lucerne valley.

Tulare Times: There is money in hogs this season. A farmer near this city not long ago sold 150 hogs, averaging 173 pounds each, at 7½ cents per pound. This means the sum of \$1848 for that small band of porkers. This is as much as the steadiest laboring man saves in three years.

Traver Advocate: O. S. Brewer has lost seven head of horses this week and has several more he thinks will not live. The exact cause of the death of these animals is not known. It is thought by some to be the effects of drinking water that was strongly impregnated with alkali, as he had just placed them in a pasture on Cross creek and they were not accustomed to drinking that water.

Visalia Delta: A number of livery-stable keepers and stockraisers appeared before the Board of Supervisors last Wednesday and wanted an inspector appointed to kill glandered horses and report the loss to the owner, who should be reimbursed by the county. One gentleman stated that there was a great many glandered horses in the country, and some steps should be taken to prevent the spread of the disease by killing the infected animals. The supervisors stated that they had no power in the premises, and suggested that the stockraisers should take the matter in their own

hands and formulate a remedy for the existing trouble.

Tulare Times: The farmers south of Tipton, near Pixley, are now engaged in a work they never did before. During the high waters one of the dry creek beds looking down from Deer creek became filled with water; the torrent came rushing down to Pixley and rose over the banks of the stream. The country there is covered with a sheet of water, and the farmers are leading it around to irrigate the distant grain fields. This is something unknown in the Pixley country for many years.

Yolo.

Dixon Tribune: The time has arrived when the farmer who has heretofore devoted his energies to the cultivation of wheat, must diversify his crops or go to the wall. The change need not necessarily be to fruit culture, as there are several other avenues open to the progressive farmer. His land may not be adapted to the culture of the orange, the almond or the grape, while it may grow barley, ramie or sugar beets to perfection. The agriculturist must be up and stirring, as the immediate future does not present a very rosy hue. The California farmer cannot be kept down long, however.

Yuba.

Marysville Democrat: The many large eucalyptus and cedar trees on either side of the county road, just below Yuba City, are being cut down. It is said that the Board of Supervisors gave permission—or rather, ordered—that all the trees be removed, except the black walnut. It is claimed that the shade is so dense that the sun's rays are prevented from shining on the road; hence it does not get a chance to dry up. The road is in a very muddy condition and in many places has been badly cut up by heavy teams. It seems a pity that those trees should be cut down, as they supply a lovely shade for an afternoon's drive during the hot days.

Ventura.

Free Press: David C. Cook is setting out a hundred more acres of fruit trees this year on his big ranch down at Piru, principally peach and prune. In all he will have over 1200 acres of various kinds of fruits.

OREGON.

Several Umatilla county, Or., farmers are still holding grain harvested in 1891. One has 6000 bushels on hand. An offer of 91 cents per bushel was made for the wheat after the harvest of that year, and was declined by the farmer, who believed that the price would reach \$1.

E. C. Sherlock of Lakeview, Or., has been experimenting with sheep-dip. Being informed by the stock inspector that dipping chickens would increase their laying qualities, he dipped 80 of his fine hens. The result was that 60 of the 80 were dead next morning. Some Indians took the dead chickens away and ate them, and in a few days one of them came back and asked Mr. Sherlock when he was going to dip chickens again.

Are You Going East?

Take the Santa Fe route. You will find it to your interest to call on or address the undersigned before purchasing tickets. No other line crossing the continent can offer you a trip combining equal comfort and pleasure. The only line running Pullman palace and tourist sleeping cars through to Chicago on the same train every day without change. Personally conducted excursions through to Boston leave every Tuesday. W. A. BISSELL, 650 Market street, Chronicle Building, San Francisco.

FOR \$19.00

We can send you one of our

SPECIALTY SINGLE BUGGY HARNESS,

Which is the result of years of figuring to make the best harness ever known for the money. It is made from oak stock, hand stitched and finished by skillful mechanics, handsome full nickel or Davis hard rubber trimmings.

Just the Harness for an Elegant Turnout.

They sell here for \$25.00, and harness not as good is often sold for \$35.00 in retail shops. If harness is not as represented, money will be refunded.

Liebold Harness Co.

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Collar and Hames, instead of Breast Collar, \$2.00 extra.

Please state if you want single strap Harness, or folded style Harness, with traces double throughout.



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CONSULTING MECHANICAL ENGINEER.

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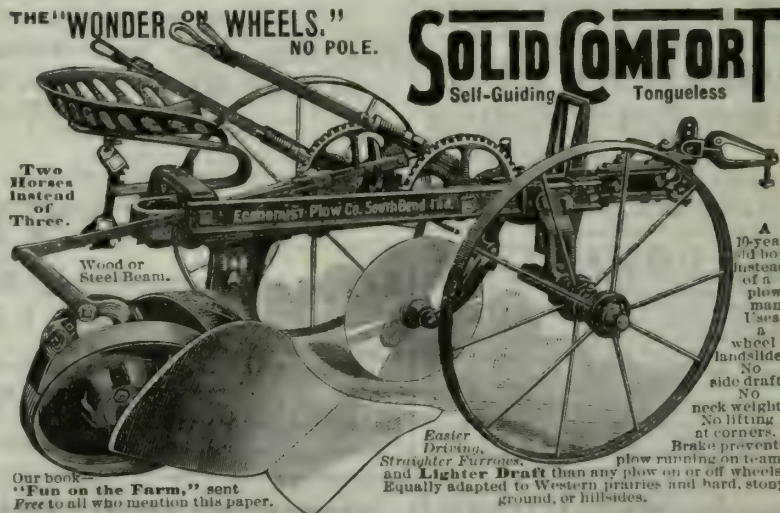
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1—A Prompt Cure.
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Special prices and time for trial given on first orders from points where we have no agents.



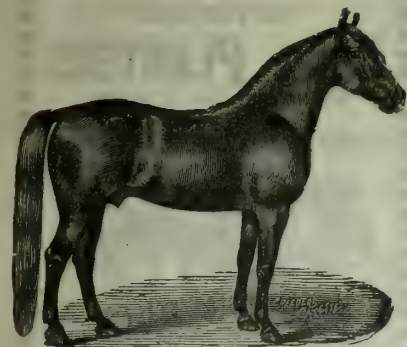
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Price \$60, Delivered Anywhere in the United States.

These Scales have STEEL BEARINGS, Not Wood—HEAR THIS IN MIND.

From 25 to 50 per cent cheaper than any other Scales of like quality. All sizes and kinds of Scales always in stock.

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OF STANDARD AND HIGH-BRED
TROTTER

BROODMARES, COLTS and
FILLIES,

The Property of MR. J. A. McDONALD,
HOPLAND STOCK FARM,
TO TAKE PLACE AT 10 A. M., AT
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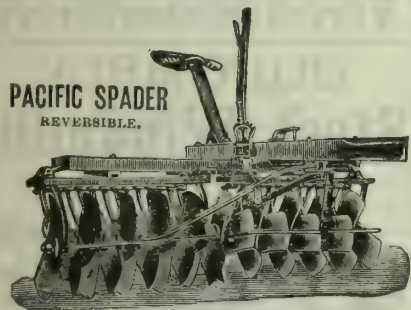
— ON —
THURSDAY and FRIDAY, MARCH 2d and 3, 1893,

The sale will comprise 125 head, and will represent all the popular breeds known upon the coast. Prominent among the strains represented are GUY WILKES, DIRECTOR, SABLE WILKES, LEO WILKES, RUPEE, SIDNEY, GEN. BENTON, ECLECTIC, DAWN, DEXTER PRINCE, PANCAOST. The colts and fillies are mostly by sons of Electioneer, Director Jr., Stamboul, Simmicolon and other noted horses. This will be the choicest offering ever made in this State, and is worthy of the closest attention of breeders and the public generally. The catalogues will be issued at as early a date as possible, and will be forwarded upon application to

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Operated by one small boy. No Man required.



Spader throwing Soil from the Center.

The Pacific Spader and Vineyard Cultivator does more work in one stroke than a Disc Harrow in ten. Sizes, 5 1/2 to 12 feet.

TRUMAN, HOOKER & CO.,
San Francisco and Fresno.

SIZES:

No. 5D—6 1/2-foot Spader.....	16-inch Blades
No. 6D—7 " " " " " " " "	16 " "
No. 10D—8 1/2 " " " " " " " "	20 " "
No. 14D—7 " " " " " " " "	20 " "
No. 16D—8 " " " " " " " "	20 " "
No. 20D—10 " " " " " " " "	20 " "
No. 24D—12 " " " " " " " "	20 " "



AN OLD STYLE PULVERIZER.

Especially adapted to pulverizing "bottoms"—one man and a small boy can operate it.

Linden, Cal., Nov. 26, 1892.

Messrs. Truman, Hooker & Co.,
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Gentlemen:—I was induced by your agent, Mr. I. O. Fowler, to purchase one of your PACIFIC SPADERS, which I have tested on some very hard land and must say it does its work to perfection. I will say to all who contemplate purchasing a Cultivator to take the Pacific Spader every time. I remain

Yours very truly,

C. V. Webb.



JACKSON'S CENTRIFUGAL PUMP,
WITH VERTICAL SHAFT
FOR PUMPING FROM WELLS.

BYRON JACKSON,

— MANUFACTURER OF —

ENGINES, BOILERS, PUMPS,

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COMPLETE POWER AND PUMPING PLANTS.

Harvesting and Hay-Making Machinery.

Write for Catalogue. Address:

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All cannot possess a

\$10,000 Souvenir

(This sum was paid for the first World's Fair Souvenir Coin minted.)

in the shape of a coin, but many can have fac-similes of this valuable work of art—only special coin ever issued by the U. S. Government—for \$1 each.

United States Government

World's Fair Souvenir Coins—

*The Official Souvenir
of the Great Exposition—*

5,000,000 of which were donated to the World's Columbian Exposition by the Government, are being rapidly taken by an enthusiastically patriotic people.

As there early promised to be a demand for these Souvenirs that would render them very valuable in the hands of speculators, the Exposition Authorities decided to place the price at

\$1.00 for Each Coin

and sell them direct to the people, thus realizing \$5,000,000, and using the additional money for the further development of the Fair.

Considering the fact that there were but 5,000,000 of these coins to be distributed among 65,000,000 people, in this country alone (to say nothing of the foreign demand,) and that many have already been taken, those wishing to purchase these mementoes of our Country's Discovery and of the grandest Exposition ever held, should secure as many as they desire at once.

For Sale Everywhere

Realizing that every patriotic American will want one or more of these coins, and in order to make it convenient for him to get them, we have made arrangements to have them sold throughout the country by all the leading Merchants and Banks. If not for sale in your town, send \$1.00 each for not less than five coins, by Post-office or Express Money-order, Registered Letter or Bank Draft, with instructions how to send them to you, all charges prepaid, to Treasurer World's Columbian Exposition, Chicago, Ill.

WHEN IN WANT OF A MILL BUY THE BEST!



It Will Cost You
No More Than
Other Makes.

"The
Crane"



Was Awarded the Premium at State Fair Sacramento, OVER ALL OTHERS.

WE MAKE THEM BOTH PAINTED AND GALVANIZED.

8 1/2 and 12-FOOT DIAMETER.

Please note that an 8 1/2-foot mill has 6 1/2 feet more wind surface than an 8-foot m

EVERY MILL GUARANTEED. We will replace all parts broken by storms that do not wreck buildings.

Any Mill that does not work satisfactory may be returned to us and we will pay the freight both ways.

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POTATO PLANTER**
FERTILIZER AND CORN ATTACHMENTS. ABSOLUTELY GUARANTEED.

POTATO CUTTER
A WONDERFUL, LABOR-SAVING TOOL. FULLY WARRANTED.

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THE BEST AND CHEAPEST RIDING CORN PLANTER IN AMERICA.
Plants Beans, Peas, Ensilage, Etc. Distributes Fertilizers.

SEND FOR ILLUSTRATED CATALOGUE.

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PATRONS OF HUSBANDRY.

The Secretary's Column.

By A. T. Dawsey, Secretary State Grange of California.

GRASS VALLEY.—It was Past Master De Golia, instead of Master Henderson, who was recently reported very ill. Bro. De Golia, it is pleasant to learn, is somewhat better.

FOR CIRCULATION.—We have received from the National Grange a 16-page report of the committee on education, Alfred Messer, chairman. It is an able document. As long as the edition lasts we will send copies to all Patrons or Granges applying. We have also a few copies, to dispose of in the same manner, of a circular entitled "Report of Special Committee on Investment and Loan Association, National Grange, P. of H., 1892."

EUREKA GRANGE is languishing. Cannot brothers and sisters of neighboring Granges help revive the work and save their mountain friends from giving up the ship? "Eureka" is a good name, under which good work has been done in the cause. Let us hope that a sufficient number of the faithful ones may yet join hands with new applicants and hold the old Grange flag aloft over the green valleys and hillsides of the Sierra Nevada.

At a regular meeting of San Lucas Grange, No. 284, P. of H., held on Feb. 11, 1893, the following officers were elected to serve for the ensuing year: Mr. B. Wood, M.; Thos. Ross, O.; S. Sherwood, L.; A. J. Ferguson, S.; Miss Carrie Wood, A. S.; Mrs. B. Wood, C.; Mr. Wm. Nance, T.; Miss K. Doherty, Sec.; Mr. B. Ferguson, G. K.; Mrs. Wm. Nance, Ceres; Mrs. T. Ross, P.; Mrs. M. R. Keef, F.; Mr. Thos. Ross, Trustee. Date of installation, Feb. 26, 1893.

NO NEWS reaches us of the finding of the body of Sister Pauline Newkom, recently drowned at Marysville. The forwarding through this office of the Seventh Degree certificate for the good sister has been a painful reminder to us of her sad fate. We feel the deepest sympathy for her relatives and friends, who must receive the certificate for her shadowed with such deep sadness. Let us always look mentally upon the bright, intelligent and kindly face of the departed, and with the memory of faithful duties ably performed, rather than upon the sad manner of her departure from the large circle of faithful and admiring friends.

GRANGE CANVASS.

Before or soon after the first of April, it is expected that the W. M. will be ready to make some announcements for speaking in various parts of the State. Let all members make suggestions in aid of a most effective canvass this year. When the announcements are finally made, all good Patrons should put their shoulders to the wheel and make sure of successful meetings and effective work in all parts of the field.

THE RIGHT SPIRIT.

We take the liberty of quoting from a personal letter received Feb. 18th from Deputy Lecturer E. T. Pettit on San Jose Grange. "I propose to start out in a few days on a skirmish trip to look up the 'lay of the land,' and if I find there is even a 'fighting chance' to organize or reorganize another Grange or two in this county, I shall do my best to accomplish that end. The lively interest in our San Jose Grange meetings still continues, and new applications are received at almost every meeting."

For the encouragement of others, doubtless many of whom can go and do likewise, we publish the above, believing that, if there is a chance of success, Bro. Pettit will secure it.

GRANGE REUNIONS AND PICNICS.

No method of Grange reunion seems to be so successful as picnics. In places where Grange picnics are held annually, their popularity, not only with Grangers, but their neighbors, seems to increase, also their attendance and enjoyment. These picnics are among the best features of Grange sociability, and should be encouraged. Yet we doubt if the attempt to make them take the place of a Grange canvass, for the building up of the Order, would prove a success. Whoever attempts to make a lengthy or serious address before a picnic assembly will generally find out his mistake too late. The intercourse between Patrons and other farmers at picnics is mutually profitable and agreeable, and new and increased acquaintanceship made that way must naturally tend to the welfare of the Grange. But to make a successful appeal for the establishment of a new Grange or the revival of a dormant Grange, meetings should be held more especially for that purpose, in order that there may be time for speaking deliberately and under circumstances which the audience will naturally give undivided attention.

Let us have more picnics! Select the best speakers obtainable at home or from abroad. Prepare for them well—announce them early and repeatedly in the local press and Grange organs.

A HISTORICAL SCRAP.

The first Grange in California was organized in the foothills of the Sierra Nevada, where both farming and mining were at the time being profitably carried on. Thus the first fire upon the altar of the P. of H. was kindled in California in her free mountain air. To show who were the pioneer California men and women in the Grange work, as well as the officers at the helm in Washington, we here quote the original charter granted No. 1:

PATRONS OF HUSBANDRY.—TO ALL GOOD PATRONS EVERYWHERE: Be It Known, That application having been made by Jas. N. Rose, John Marshall, P. D. Brown, C. S. Rogers, Thomas Owens, J. W. Davis, J. P. Bayley, S. S. Blue, A. J. Bayley, A. A. Bayley, A. Martin, Wm. Norvall, J. R. Close, Silas Hayes, J. S. Martin, T. T. Lovejoy, Geo. B. Mudd, Wm. H. Matherey, John Bishop, Mrs. C. N. Jones, Mrs. S. C. Owens, Mrs. P. D. Brown, Mrs. G. B. Mudd, Mrs. A. J. Bayley, Jane Jones, Mary Jones, A. B. Lovejoy, M. R. Brown, J. E. Bayley, for a dispensation from the National Grange to organize a subordinate Grange in Pilot Hill, County of El Dorado, State of California, the same has been granted, the constitution and ritual of the Order placed in their hands, and they have full power and authority to confer the de-

grees in their subordinate Grange—Grange No. 1. Given under our hands and the seal of the National Grange, this first day of September, in the year of our Lord eighteen hundred and seventy. Signed with seal of National Grange, WILLIAM SAUNDERS, Master; O. H. KELLEY, Secretary, National Grange, Washington, D. C. Certified by A. J. BAYLEY, Sec'y Pilot Hill Grange, No. 1, P. of H.

From Sutter County.

TO THE EDITOR:—The lengthening days and the increasing warmth of the sun has dispersed the fogs that hung so long over the Sacramento valley, and now the clouds hie themselves eastward over the Sierra's to join the old western snow blizzards where the winter will, for the next two or three months repose in the lap of spring. But Mr. Editor, I only speak of this as a fact and not as a reflection.

While I would not exchange climatic and natural advantages with the East, there could be enumerated much to offset our "glorious climate," etc., which, however, I will defer for the present, only remarking that the long winters there enforce rest and recreation which is in great part denied to us.

As you are aware, the present, or I should say the past winter season, has been characterized by unusual fickleness, especially in this, the northern part of the State.

The record of rainfall to date shows a trifle less than 20 inches, or just about the average; but it came in heaps, so to speak, and rushing from the mountain sides in all directions toward the valley, the waters piled up and in numerous instances overleaped the artificial barriers, to the farmers' discomfort.

Thus it is said there will not be raised this year more than half a crop of cereals, simply because the ground cannot be seeded before it will be too late. Some very intelligent farmers place the prospect at a much less per cent, even in Sutter county, that has never had a serious failure from any cause. Of course, this only applies to the cereal crop; the fruit men are entirely satisfied with the appearance and prospects exhibited by their trees and vines.

Spring has now fairly set in and its influence is felt by every living thing, from the birds in the trees, the flocks and herds on the hillsides, the bursting buds of the orchards, and the housewife who has commenced her customary house-cleaning.

Our husbandmen may be rulers of the universe, but as to the latter the fiat has gone forth, "Thus far shalt thou come and no farther," so he takes his lunch in the woodshed, his repose in the hay-mow and his fun with the cultivator or gang-plow. My mother used to say "the rule of the tyrant is of short duration," so we are all looking forward to a cessation of these hostilities at an early day.

YUBA CITY GRANGE

Held a special meeting on Saturday last, and need I tell you that, the roads and weather being so fair, the city was alive with Patrons of Husbandry. The meetings had been regularly held all winter, but owing to much inclement weather the attendance had not been large. So on Saturday there was a general outpouring and as the audience was called to order there was not a vacant chair in the large hall. The greetings between the members was hearty and cordial and all rejoiced over the bright sunlight, over this noble Order that made us all feel as neighbors, though we resided many miles apart. The warm rays of the sun were more than excelled by the glowing smiles and merry greetings of the happy Grangers. Great indeed was the contrast with the meeting two weeks before, when the entire body was prostrate with grief over the sudden death of two of its most cherished members. I regret to say that but one of the bodies has as yet been recovered from the river's depth, that of Brother Woodworth. That of Sister Newkom still remains in its watery grave.

The object of this special meeting was to confer the first and second degrees. Of the 19 elected 17 were present, two being absent on account of high water and sickness. One member was reinstated. The class will be advanced to the third and fourth degrees at the next regular meeting, which will be on March 4th. The degrees will wind up with the usual harvest feast, and as much of a literary program as time will permit. The meeting will convene at 10 A. M. All Patrons in good standing should make it a point to be present. I cannot close this already too long letter without extending due credit to the new officers for their efficient work on Saturday. The work has never been better done in my presence and I have witnessed such events for nearly 20 years. GEORGE OHLEYER.

Yuba City, Feb. 20, 1893.

Still Bright and Booming.

Many bright and useful publications come round to us annually and the sight of them is as refreshing and welcome as the faces of friends on New Year's day. Friends' faces are kept in remembrance; good books for reference, inasmuch as they lead and teach us what is to be done in many painful straits. One such publication, always foremost, is before us, brimful of sound advice and the raciest bits of fun, original and copyrighted, from the pens of such noted humorists as Bill Nye, Ople P. Read, Danbury-News-Man and others. It is a free gift of the season at the druggists' counter, and will be sought for as the highly popular St. Jacob's Oil Family Almanac and Book of Health and Humor, 1893. The work differs somewhat from its former editions, but is none the less attractive and in many of its features is the superior of former numbers. One special feature is the "Offer of One Hundred Dollars," open to all contestants, the details of which a perusal of the book will more fully give. The almanac is sent forth by The Charles A. Vogeler Company, Baltimore, Md., proprietors of some of the best known and most reliable medicinal preparations. A copy will be mailed to any address on receipt of a 2-cent stamp by the above firm.

PATRONS OF HUSBANDRY !
GRANGE
Jewels, Badges, Working Tools,
Seals, Etc.,
GOLD AND SILVER TRIMMINGS.
SEND FOR PRICE LIST.

The Boston Regalia Co., 7 Temple Place, Boston, Mass.

The Latest Thing in Calendars.

In striking contrast to the numerous fanciful Calendars which flood the mails at this season of the year, is the one that is issued by N. W. Ayer & Son, the Keeping Everlastingly At It Newspaper Advertising Agents of Philadelphia, and which has been for years a very great favorite.

It is large enough to be easily read across a room and handsome enough to hang on the wall for a year without becoming an eyesore.

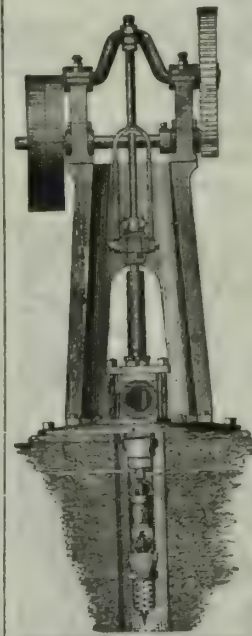
This issue has a new heading which is both artistically designed and beautifully printed.

It is so packed as to reach its destination in perfect condition, and is sent to any address, post paid, on receipt of 25 cents.

The publishers say that the sales of this calendar increase every year, and our own experience is that having become acquainted with it, we would be very loath to go back to the other kind.

Gilman's Tule Tree Protector.

This consists of a wrapping of tules so closely woven that when placed about the trunk of fruit trees it renders them absolutely safe from the attacks of rabbits, squirrels, borers, etc., and, as a matter of course, prevents the sun's rays from burning the bark, where so protected. It is manufactured by B. F. Gilman at his Tule Factory, 420 Ninth St., this city. The "Tule Tree Protector" has been tried by a number of prominent orchardists on the coast and pronounced a success. It is cheap and practical.

PERKINS, BRANDT & CO.,
117 MAIN ST., SAN FRANCISCO.

This Low Price
PUMPING
MACHINE

...Is Exceedingly...

...Designed for...

Irrigation

AND

WATER SUPPLY

FROM

WELLS.

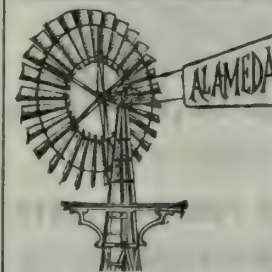
The Pump is all Brasses and the Working Parts may be drawn up Through the Pipe for Repairs. It has very long stroke, great capacity and durability. IMPORTANT—Our Economical Pumping Equipments elevate water for land irrigation at a less cost per acre than water now supplied by the canal systems in use. SPECIAL ESTIMATES ON APPLICATION.

Horse Owners! Try
GOMBAULT'S
Caustic
Balsam

A Safe Speedy and Positive Cure
The Safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes all Bunches or Blemishes from Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING. Impossible to produce scar or blemish. Every bottle sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars. THE LAWRENCE-WILLIAMS CO., Cleveland, O.

GERMEA
The Monarch of
Breakfast Foods
THE JOHN T. CUTTING CO. SOLE AGENTS

ALAMEDA STEEL WIND MILL.



10, 12 and 14 ft.
Cheaper than any First-Class Mill in the market.
Every One Guaranteed.
No bearings, no springs, no wheels to get out of order. The simplest mill in the world.
10-foot..... Write
12-foot..... for
14-foot..... Prices
Agents Wanted

TRUMAN, HOOKER & CO., San Francisco or Fresno.

BACK FILES OF THE PACIFIC RURAL PRESS (unbound) can be had for \$2.50 per volume of six months. Per year (two volumes) \$4. Inserted in Dewey's patent binder 50 cents additional per volume.

"KEYSTONE"
CORN PLANTERS
STANDARD FOR 25 YEARS.
IMPROVED UP TO DATE.
"TRACY" COMBINATION
CORN PLANTER.



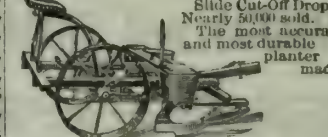
Improved for 1893.
Combines a Rotary Drop Planter, a Check Rower and a Drill.

"GALT" ROTARY DROP
PLANTER.



A plain, rotary drop planter for hand dropping or with "Keystone" or any other Check Rower attachment.

"JUNIOR" CORN PLANTER.



Slide Cut-Off Drop. Nearly 50,000 sold. The most accurate and most durable planter made.

ONE HORSE DRILL
FOR FIELD and GARDEN.



Drills Corn, Beans, Peas and many other seeds. Largely used for Ensilage Corn.

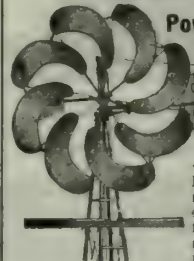
Send for free book "How to Plant Corn."

KEYSTONE MFG. CO.,

STERLING, ILL.

COLUMBIA
Steel Windmill.

.....NEW IN PRINCIPLE.....
BEAUTIFUL IN APPEARANCE.



Powerful in Operation

CONTAINS
COVERED
INTERNAL
GEAR.....

.....A TRUE SPIRAL.....
Fan surface changes from 80° at rim, where speed is greatest, to 45° at inner end, giving wind free clearance, avoiding back suction and securing greatest power.Steel Braced.....

8-Foot, \$45.

BUCKEYE PUMPS.

FRANK BROS., 33 & 35 Main St. S. F.

WIND MILLS

If you are handling WIND MILLS you cannot afford to do so longer without having our prices. If you want a Wind Mill for your own use you will lose money if you purchase before seeing our line.

ECLIPSE - HUSTLER - BELOIT

WIND MILLS are the most reliable.

ANGLE & TUBULAR STEEL TOWERS!

Fairbanks, Morse & Co.

(Mention this paper.) CHICAGO, ILL.

\$100.00 Reward!

If Browne's Pat. Squirrel Exterminator Fails to Kill.

SEND FOR CIRCULAR TO
314 & 316
S. Spring
Street,
F. E. Browne
Los Angeles,
Cal.



BEEKEEPERS SEND FOR
Sample copy of
CLEANINGS IN BEE CULTURE.
A Handsomely Illustrated
Magazine and Catalog of
FREE. AMOS I. ROOT, Medina, O.

Breeders' Directory.

Six lines or less in this directory at 50c per line per month.

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BOYNTON BROS., Hollister, Cal., A. J. C. C. Bull
Calf of best strain for sale. Write for particulars.

F. H. BURKE, 626 Market St., E. F.; Registered
Holsteins; winners of more first prizes, sweepstakes
and special premiums than any herd on the Coast
Pure registered Berkshire Pigs. All strains.

P. PETERSEN, Sites, Colusa Co., Importer & Breeder
of registered Shorthorn Cattle. Young bulls for sale.

JOHN LYNCH, Petaluma, breeder of thoroughbred
Shorthorns. Young stock for sale.

CHARLES E. HUMBERT, Cloverdale, Cal., Im-
porter and Breeder of Recorded Holstein-Friesian
Cattle. Catalogues on application.

PERCHERON HORSES.—Pure bred horses and
mares, all ages, and guaranteed breeders, or sale at
my ranch near Lakeport, Lake Co., Cal. New cata-
logue now ready. Wm. B. Collier.

P. H. MURPHY, Perkins, Sac. Co., Cal., Importer and
Breeder of Shorthorn Cattle and Poland China Hogs.

PETER SAKS & SON, Lick House, San Francisco,
Cal. Importers and Breeders, for past 21 years, of
every variety of Cattle, Horses, Sheep and Hogs.

L. V. WILLITS, Watsonville, Cal., Black Perch-
erons. Registered Stallions for sale.

POULTRY.

A. SCHELL, Acorn Nursery & Poultry Yards, Santa
Rosa. Fine trees and pure bred poultry. Price list free.

CALIFORNIA POULTRY FARM, Stockton,
Cal., send for illustrated and descriptive catalogue, free.

JOHN McFARLING, Calistoga, Cal., Importer and
Breeder of Choice Poultry. Send for Circular. Thor-
oughbred Berkshire Pigs.

R. G. HEAD, Napa, Importer and Breeder of Land
and Water Fowls. Send for New Catalogue.

SHEEP AND GOATS.

R. H. ORANE, Petaluma, Cal., breeder and importer.
South Down Sheep; also Fox Hounds from Missouri.

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T. WAITE, Perkins, Cal., breeder of registered
Berkshire Hogs and Plymouth Rock fowls.

H. J. PHILPOTT, Niles, Cal., importer and breeder
of Teumseh and other choice strains of Registered
Poland-China Hogs.

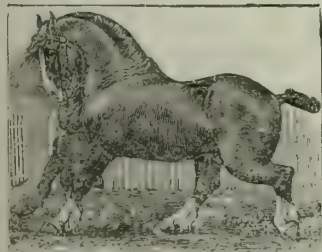
J. P. ASHLEY, Linden, Cal., breeder and importer
of Thoroughbred Swine. Small Yorkshire Victoria,
Essex and Poland-China. Superior stock. low prices.

TYLER BEACH, San Jose, Cal., breeder of
thoroughbred Berkshire and Essex Hogs.



HOLBERT & CONGER,
Importers and Dealers
Direct from Europe,
English Shire Draft,
Cleveland Bay
and German Coach
Stallions.
129 Eighteenth St.,
Los Angeles, California
Write for Catalogue.

FOR SALE!



A Select Number of
CLYDESDALE STALLIONS!
Descendants of the Best and Most Fashionable Strains.
Further Particulars, with Pedigrees, upon
application to

H. P. MOHR, Mount Eden Alameda Co., Cal.

COLTS BROKEN.

THE SOUTHER FARM,

One and a half miles northeast of San
Leandro, Alameda County,

— HAS —

Every Facility for Breaking Colts Properly

Rates Very Reasonable.

HORSES BOARDED AT ALL TIMES

THE SOUTHER FARM,

GILBERT TOMPKINS, Proprietor,

P. O. Box 149, San Leandro, Cal.

LITTLE'S CHEMICAL FLUID NON-POISONOUS SHEEP DIP.

BEWARE OF CHEAP IMITATIONS.



One gallon, mixed with 60 gallons of cold water, will dip thoroughly 180 sheep, at a cost of one cent each. Easily applied; a nourisher of wool; a certain cure for SCAB. Little's dip is put up in red, iron drums, containing 5 English or 63 American gallons, and is sold to the trade by the English gallon. For the convenience of our many customers it is also put up in one-gallon packages, for which we make no extra charge. Each drum and package bears the label of "Little's Dip."

CATTON, BELL & CO.

(Successors to FALKNER, BELL & Co.)

NO. 406 CALIFORNIA STREET, SAN FRANCISCO, CAL.



Mann's Green Bone Cutter FOR POULTRY FOOD.

Patented June 15, 1886; August 20, 1889. Canada Patent, June 12, 1890.

WE WARRANT this machine to cut Dry or Green Bones, meat, gristle and all, by Hand Power, without clog or difficulty, or MONEY REFUNDED. GREEN CUT BONE WILL DOUBLE THE NUMBER OF EGGS, will make them 25 per cent more fertile, and increase the vigor of the whole flock. COST OF FEEDING MATERIALLY LESSENED.

These Cutters are endorsed by all the leading California poultrymen. Send for a Catalogue describing all sizes of Cutters and containing valuable information in relation to feeding green cut bones.

PETALUMA INCUBATOR CO.,

Pacific Coast Agents.

PETALUMA, CAL.

IMPERIAL PEKIN DUCKS

Exceedingly Fine Breeding Stock For Sale at Reasonable Figures.

ALSO, DARK BRAHMA HENS AND PULLETS FOR SALE.

The Best of Winter Layers.

MISS FORBES, - Box 251a, - Napa City, Cal.

MANHATTAN STOCK FOOD.

RED BALL BRAND

Genuine only with RED BALL brand.

Recommended by Goldsmith, Marvin, Gamble, Wells, Fargo & Co., etc., etc. It keeps Horses and Cattle healthy. For milch cows; it increases and enriches their milk.

623 Howard St., San Francisco, Cal.



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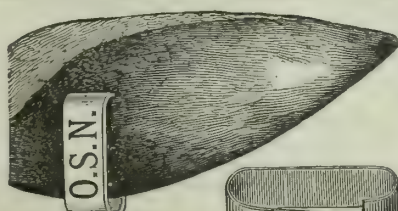
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None For Rent!

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Is Your Stock 120

Worth Marking?

If so, use the best mark for sheep or cattle, Dana's White Metal Label. Used by Recording Associations, leading breeders and ranchers. I stamp your name or address and consecutive numbers. Samples free. Mention paper.

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Durham, Devon & Polled Angus BULLS AND HEIFERS.

Recorded and guaranteed pure bred, FOR SALE, single or in carload lots. Prices very reasonable. Address:

GEO. A. WILEY,

Oakwood Park Stock Farm,

DANVILLE, Contra Costa Co., Cal.



SHEEP DIP

IS THE BEST.

Awarded Grand Silver Medal by the State Agricultural Society at the State Fair, 1892. This is the ONLY silver medal ever awarded by the Society for a Sheep Dip. It is the highest award.

J. W. GRACE & CO.

480 California Street, San Francisco.

General Agents for the Pacific Coast



MONEY "HOW CAN I Make Some?"

By using the Pacific Incubator and Breeder, which will hatch any kind of eggs better than a hen. In universal use. Gold Medal wherever exhibited. Thoroughbred Poultry and Poultry Appliances. Send 8 cts. in stamps for 82-page catalogue with 30 full-sized colored cuts of thoroughbred fowls, to Pacific Incubator Co., 1307 Castro St., Oakland, Cal.

NO HATCHER MADE

Can show better results Over 50 in successful operation at Decatur, Ill., alone. The greatest hatch ever accomplished, 223 chicks hatched at one time, with a 20 capacity Reliable Incubator. Hundreds of testimonials. Enclose 4 cents in stamps for new illustrated catalogue. RELIABLE INCUBATOR & BROODER CO., QUINCY, ILL.

EGGS! EGGS! EGGS!

S. C. White and Brown Leghorns, White Minorcas, Barred Plymouth Rocks. My pen of Barred Plymouth Rocks won second prize at the great Petaluma Show. Eggs from Leghorns and Minorcas, \$3.50 per 13, \$4 per 20; B. Plymouth Rock eggs, \$3 per 13. Satisfaction guaranteed to all.

FRANK A. BRUSH,

Care Santa Rosa National Bank, SANTA ROSA, CAL.



THE HALSTED INCUBATOR

COMPANY,
1512 Myrtle Street, Oakland, Cal.
Send Stamp for Circular

ANGORA GOATS FOR SALE.

A number of pure-bred Angora Goats in lots to suit.

This is the stock of goats formerly owned by Julius Weyand and will be sold cheap for cash. Address

ERNEST WEYAND, Colusa, Cal.

MECHAM & FRITSCH,

Importers & Breeders of Red Polled Cattle.

We have 200 head of Full Bloods and Crossbreds on Devons. Bulls and Heifers for sale. Address communications regarding Cattle to MECHAM & FRITSCH, Petaluma, Cal.



MECHAM & HINKLE,

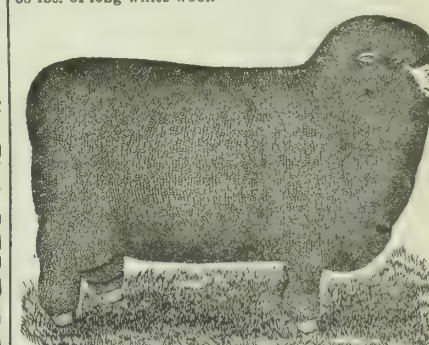
Importers & Breeders of Shropshire Sheep.

The flock was imported or bred direct from imported stock. The Shropshire excels all mutton breeds for a cross on the merino—giving more wool and mutton than that from any other breed. Pure and Cross-bred Rams and Ewes for sale. Direct inquiries regarding Shropshires to MECHAM & HINKLE, Petaluma, Cal.



H. MECHAM,

Breeder of American Merino Sheep Without Horns. The only flock in the United States. When we bought our sheep East 24 years ago, among them was a ram without horns. He grew to be a fine large sheep, hearing at 2 years old, a 12-month's fleece, 35 lbs. of long white wool.



I have bred from him and his get ever since and he never made an out-cross and never used the same ram but one year on the same flock. My rams at two years old weigh from 160 to 180 lbs., have a strong constitution, without wrinkles, and will shear on an average about 25 lbs., a 12-month's fleece, of long white wool. Rams and Ewes for sale. P. O. Address Story Point, Sonoma Co., Cal. R. R. Station, Petaluma.

RABBIT-PROOF

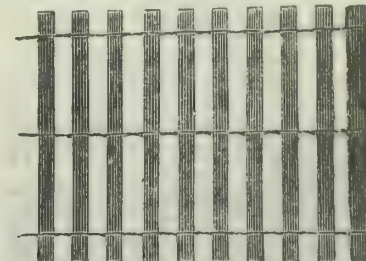
STOCK FENCE.

Cheap, Durable and Effective.

Pickets colored red by bolting in a chemical paint to preserve the wood. We make it 2 ft., 2 1/2 ft., 4 ft., 4 1/2 ft. and 6 ft. high. Send for circulars and price list to

JUDSON M'FG CO.,

12 & 14 Fremont St. San Francisco.



The above cut shows a section of the Judson 2-ft. Rabbit-Proof Fence. By stretching barbed wires on the posts above it, it will turn any stock whatever

Short-Horn BULLS

Calves, Yearlings and 2-year-olds

FOR SALE.

ROBERT ASHURNER,

Baden Station, San Mateo County, Cal.

Only three-fourths mile from the terminus of the S. F. and San Mateo Electric Road.

ALL KINDS

JERSEY CATTLE

FOR SALE BY

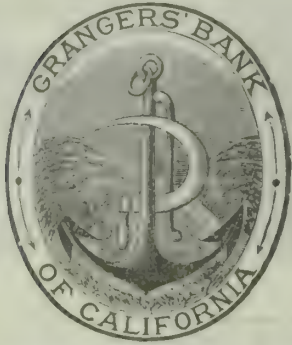
H. A. MAYHEW. NILES, CAL.

APIARIAN SUPPLIES.

Golden Italian Queens, \$2.00 each. Tested, \$2.00 each; untested, \$1.00 each. L. Hives, \$1.90 each. Root's V groove sections, \$5 per 1000. Dadant's comb foundation, 68c and 65c a pound. Smokers \$1 each. Globe vials, \$1 each, etc. **WM. STYAN & SON**, San Mateo, Cal.

GRANGERS' BANK. RED SEAL GRANULATED 98% LYE

OF CALIFORNIA,
SAN FRANCISCO, CAL.
Incorporated April, 1874.



Authorized Capital.....\$1,000,000
Capital paid up and Reserve Fund 800,000
Dividends paid to Stockholders... 720,000

OFFICERS
A. D. LOGAN.....President
I. C. STEELE.....Vice-President
ALBERT MONTPELLIER.....Cashier and Manager
FRANK McMULLEN.....Secretary
General Banking. Deposits received, Gold and Silver
Bills of Exchange bought and sold. Loans on wheat and
country produce a specialty.

January 1 1893 A. MONTPELLIER, Manager

DELINQUENT SALE NOTICE.

Grangers' Bank of California.

Location of Principal Place of Business:
SAN FRANCISCO, CAL.

NOTICE.—There are delinquent upon the following described stock, on account of Assessment No. 9, levied January 10th, 1893, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. of Cert.	No. of Shares.	No. of Amt.
Harvey J. Lewelling, Tr. for Lewis L. King.....	3067	50	\$500
Harvey J. Lewelling, Tr. for Clinton S. King.....	3068	50	500
Harvey J. Lewelling, Tr. for Elva C. King.....	3069	50	500

And in accordance with law, and an order of the Board of Directors, made on the 10th day of January, 1893, so many shares of each parcel of such stock as may be necessary will be sold at public auction at the office of their Bank, No. 300 California Street, corner of Battery Street, San Francisco, California, on Thursday, the 9th day of March, 1893, at the hour of 1 o'clock P. M., of said day, to pay delinquent assessments thereon, together with costs of advertising and expenses of sale.

FRANK McMULLEN, Secretary.
Office—300 California Street, N. W. corner of Battery Street, San Francisco, California.

Harvey J. Lewelling, Trustee, has commenced suit in the Superior Court of Alameda county against Elva C. King et al to have the present trust ended and the stock sold.

FARMERS who have used the CUTAWAY HARROW AND CUTAWAY TOOLS, —REPORT— increased crops.



CUTAWAY HARROW CO., HIGGANUM, CONN.
New York Office, 18 CHURCH ST., New York City.

ALLISON, NEFF & CO.,
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General Agents for Northern California.



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HAS NO EQUAL

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FOR TREE WASH!

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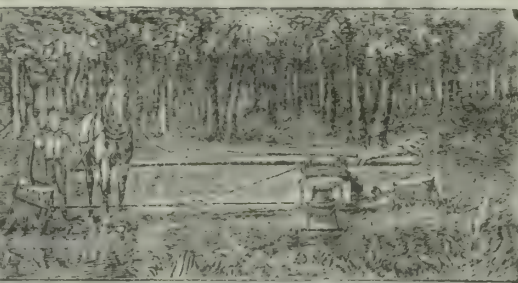
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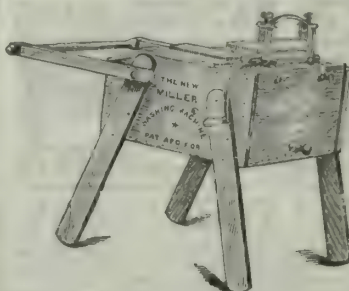
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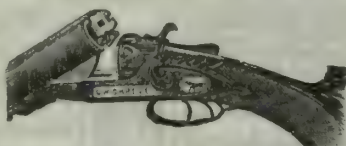
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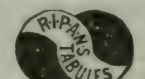
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S. F. MARKET REPORT

Market Review.

SAN FRANCISCO, Feb. 21, 1893.

The volume of business in the produce markets during the past six days has been satisfactory, except in two or three important articles. Wheat is lifeless. Poultry has done well until to-day. Eggs are lower and butter is in buyer's interest. Fruits move off very well, though they might be better. Vegetables are generally scarce and the demand good. Dried fruits are very firm. Pork products have apparently reached top notch, and are at a standstill. Such, in brief, are the leading features of trade.

Grains.

The wheat market during the week has betrayed exceptional weakness. Prices range lower and the trade movement is smaller. There appears to be no new or unusual reason for this lifelessness, but it is accountable on the ground that it is simply a feature of the prevailing dullness and apathy in wheat throughout the world. It may be also that favorable crop conditions in the United States, England and France have their effect, inasmuch as they indicate—somewhat indefinitely, it is true, at this early season—a heavy yield for 1893. Crop reports from the United States are for a heavy yield, though, in the equation of chances, it seems hardly likely that another season can prevail without a drawback of some kind. That is to say, if the United States in 1893 produces a wheat crop without seasonal or other disaster, after the phenomenal year of 1891 and the heavy output of 1892, the achievement will be without parallel in the history of wheat production. Three heavy yields in three successive years are practically unknown in any country. The United States will be entitled to rank as the safest and surest producer on the globe. So far there are no indications that the third year will not thus be safely and satisfactorily passed, but the season of trial is ahead yet. It is, after all, too early to talk understandingly of crop prospects and conditions.

In California seeding is practically finished, though it is still going on in some places. Reports are that the acreage for 1893 will be about the same as 1892. Less has been seeded on the lowlands, but the loss there appears to have been fully made up in the uplands and foothills. The fine rains have put the farmers in a most agreeable mood, and the present clear weather has come just at the right season.

Recent advices from Victoria, Australia, give the estimated wheat crop of that section at 16,471,000 bushels, which equals 11.98 bushels per acre, against 13,387,500 bushels, equal to 10.73 bushels per acre for the previous season. Deducting 6,492,500 bushels for the colony's food requirements and 1,750,000 bushels for seed, it is estimated that there is an exportable surplus of 8,258,000 bushels. To this must be added the quantity carried from last season, which is larger than usual. As the New South Wales demand for breadstuffs will be much smaller than usual, it is expected that about 2,400,000 bushels will fully satisfy the inter-colonial demand, and nearly 157,000 tons must therefore find a market outside the colonies. Chartering proceeds slowly and the market is quiet at 25s.

Barley holds its own, though the market is without special change. Brewing displays some activity on export account, and the better grades have received some inquiry from local maltsters.

Oats are very slow and the lower grades have eased off.

Corn is lower.

Rye offerings are freer, and the late indication of a rise has for the present disappeared.

Dried Fruits.

Relative to dried fruits, a local authority says: "The special feature of the week's business in dried fruits has been the brisk demand from the East for raisins of all kinds. Three Crown Loose are held firm at 4@4½c. Two Crown 3½c, with an occasional asking price of a quarter of a cent more for fancy stock.

"Several cars of London layers have changed hands at from \$1.27½ to 1.35 F. O. B., with practically no stock of this latter article left on the Coast.

"From reliable information, it is stated, there are now less than 100 cars of raisins on this Coast, including all stocks in San Francisco. The amount is so small as compared with former years, that holders feel justified in expecting much higher prices than those now prevailing. All other lines of dried fruit are held firm, with an occasional advance for extra grades.

"Prunes are being shipped out freely at full figures, while carloads of peaches are getting scarce. The demand from the smaller cities East for assorted cars is remarkably large, showing small stocks at all large distributive centers East.

"With the abatement of storms in the Northwest, it is expected large orders from there will still further advance prices here, as stocks are getting down to a very small amount."

The notable feature in the market during the week has been the firmness and general feeling of confidence in all lines of dried fruits. There has been no change in quotations, except for stemmed two crown raisins, which are now quoted at 3 @ 3½c.

Fresh Fruits.

The milder weather has created a somewhat better demand for fresh fruits, and sales are made with more readiness at quotations. The arrivals yesterday were 10 carloads of all varieties, but notwithstanding, quotations suffered no change. The range in oranges is quite wide. Fancy navel bring \$3 @ 3.25, and one dealer reports sale of an extra fine lot at \$3.50 per box. Lower grades, however, must sell for what they bring, being in some cases as low as \$1. The quality of orange is constantly improving. Dealers say they expect those who have been holding back to ship in freely before long. The Eastern markets of course will have an important effect upon the local. If the reports of the Florida freeze are verified—and there seems to be no reason to expect they will not be—shippers will not be compelled to turn to San Francisco to dispose of more of the product than will satisfy the usual demands. If, however, prices decline, or even do not advance there, it may be expected that the effect here will be a drop.

Apples are coming in freely, in more or less good

condition. Choice red continue to bring top prices, while inferior grades—and the supply is abundant—sell low.

Lemons are not doing quite as well as oranges just at this time. When prices were high, several months back, dealers imported many carloads from the East, and all this stock is not yet disposed of.

Limes have taken a jump upward under light receipts.

Provisions.

Pork products appear to be incapable of further material advancements. Conditions have not changed during the week, and the market is strong; but, for the first time in several weeks, it is not necessary for the RURAL PRESS to mark up quotations.

Vegetables.

Potatoes are firm in all lines and River Reds have advanced, in response to the general strong condition of the market. Onions are high and the demand good. Asparagus has been coming in freely of late, and it is quite impossible to quote a standard price. Good peas are active and tomatoes in small boxes bring \$1@1.25; in large boxes, \$3.25. String beans are in small supply. Good green peppers were to be had yesterday. The present good weather, if continued, is certain to bring in new vegetables at an early date.

Poultry.

Poultry sold well during the week, but to-day, as one dealer expressed it, the market "busted." Turkeys are in large receipt, and prices were much lower to-day. The general range of quotations is a little lower, though not much. The market may still be said to be in good condition, though subject to the usual fluctuations from day to day.

There is no noteworthy change in game. The market has not livened up in anticipation of the beginning of the close season, March 1st.

Butter, Cheese and Eggs.

Eggs are lower under large receipts. Prices are 23c for ranch and 21c for store.

Mild new cheese is coming in freely, and prices rule easy.

Butter market is slow, and top prices have been passed for the present.

Fruit and Canned Goods.

The shipments of Fruit and Canned Goods from this State to the East by rail in January ("Los Angeles and South" not being reported) were as follows, in tons:

From	Dried Fruit.	Canned Goods.	Raisins.
San Francisco.....	338	984	63
Sacramento.....	21	293	82
San Jose.....	155	500	.....
Marystown.....	20	74	4
Stockton.....	60	.....	1,608
Oakland.....	29	.....	.....
Totals.....	589	1,880	1,757

The shipments from the same terminals in January, 1892, were 895 tons Canned Goods, 1,278 tons Dried Fruit and 1,167 tons Raisins. In that month 293 tons Canned Goods, 27 tons Dried Fruit, 869 tons Green Fruit and 157 tons Raisins were shipped from Los Angeles and South.

California Barley for New York.

In the last six months of 1892, fifteen ships were cleared from this port for New York, with barley as part of cargo. The first ten have arrived with 215,278 cents. The other five carried 76,197 cents. These are still on the way. An invoice of 10,000 cents was also cleared on the Charles E. Moody last month. Other lots have been sent by steamer from time to time.

California Wine Trade.

The total shipments of wine by sea and rail in January were as follows:

Destinations.	Gallons.	Cases.	Value.
Foreign by sea.....	40,152	1,107	\$28,839
Eastern by sea.....	669,887	119	253,381
Totals by sea.....	710,039	1,226	\$282,220
By rail.....	442,800	.....	177,120
Aggregate.....	1,152,839	1,226	\$459,340

The rail shipments are exclusive of quantities forwarded from Colton and Los Angeles. These terminals now being omitted from the railroad reports as furnished for publication. In January, 1892, the total shipments by sea and rail, omitting Colton and Los Angeles, were 630,294 gallons and 1390 cases, valued at \$282,102.

The movement by sea in the past month was unusually active, over 670,000 gallons having been sent to Eastern States. The bulk of the wine for New York, etc., went via Cape Horn.

Recently a sale of 12,000 gallons of 1891 white wine was made for Bremen at 20 cents per gallon, says the St. Helena Star. The price was not on board the cars at Bell's Station, and cash down. The sample package previously sent to Bremen was reported on very favorably as to quality, etc. "Nothing could be better proof," says the Star, "than the above sale that good wine will command a fair price, and that by holding out a short time the producers will reap a remarkable benefit."

In 1892 the shipments of wine to Germany were 54,440 gallons and 111 cases, valued at \$24,257. This was quite an increase over 1891, there having been shipped in that year 16,246 gallons and 394 cases, valued at \$11,134. In the past year the total shipments to Europe were 140,743 gallons and 127 cases, valued at \$67,028, as against 81,559 gallons and 438 cases in 1891, valued at \$38,919. Extending the comparison to 1890, we find that in that year the shipments were somewhat smaller, amounting to only 43,500 gallons and 878 cases, valued at \$24,619. This comparatively large increase in the European demand for California wines speaks volumes in their favor, and is an indication of what may be expected in the future.

Shipments of Hops.

Shipments of hops from the State during January by rail and sea were as follows:

January	1892.	1893.
By rail, lbs.....	430,000	268,000
Sea.....	33,318	2,889
Totals.....	513,318	260,889
Increase.....	.....	252,429

The total by sea and rail in January, 1891, was 98,763 pounds.

Markets by Telegraph.

Chicago Markets.

CHICAGO, Feb. 20.—Wheat was moderate trade and unsettled; opened ½c higher; declined ½c on lower cables; advanced on decrease in visible supply; declined ½c on sales to take profits and closed steady ½c higher than Saturday. Receipts, 92,000 bushels; shipments, 22,000; rye, 52½c; barley, 64c; flax, \$1.24; timothy, \$4.46. At the close of the market, wheat was steady; cash, 78c; May, 76½c. Corn, lower; cash, 40½c; May, 43½c. Oats, easy; cash, 30½c; May, 33½c. Live Stock.—Cattle receipts, 21,000 head; 10@16c lower; best steers, \$5.00@5.95; good to choice, \$5.60@6.40;

others, \$4@4.90; Texans, \$3.25; stockers and feeders, \$3.70@4.10.

Hog receipts, 23,000 head; slow and steady to lower; mixed to good packers, \$7.95@8.25; prime heavy and butchers' weights, \$8.30@8.50; assorted lights, \$8@8.10; other lights, \$7.50@7.75; pigs, \$5.50@6.50.

Sheep receipts, 10,000 head; steady; natives, \$4.25@6.40; Westerns, \$5.15@5.35.

Miscellaneous.—Shoulders, \$9.87½@10; short clear, \$10.90@10.95; short ribs, steady; cash, \$10.22½; May, \$10.27½. Pork, steady; cash, \$18.95; May, \$19.30. Lard, steady; cash, \$12.80; May, \$12.85.

Visible Grain Supply.

NEW YORK, Feb. 20.—The visible supply of grain is as follows: Wheat, 80,216,000 bushels, a decrease of 773,000; corn, 14,703,000 bushels, an increase of 556,000; oats, 5,637,000 bushels, a decrease of 185,000; rye, 917,000 bushels, a decrease of 1000; barley, 1,903,000 bushels, a decrease of 172,000.

British Grain Trade.

LONDON, Feb. 20.—The Mark Lane Express says: English grain is 61 to 1 lower. Foreign wheat, steady in London for Red Winter and Calcutta, but weak for California. American flour 8d down on the week. Corn has risen in many markets, and the demand exceeds shipments from America and Russia combined.

New York Markets.

NEW YORK, Feb. 20.—Hops.—Hops are quiet, with demand extremely tame; the offerings are moderate. Cables report London dull with a downward tendency.

Raisins.—The opinion is general that the advance in California raisins is in its infancy. Other California dried fruits are not receiving the same degree of attention, but prices remain stiff all along the line, and the strength of the market in all instances seems to have substantial backing that comes from a favorable statistical position.

Beans.—Dried Lima beans are higher than at any time since the late large corner was engineered. In point of fact, firm markets prevail for nearly all California products except canned fruit.

Produce Receipts.

Receipts of produce from all sources at this port for 7 days ending February 21, 1893, were as follows:	
Flour, qr. sks.....	41,358
Wheat, cts.....	277,972
Barley, ".....	37,323
Oats, ".....	34,358
Corn, ".....	4,360
Butter, ".....	648
Peas, cts.....	449
Eggs, doz.....	34,720
Beans, sks.....	1,618
Potatoes, sks.....	17,040
Onions, ".....	934
Brass, sks.....	20,580
Buckwheat, ".....	.....
Middlings, ".....	3,791
Screenings, ".....	.....
Chicory, bbls.....	.....
Hops, bbls.....	54
Hay, ton.....	1,500
Straw, ".....	106
Wine, gals.....	206,880
Brandy, ".....	9,710
Raisins, bxs.....	1,731
Honey, cs.....	.....
Peanuts, sks.....	.....
Walnuts, ".....	.....
Almonds, ".....	10
Mustard, ".....	34
Flaxseed, ".....	.....
Popcorn, ".....	.....
Broom corn, bbls.....	.....
Leather, rolls.....	537
Hides, cts.....	333
Tallow, ".....	1,770
Felts.....	468

Grain Futures.

Liverpool.

The following are the closing prices paid for wheat options per cwt. for the past week:

	Feb.	Mar.	April.	May.	June.	July.
Thursday.....	5609½d	5610d	5610d	5604½d	5600½d	5611½d
Friday.....	5609d	5609½d	5610½d	5600d	5600d	5601d
Saturday.....	5609d	5609½d	5610½d	5611½d	5601½d	5601½d
Monday.....	5609d	5609½d	5610½d	5611½d	5601½d	5601½d
Tuesday.....	5609d	5609½d	5610½d	5611½d	5601½d	5601½d

The following are the prices for California cargoes for off coast, nearly due and prompt shipments for the past week:

	O. C.	P. S.	N. D.	Market for P. S.
Thursday.....	30s3d	31s3d	30s3d	Quiet
Friday.....	30s3d	31s3d	30s3d	Very slow
Saturday.....	30s3d	31s3d	30s3d	Unchanged
Monday.....	30s3d	31s3d	30s3d	Firmer
Tuesday.....	30s3d	31s3d	30s3d	Firmer

To-day's cablegram is as follows: LIVERPOOL, Feb. 21.—Wheat—Slow. California spot lots, 6s 1½d; off coast, 30s; just shipped, 30s 9½d; nearly due, 30s; cargoes off coast, very slow; on passage, very dull; wheat on passage to Continent, 68d, 00d qrs.; wheat and flour on passage to U. K., 3,245,000 qrs.; weather in England, very wet.

Eastern Markets.

The following shows the closing prices per bushel of wheat for the past week at

New York.

	Feb.	March.	May.	July.
Thursday.....	78½	78½	80½	81½
Friday.....	77½	78½	80½	81½
Saturday.....	77½	78½	80½	81½
Monday.....	78½	77½	80½	81½
Tuesday.....	78½	77½	80½	81½

The following is to-day's telegram—per bushel: NEW YORK, Feb. 21.—Wheat—77½c for March; 80½c for May and 81½c for July.

Chicago.

	Feb.	March.	May.	July.
Thursday.....	74½	77½	77½	77½
Friday.....	74½	77½	77½	77½
Saturday.....	74½	77½	77½	77½
Monday.....	74½	77½	77½	77½
Tuesday.....	74½	77½	77½	77½

The following is to-day's telegram—per bushel: CHICAGO, Feb. 21.—Wheat—77c for May.

San Francisco.

WHEAT.

	Feb.	May.
Thursday, highest.....	\$1.32½	\$1.31½
"lowest.....	\$1.28½	\$1.30
Friday, highest.....	\$1.31	\$1.29½
"lowest.....	\$1.27½	\$1.29
Saturday, highest.....	\$1.30	\$1.29½
"lowest.....	\$1.27½	\$1.29
Monday, highest.....	\$1.27½	\$1.28½
"lowest.....	\$1.28½	\$1.28½
Tuesday, highest.....	.....	.....
"lowest.....	.....	.....

*Sample market—choice milling. The following are to-day's recorded sales on Call: Morning Informal.—Wheat—May, 100 tons, \$1.29, 1300. Season.—May, 400 tons, \$3½c @ cti. Afternoon.—Seller 1893, new—100 tons, \$4c; 100, \$4½c @ cti.

BARLEY.

	Feb.	May.
Thursday, highest.....	84½	84½
"lowest.....	84½	84½
Friday, highest.....	84½	84½
"lowest.....	84½	84½
Saturday, highest.....	84½	84½
"lowest.....	84½	84½
Monday, highest.....	84½	84½
"lowest.....	84½	84½
Tuesday, highest.....	.....	.....
"lowest.....	.....	.....

*Sample market—choice brewing. The following are to-day's recorded sales on Call: Informal.—Barley—May 300 tons, \$3½c @ cti. Regular Session.—May, 200 tons, \$1.28½, 700, \$1.28½. Buyer May—100 tons, \$1.30 @ cti. Afternoon.—May—300 tons, \$1.28½ @ cti.

Live Stock.

	Feb.	May.
Thursday, highest.....	84½	84½
"lowest.....	84½	84½
Friday, highest.....	84½	84½
"lowest.....	84½	84½
Saturday, highest.....	84½	84½
"lowest.....	84½	84½
Monday, highest.....	84½	84½
"lowest.....	84½	84½
Tuesday, highest.....	.....	.....
"lowest.....	.....	.....

General Produce.

Extra choice in good packages fetch an advance on top quotations, while very poor grades sell less than the lower quotations.

FEBRUARY 21, 1893.

BEANS AND PEAS.		Do country m's 3.90 @	
Bayo, cts.....	2.50 @ 2.60	Superfine.....	2.50 @ 3.00
Butter.....	2.75 @ 3.00	NUTS—JOBBER.	.....
Peas.....	2.75 @ 2.80	Walnuts, hard	.....
Red.....	2.75 @ 3.00	shell, Cal. lb.....	6 @ 8
Pink.....	2.75 @ 3.00	Do soft shell.....	10 @ 12
Small White.....	2.75 @ 2.85	Do paper-shell.....	12 @ 14
Large White.....	2.70 @ 2.80	Almonds, off-shl.....	12 @ 13½
Lima.....	3.00 @ 3.10	Paper shell.....	13 @ 15
Fl'd Peas, blk eye 1 10 @ 1.65		Hard shell.....	7 @ 8
Do green.....	2.00 @ 2.25	Brazil.....	10 @ 10
Split.....	4.50 @ 5.50	Pecans, small.....	8 @ 10

BUTTER.		ONIONS.	
Cal., poor to	15 @	Silverkin.....	1.75 @ 2.10
fair, lb.....	20 @ 22½	POTATOES.	.....
Do g'd to choice	24 @ 26	River Reds.....	60 @ 70
Do Giltedged.....	24 @ 26	Early Rose, cti, 1.00 @ 1.10	
Do Creamery.....	25 @	Peerless.....	30 @ 30
Do Giltedged.....	25 @	Do do Salinas.....	30 @ 1.40
Eastern, ladie.....	15 @ 18	Do do Oregon.....	1.15 @ 1.25
Cal., Pickled.....	17½ @	Sweet.....	50 @ 75
Cal., Kg.....	17 @	Extra choice sell for more	money
East'n Cream.....	19 @ 20		

Additional Grange News.

From the Worthy Master.

Reports of Grange interest and Grange growth are still coming in.

Pomona Grange, No. 1, is in Sonoma county. Subordinate Grange, No. 1, is at Pilot Hill, El Dorado county.

The next session of the National Grange will be, in all probability, held in York State.

The next session of the State Grange will be held in Petaluma, Sonoma Co., Cal., beginning the first Tuesday in October. Petaluma is a thrifty commercial city of 7000 population; is on the line of the S. F. & N. P. Ry., with three trains per day to and from San Francisco, and a daily steamer. The railroad fare from San Francisco is \$1. For members of the Grange there will be half-fare rates. Other inducements will be offered and will be announced in due time. Keep this in mind: You will be expected at Petaluma next October, and if you come, the Petaluma people and Petaluma, Two Rock, Glen Ellen, Sebastopol and Santa Rosa Patrons will see that you have a good time. Ho for Petaluma!

Do you place a value of more than 100 cents on a dollar? If you do, you are making a great, big, grand mistake. Don't crowd in the rush for the dollar; if you do, damage to manhood, or womanhood, for more than the value of the coin will follow. There is always, in all places, a small or large premium on manhood and womanhood. Better go at a premium than for less than par value. Think a little about it, won't you?

While you are fertilizing the field, the orchard or the garden, for Heaven's sake don't forget to fertilize the brain as well. You know there is no labor done, that, in a lifetime, brings a more certain, marketable yield than to increase the productive power of the brain. But to do this requires work on the part of the owner of that brain. He must be vigilant, industrious and careful, and be always sure to apply the right assistant at the right time and in the right way. It is intelligence that gives alacrity and success.

By the date of the next issue of RURAL, there will be a change in the administration of national affairs. How much will the farmer gain by the change? How many farmers will get relief from the Cleveland administration and how will they get it? Let us see, says the blind man.

The very interesting program prepared for the Farmers' Institute of Sacramento by a committee from Pomona Grange, No. 2, ought to draw out a lively discussion and big attendance. The subjects are fresh and important ones, and the persons assigned to them are well posted and fully competent to instruct. Let the farmers of Sacramento county attend and make this institute a crowning success.

Education ought to apply to every part of our individuality. Not to the mind alone; not to the body alone; but to every faculty, organ, muscle and ingredient of our make-up. Theory and practice want to be fully united. We ought to teach honesty both by practice and by theory. There are not too many honest people in the world. This idea of being honest in two acts and dishonest in the third one, does not fill the bill of honesty. Nor is it fair to be honest only when it pays to be honest, and dishonest when there is more money in dishonesty. Every man has seen an opportunity to make money by dishonest action. Alas! too many have improved the opportunity. This is unfortunate, but true. Let us teach, preach and practice "that honesty is always the best policy."

Do you know how many people there are who prefer to criticize the words, acts and thoughts of others? Do you know that the human family is an army of critics? and do you know that not one in a hundred of them is willing to be criticised? Let any one make an effort, however honest, to do a kindly act and, sure as fate, the critic assails him. It is not strange that, in our Grange work, so many of the members prefer (as they call it) to occupy a "back seat." For my own part I never care for a personal criticism. I do hate to be overthrown in an argument; but there is no feeling whatever toward or against the person who makes simply a personal assault. Several times it has been my fortune to be thus personally assailed, and time has been too valuable to resort to a reply. The world cares nothing for our personal matters. The public is too busy with daily details to squander time on personal affairs. Let principles be fought for; let persons take care of persons, and all the world will be better off and more progressive. The Grange is so much bigger and better than any of its members that no one of us should lose sight of the principle for the person. Better fight for a principle and lose, than fight for a person and win.

J. E. Blackford, Worthy Master of the Iowa State Grange, has thanks for a copy of the Journal of Proceedings of the later session of the Iowa State Grange. There are many good things therein, and at a later day some of those good ideas will be utilized through the columns of the RURAL.

Suggestions for the good of the Order are now in order. Never mind your personal notions. Give us something broad-minded and that will help all alike. No narrow views; no selfish ideas.

The Farmer and the Squirrel.

The ground squirrel is a cunning little beast, with an appetite only equalled by his remarkable propensity to increase his kind. With sagacity and industrious habits, acquired by heredity and necessity, he has managed to build up a reputation that has made him a terror and an outlaw. While the farmer everywhere knows him, and is more or less familiar with his thievish and destructive characteristics, it is probable that comparatively few fully realize the immense amount of loss that he is capable of causing a district or State in the aggregate, say for one year, much less for a series of years.

It is with the view of conveying some approximate notion of the squirrel's great capacity as a destructive agent, while gratifying his inordinate appetite, that the following facts and figures are submitted:

Some practical and observant farmers have said that every squirrel killed was as good as one sack of wheat or its equivalent saved. Whether this be so or not, it is safe and extremely conservative to say, that one squirrel or gopher will eat his own weight each month, and probably destroy as much more. Allowing his weight to average one and three-quarters pounds, he will eat and destroy about 40 pounds a year. Now, to give the agricultural districts of California the benefit of 100,000 of these pests actively at work through the greater part of the year, the figures for the aggregate consumption will be found to show up 4,000,000 pounds, a very respectable amount. While 2000 tons of food products lost each year is no small item for producers to consider, this estimate is so modest that those who have given the subject attention will be quite likely to multiply it several times.

These disagreeable facts constantly staring the producers in the face, it is not at all strange that many efforts should have been made to exterminate the evil as far as possible. While most attempts in this direction have proved failures, it is only fair to say that one plan has proved a notable success. This preparation is known far and wide as "Wakelee's Squirrel and Gopher Exterminator." It was the result of scientific and patient study and a full appreciation of the importance of the subject with which it had to deal, and as it has now been on the market for over 15 years, events have proven its complete success and fully justify the immense and yearly increasing sales.

It is estimated that in the 15 years past, more than 10,000 tons of squirrels and gophers have been destroyed by its use alone. Let the curious in figures go into this fact, and by the light of the above hints find out the amount of food it would have required to have made those tons of varmint contented. This preparation is put up in one-pound and five-pound cans, will keep any length of time and is not at all expensive. Directions accompany each can.

Worthless imitations of this valuable preparation are so numerous that the farmer should be extremely careful to obtain the genuine Wakelee Exterminator.

WHILE paper is being used for dozens of purposes formerly monopolized by wood, or even a harder material, such as car wheels, boxes, barrels, tubs, pails, etc., wood is rapidly driving other ingredients to the wall in the manufacture of nearly all the cheaper grades of paper.

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RAMIE PLANTS and RAMIE SEED FOR SALE.

Also, GRAPE ROOTS: Folle Blanche, Thomson's Seedless, Tragka, Zabel Skanski AND OTHER CHOICE VARIETIES.

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Ferry's Seed Annual, for 1893, contains all the latest and best information about Gardens and Gardening. It is a recognized authority. Every planter should have it. Sent free on request. D. M. FERRY & CO., Detroit, Mich.

ALPINE FARM—Pure Brown and White Leghorn, Plymouth Rock and Black Minorca Eggs, \$1.50 per 13. 20 Alpine Street, San Francisco.

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AT AUCTION, on WEDNESDAY, MARCH 15, 1893.

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KILLIP & CO. will sell to the highest bidder about 50 head of standard and highly-bred horses, consisting of mares, colts, fillies and geldings by Director, Soudan and Dexter Prince. This offering is a choice consignment from the stables of D. J. MURPHY, Esq., of San Jose, and CAPT. BEN E. HARRIS.

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Catalogues and information by mail. Remember, sale takes place

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Such glorious yields you may have by planting SALZER'S SEEDS. They never fail. They always sprout, grow and produce. 50000 Bushels Potatoes—Cheap. 100000 Pkg. EARLIEST VEGETABLE NOVELTIES. sufficient for a family. Postpaid for \$1.00. 10 Farm Grain Samples 8c; with cata. 16c. 11 Grass & Clover Samples 10c; with cata. 18c. 8 Field Corn Samples 12c; with catalogue 20c. Our mammoth Seed Catalogue costs over \$50,000. It is mailed you upon receipt of 8c postage. It is a valuable work, worth ten times its cost to you.

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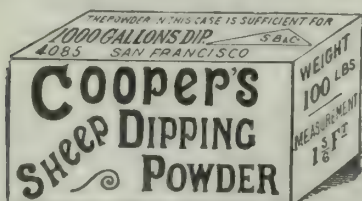
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VEGETABLE GROWTH IN WATER MAINS.—A vegetable growth in the water mains at St. Paul, Minn., has lately, according to the *Engineering Record*, been the cause of some trouble. The first case was discovered by the superintendent, in one of two service pipes in a single trench supplying a double house. A complaint was made of bad water, which flushing failed to improve. One of the pipes delivered pure water and one supplied a muddy liquid that was of no use. This fact led to the conclusion that one of the services was foul; and the remedy applied on this supposition proved effective. The boiler of a portable engine was connected with the faucet of the kitchen sink from which the muddy water came, and a steam pressure of 70 pounds forced against the 35 pounds water pressure for 30 minutes—thereby driving the water out of the pipe. Since that time the pipe has always delivered clear water, and twelve similar cases have been successfully treated in the same manner. Great care has to be taken that there are no leaks in the service pipes, and that none of the fittings are open during the steaming process.

DETECTION OF FROZEN MEAT.—The process adopted by the author for distinguishing between fresh meat and that which has been preserved in the frozen state consists in expressing a little blood or meat juice from the sample, and examining it under the microscope. The whole operation must be performed quickly, in order to prevent any drying up of the liquid under examination. When the juice of fresh flesh is thus examined, it is seen to contain numerous red corpuscles, which are normal in color, and float in a clear serum. In the case of blood from frozen flesh, the corpuscles have dissolved in the serum under the influence of the low temperature, and not a single normal red corpuscle can be seen. The hemoglobin escapes into the serum, and appears as irregular yellow-brown crystals. These may be frequently seen by the naked eye, but, in every case, can be readily detected under the microscope.

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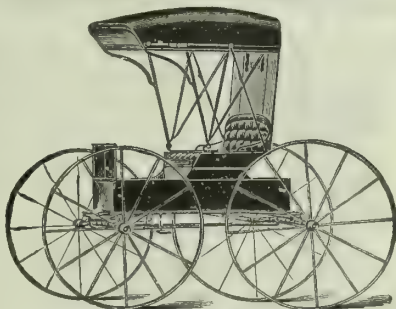
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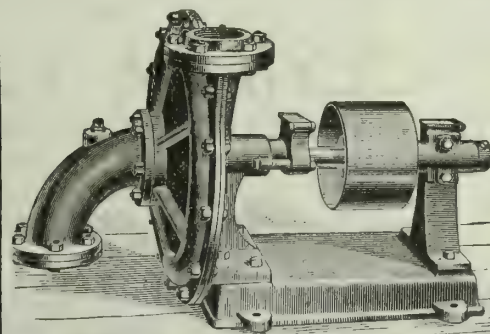
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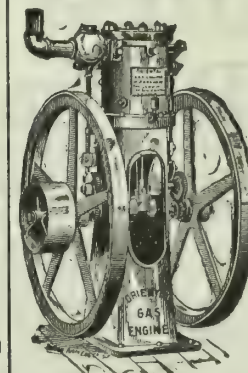
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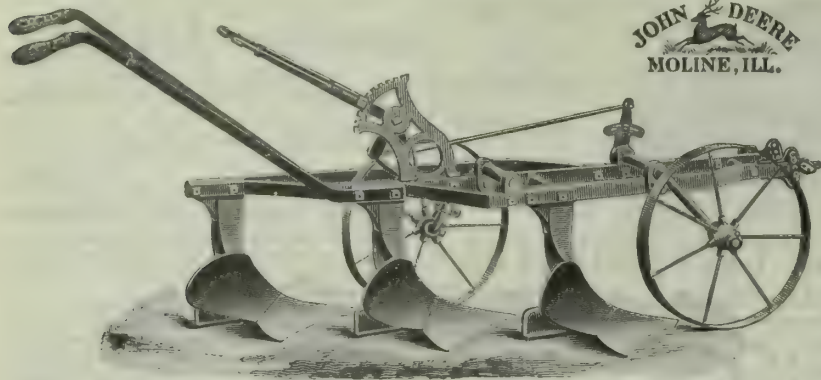
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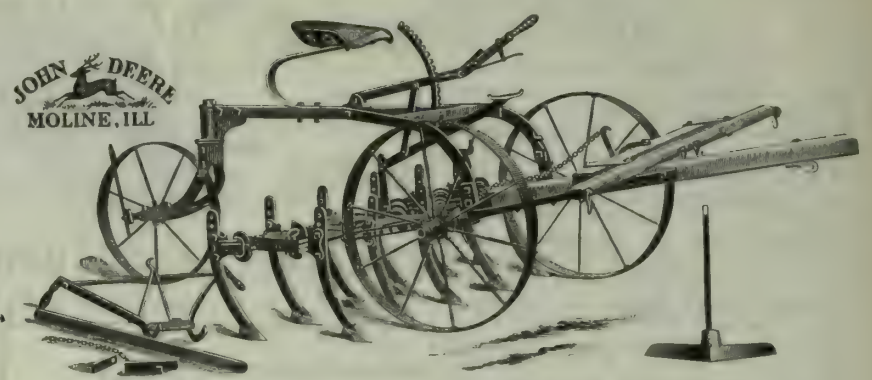


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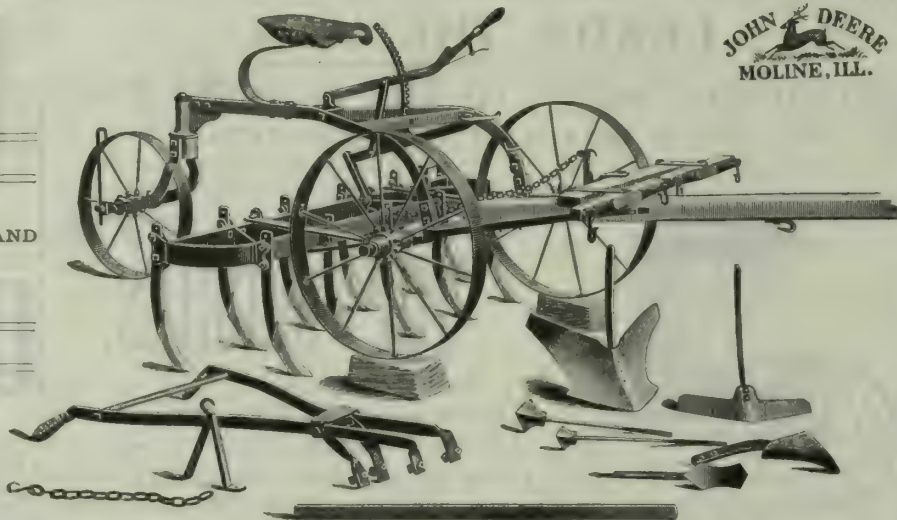
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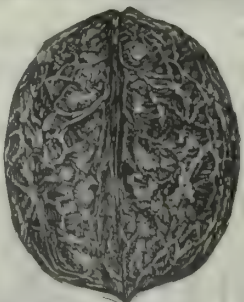
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TRAGEDY PRUNE TREES, SATSUMA BLOOD PLUM,
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FRENCH PRUNE TREES on both Peach and Myrobolan Roots.

CLING PEACHES OF SEVERAL VARIETIES.

PAPER SHELL WALNUTS, PERSIAN, Etc.,
And other stock, both useful and ornamental.
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REMEMBER! This is not a puff ad., but a statement to
Planters, calling attention to as fine a lot of trees as were ever raised in
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All in bearing at test orchards at Sausal Fruit Farm.
All unirrigated, clean, well rooted and true to name.

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PACIFIC RURAL PRESS

Vol. XLV. No. 9.

SAN FRANCISCO, SATURDAY, MARCH 4, 1893.

THE DEWEY PUBLISHING CO.
Office, 220 Market St.

Nature's Work in Hawaii.

Now that annexation of the Sandwich Islands is possible, discussion is rife as to the various political, industrial and humanitarian considerations involved in the addition of this back lot to Uncle Sam's farm. Naturally, these discussions range from the wildest glorification to the direst apprehension. It may take a generation or a century to settle the public mind on all the points involved. We have no disposition at this moment to prophecy on any of these lines.

No matter how ink may flow or experience may run in any of these great channels of statesmanship, there is no question that in one direction the installation of the American eagle upon the summit of Mauna Loa will constitute a most unique and interesting addition to our national resources. With all our gettings, we have never yet possessed a truly tropical region. We have a fringe of semi-tropics along our southern border, but naturally our national genius should not be content with any half-way possessions. No pent-up zone

should contract our climatology; every degree of frost and of burning should alone bring us national content. This happy state of possession is now dropped upon us with the force of a falling cocoanut from an Hawaiian palm, and it is not singular that Uncle Sam should rub his head before devouring the missile.

Many would be the services of our new acquisition, but to none more welcome probably than to our orators. It is time the well-worn geographical points for perorations were renewed. They have lost their brilliance like a last night's carbon in an arc light. Then, too, in the geographical rearrangement the majesty of the Pacific Coast will duly appear. "From the pines of Maine to the everglades of Florida" sounds now like the boundary of a county; from the everlasting ice-locked rivers of Alaska to the perennial molasses fountains of Hawaii is a straddle better fitting the second century of the Republic.

But our thought was told to run rather in the new line of natural resources which we are to secure at the price

of two queens—one paid down, the other on the installment plan. Our engravings on this page give a hint at some of the job-lot of unique works of nature which we secure. With prophetic insight the *Overland Monthly* sent a special commissioner to investigate the islands last summer, and it is some of the results thus secured that we present herewith. First in the line of strictly tropical vegetation which the larger engraving shows. As the offspring of the temperate zone, it is hard for us to realize

tion with the fresh spouters which even less important American nations possessed. With what pride we can wave the national flag over a nice, warm mess of lava in Hawaii! One picture shows such a scene.

Another little camera-shot shows a different volcanic equipment for American genius—a "blow hole" of an Hawaiian volcano. That a nation world-famed for "blowing" should have had for a century nothing but extinct "blow holes" has been a frozen shame, and it is one of

the marvels of history that a race with such poor facilities should have blown so well.

THERE is a proposition before the Legislature to make a new agricultural district out of Colusa and Yolo counties. It takes one county from the third district, Chico fair, and one from the thirteenth, Marysville. The bill, if passed, and there seems little doubt that it will become a law, will place Sutter and Yuba counties in the old thirteenth district, with an appropriation of \$2000 a year, and thereafter it will probably not again be reduced in size of territory. Originally this district was composed of Sacramento, Sutter, Yolo and Yuba.



IN AN HAWAIIAN FOREST—ON THE VOLCANO ROAD.



THE MAUNA LOA LAVA FLOW OF 1880



A BLOW HOLE OF AN HAWAIIAN VOLCANO.

that such a jungle may be American. The writer says: "A few miles beyond Hilo the volcano road plunges into a genuine tropical jungle. Guava, ohia and lauhala trees from a framework for ferns and brake and parasites to run riot over. In the shade of the tall tree-ferns are found the coffee plants, with their dark-green leaves, and rows of red berries growing along their stems. Equally picturesque are the broad leaves of the banana and the naked stem of the ti tree, with its crown of deeply-indented leaves. There is one thing lacking—that is sound. The cheerful chirp of a bird is almost unheard. The deep silence of Hawaiian forests is painful, but there is consolation in the thought that, though the birds are missed, there are neither snakes nor wild animals of any kind to fear."

The other pictures on this page relate to another rather active resource of Hawaii—the volcano. The volcanoes which have hitherto pertained to our national domain are geologic back numbers, and we have blushed with shame as we thought of these cold pieces of eruption in connec-

Four years ago, Sacramento was added to Amador and a new district formed, the fair being held at Ione. The people of Woodland are arranging to build a large, new pavilion, and expect hereafter to hold a fair each year.

FRESNO COUNTY is making extensive preparations for a fine exhibit at the World's Fair. There will be particular efforts to make the raisin display a notable and attractive feature. The sum of \$7500 has been appropriated and \$3000 more is asked for. Among many excellent county exhibits in California's building at the Fair, Fresno is certain to be in the front rank. She has the products, the energy, the taste and the money to do all things necessary.

THE Visalia creamery building, machinery and grounds have been sold at public auction for \$1760, the purchasers being six stockholders of the old concern. New methods are to be introduced, a competent man placed in charge and every effort made to insure success. No good reason exists why it could not be made a profitable enterprise

PACIFIC RURAL PRESS.

By THE DEWEY PUBLISHING CO.

Office, 220 Market St.; Elevator, 12 Front St., San Francisco, Cal.

ANNUAL SUBSCRIPTION RATE THREE DOLLARS a year. While this notice appears, all subscribers paying \$3 in advance will receive 15 months' (one year and 13 weeks) credit. For \$2 in advance, 10 months. For \$1 in advance, five months. Trial subscriptions for twelve weeks, paid in advance, each 50 cents.

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ANY subscriber sending an inquiry on any subject to the RURAL PRESS, with a postage stamp, will receive a reply, either through the columns of the paper or by personal letter. The answer will be given as promptly as practicable.

ALFRED HOLMAN.....General Manager

San Francisco, March 4, 1893.

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The Week.

Clear days and cold nights have been the rule of the past week. Farmers have had fine opportunity to finish seeding, so much needed after the recent rains, and they have generally taken advantage of it. Reports were recently circulated that crop conditions in Northern California were not in the highest degree favorable. But a correspondent who has just made a tour of Colusa, Glenn and Butte counties, writes that prospects are uniformly good, and no adverse conditions have manifested themselves anywhere except where excessive rains have in places washed out and rotted grain.

The air is full of spring. Gardening is in full sway. Fruit prospects are excellent. Grass is growing rapidly. The sun shines for all, man and beast, flower and insect. The season of bloom and beauty is approaching.

A DISPATCH from Los Angeles, Feb. 28th, says: North and east winds and cold nights in some sections of southern California have not favored growing crops during the past week. Owing to the threats of some packers to withdraw from the compact, the orange growers of Riverside have agreed to temporarily reduce the price of seedlings free on board from \$1.75 to \$1.50, and of navels from \$3 to 2.50. In consequence shipments are going forward more freely than heretofore. Guavas are plentiful and cheap at San Diego, but growers experience difficulty in finding a market. Shipments of cabbage, cauliflower and celery are going forward by carload lots in greater quantity than ever before.

THE Butte County Board of Supervisors has passed an ordinance designed for the protection of the fruit industry. It invests the Horticultural Commissioners with means and power to prevent the importation of diseased fruit trees, and contains other provisions in the interest of fruit-growers. The Supervisors recently made the mistake of repealing a similar ordinance and discovered thereby that they had adversely affected a powerful material interest of Butte county.

Inter-Cultures in the Orchard.

Our correspondence reminds us that this is the time of the year when the planter of new orchard is brought face to face with the question as to whether he shall attempt to take a crop from between the trees or whether he shall devote the whole land to the orchard. We are asked the wisdom of this and that course and this and that growth, and as it is evidently a subject of wide interest, we desire to present a few general considerations and to ask our readers to present the results of their experience and the conditions under which these results were attained.

The subject is one which must be determined, we take it, in accordance with conditions and practice, which may be ruinous in one case may be safe and even salutary in another. We recognize the following conditions as prime factors:

The intrinsic richness of the soil and the arrangement for restoring any draft made upon it.

The moisture supply by rainfall and the retentive power of the soil.

The availability of water for irrigation.

The nature of the crop which is grown upon the land.

The personal necessities of the grower.

These conditions at least rule the problem as main factors, and there are no doubt other conditions which locally rise to importance. Now we will say:

If the soil be of only average richness, the rainfall moderate to meager in amount and no facilities for irrigation, it would be unfortunate to place any other burden on the land than the growth of the trees.

If the soil be not over-rich and the rainfall heavy, but the moisture easily lost by percolation or evaporation owing to non-retentiveness of the soil, and no irrigation facilities, give the trees all the ground and the most perfect summer cultivation possible.

If the land be rich, the rainfall abundant and moisture held well in the soil, or if irrigation can be made use of, it is fair to think of an inter-crop during the early years of the orchard, providing the crop can be profitably disposed of, its nature is not such that heavy draft is made on fertility, and the financial condition of the planter requires immediate return from the land, if possible.

It thus appears that an inter-crop is finally made to hinge upon the grower's necessities, and the inference would be that if the money is not needed immediately, it would be wiser to hold the whole strength of the soil as an investment on which returns are to be finally had in the increased growth and fuller fruiting of the trees in later years. This is really the basis upon which the question should turn in most cases, and therefore the injunction generally given: Do not grow anything between your trees, but cultivate as thoroughly as you possibly can, is the safest general advice that can be given. This injunction is also sound because in most soils and situations it is best to give all the land to the trees.

There are, of course, as above conceded, conditions under which adequate tree growth can be secured in the midst of the roots of a competing crop, but do not let us mistake them. As one looks upon our valley lands in the spring with their dense verdure in full succulence, as he notes also the moisture of the soil in which he plants the tree, the conclusion is natural to a newcomer that such fat land can do more than grow a tree to the rod and a half. But the observer then knows little of the long growing season in which no rain will fall. He forgets perhaps that, as our growing season is nearly twice the length of the Eastern, and our wood-growth of the trees commensurate therewith, there is a draft upon moisture beyond his comprehension, and that especially late in the season there is need that there should be available moisture enough to enable the leaves to retain their hold and discharge their closing functions in the maturing of the wood which has reared them aloft.

Though this final demand of the tree, coupled with surface evaporation, does in most cases require all the water supplied by a generous rainfall, there are other situations where such a depth of alluvium holds and retains a very generous rainfall, or borrows from higher slopes the water which seeps from them to be treasured below, that the soil can make a good tree and yield the grower a generous crop of small fruits or vegetables at the same time. There are such lands and they have thus been double-cropped for years and are still fruitful.

There are also lands in which fertility has been retained by manuring, and thus by new food and drink supplied by the owner the double crop has not depleted the soil nor have the trees been notably restrained in growth.

Such are a few general suggestions looking toward an individual decision on the part of each grower as to what his own course should be. It is really a question for personal decision. We should like to hear how our readers have decided it in the past and how their practices have resulted.

The Orange Situation.

Two events of importance are to be noted this week in the fruit situation, and each relates to the shipment and sale of oranges. The first special orange train has started East, via the Southern Pacific, and the Earl Fruit Co. announces that it is preparing to ship a carload of the finest Navel oranges to England.

The first of these occurrences indicates that the holding-back season is nearing an end, and directs new attention to the condition of the orange market and prospects for their profitable disposition in the East. The season is at hand when shipments will go forward heavily, and the question of markets therefore becomes one of importance and great interest, not to say anxiety and apprehension. No doubt exists that the late freeze in Florida materially injured the orange crop, but its effect upon the general situation is not yet apparent or certain. It must be said that California oranges go forward under circumstances that do not now give the strongest and most satisfactory assurance of higher prices. As a matter of fact, it is difficult and impossible to tell just what will be the condition of things a month hence; and all speculation upon that subject will be futile and not profitable. Regarding the local situation the purposes of fruit exchanges have been in some degree defeated by the action of producers selling regardless of price and condition of the market. At Riverside the two fruit organizations have been firm in adherence to prices, but, nevertheless, fruit has been disposed of at cut rates. Taken all in all, however, the present selling rate for oranges is not as much as it has been in former years, but it is enough to leave a comfortable margin over cost of production. There seems to be no possibility of loss, and every probability of gain. It is simply a question of amount of profit.

Shipment of oranges to England is an experiment much discussed in the past, but not yet attempted. The Earl Company is making up at Azusa, Los Angeles county, a carload of the finest navel oranges for that purpose. It will be the first consignment of California oranges to be placed regularly on the English market. The risk on the trial carload is divided between the growers, who furnish the fruit, and the shipping firm, which undertakes to pay all the charges of transportation and marketing. The consignment will reach London in about 15 days after it leaves Azusa.

Three months since, Florida sent to England a shipload of her fruit, and the experiment was not a complete success, though no loss was sustained. The chief trouble was severe storms on the ocean which necessitated battening down the hatches of the vessel, shutting off ventilation, thus inducing heat and sweating. In consequence a portion of the cargo arrived in unmarketable condition. Herein appears to lie a source of danger to European shipments from California at this season, when Atlantic storms are frequent and generally violent. With this particular shipment, however, there seems to be no good reason why proper ventilation cannot be secured on an Atlantic liner, and the danger from this source obviated. And, in the future, when large consignments are made, special facilities and appliances should be secured that will insure ventilation and safety of cargo from storms. On a great steamer thorough ventilation is certainly not incompatible with good seamanship.

We learn by German journals and the proceedings of learned societies that Prof. Hilgard is not passing his vacation in idleness. He has made several formal addresses in Berlin upon subjects suggested by his long experience in investigating natural phenomena upon this coast. The influences of an arid climate upon soil formation, the occurrence of certain substances injurious to vegetation when in excess, and the like, are quite new to Europeans who have not studied under similar conditions, and the results are of wide significance because European countries have possessions in arid regions in other parts of the earth which they desire to develop. It appears that California studies and successes will thus be of far more than local value. Prof. Hilgard intends to take up his homeward journey in May, and will probably be back in California toward the end of June.

THE regular annual stock and stallion show will be held at Livermore, Alameda county, March 11th. It is proposed to add several new features this year. In the afternoon, there will be running and trotting races, a ring tournament, and possibly a horse tug-of-war. There are many fine horses in Livermore valley, and an exhibition of excellence and interest is certain to result. The committee of arrangements consists of Theodor Gorner, Andrew Block, John Beck, Arthur Feidler, Al' Fargo, and J. H. Dungan.

THE new counties of Riverside and Madera are certainties, and Santa Ynez seems to have a good chance.

From an Independent Standpoint.

The new Cabinet now stands complete, as follows: Secretary of State, Walter Q. Gresham of Indiana; Secretary of the Treasury, John G. Carlisle of Kentucky; Secretary of the Interior, Hoke Smith of Georgia; Secretary of War, Daniel S. Lamont of New York; Secretary of the Navy, Hilary A. Herbert of Alabama; Postmaster-General, W. S. Bissell of New York; Secretary of Agriculture, J. Sterling Morton of Nebraska; Attorney-General, Richard Olney of Massachusetts. This is certainly not what would be called a strong Cabinet. It contains only two men of first-rate ability, namely, Gresham and Carlisle, both of whom have been up to the present time personally and politically antagonistic to Mr. Cleveland. The others are men either unknown or not known in any large way. Bissell and Lamont were selected on account of personal friendship, the former having been Mr. Cleveland's partner in Buffalo and the latter having been his private Secretary and confidential man in general. Olney is a Boston lawyer of respectable ability, but in no sense a leader of the bar or a man prominent in public affairs. Hoke Smith is less than forty years of age, a fair lawyer, but, like Olney, not a leader either in professional or public life in his own State. And so with the others. They are all respectable, all competent, but all men of moderate quality. Mr. Cleveland appears to have selected them not because they have any claim to political honors, but for expert knowledge and capacity for administrative work. He will have about him a company of men, intelligent, faithful and honest, but whose political fortunes will be of his own creation (Gresham and Carlisle of course excepted), and who may be depended upon to carry out his plans in the smallest detail. This, no doubt, is precisely what Mr. Cleveland wants. In him the habit of dominance has become almost a passion; he brooks no interference, and doubtless prefers for membership in the Cabinet a company of men who will readily accept subordination to a constellation of political stars more or less independent, and capable, through established party position, of impressing their opinions upon the country.

Mr. Cleveland would unquestionably have better pleased his party if he had called into the Cabinet the leading party lights—men like Watterson, Voorhies, Gray and Boies. It is not to be denied that old-line Democrats who have been faithful party men in bad as well as good political times, view with jealousy and chagrin the elevation, by a Democratic President, of the Republican, Gresham, and of mere personal favorites like Bissell and Lamont, to high political dignities. This feeling is entirely natural, and it is certain to lead to extreme discontent, if not to an actual split in the party. By many it is believed that such a split is what Mr. Cleveland expects and desires, and that it is his settled purpose to wreck the old parties and to found a new one on a reform basis, to succeed the Populists, and to draw to its support the "new Democracy" and the independent element of the Republican organization. It is not impossible, nor even unlikely, that such a project would be successful. The business of the country is profoundly depressed. The times call for new political policies, but both the old parties are afraid to lead off. The Populist party, which has boldly taken the initiative, does not command the confidence of the country at large. There is, in fact, no party to which reformers of conservative temper—and there are thousands upon thousands of such men among the voters of the country—can join in full and earnest fellowship. It is not to be doubted that if Mr. Cleveland would lead off in the creation of a new organization, on the basis of reform of the civil service, reduction of the tariff, revision of the pension list, reform of the currency and regulation of railroads and telegraphs—all in the line of popular interests and demands—he would command a large following. It is not to be doubted that a party, so founded and directed, would swallow up the New Democracy, the Mugwumps, and a large proportion of the Populists, and the chances are that it would sweep the country in 1896. The times are ripe for a political movement that will turn from the past, cease to quarrel over dead and dying issues and take up the real live questions of the time. Whoever doubts this would do well to read over the returns of the late Presidential election and to note particularly the number of votes given to the new Populist party.

Of all the measures before the present Legislature, the resolution to remove the members of the Railroad Commission has been the most popular. It is the universal judgment that this commission has betrayed the interests of the people; that it has been dominated wholly by corporation influence; and that it should be dismissed from office. There was profound and general satisfaction when the Assembly passed the resolution of dismissal by an almost unanimous vote; and it was felt that the Senate would not dare to put its veto upon a proposition concerning

which the public sentiment was so united and favorable. But confidence in the Senate was not wisely placed, for when the measure came up on Monday of this week it was beaten 19 to 20. An analysis of this vote puts the blame of it upon the Republican members of the Senate. Of the 20 who voted in the railroad interest, two were Democrats, namely, Goucher and Harp. The eighteen Republicans were: Broderick, Campbell, Carpenter, Deniston, Everett, Flint, Hart, Hoyt, Maher, Mahoney, Orr, Ragsdale, Seymour, Shippee, Simpson, Streeter, Voorhies and Williams. Of the nineteen who voted against the railroad interest and in the interest of the public, three only were Republicans, namely, Bailey, Earl and McGowan. The sixteen were Democrats, namely, Arms, Berry, Biggy, Burke, Dunn, Fay, Gesford, Langford, McAllister, Martin, Matthews, Mitchell, Ostrom, Seawell, Whitehurst and Wilson.

This result was brought about by influences against which the *RURAL* warned its readers early in the session. The corporation legislative jobbers got control of the Republican "machine" and employed it to whip the Republican Senators into the railroad ranks. In their devotion to mere regularity of party organization, they have been disloyal to their constituents and have committed a fault which will do their party serious damage. There is but one course by which the Republican party can clear itself of this stain, and that is for the next convention to denounce the treason of its agents, to put itself positively on the right side of the railroad issue and, above all, to reorganize its official leadership. There is no doubt that the mass of Republicans in the State are on the right side of this matter; what they need to do is to dismiss their old leaders and put in their places men who can neither be bought nor driven to betray their trust.

At a time when "statesmanship" is not uncommonly regarded as a good money-making trade, and when men who become prominent in political life usually contrive to get rich, a public man at once successful, distinguished and poor becomes almost a heroic figure. It will possibly surprise many of our readers to learn that Hon. Wm. McKinley, the distinguished Republican leader, at present Governor of the State of Ohio, has, in all his long term in official life, depended wholly upon his salary for the means of livelihood. He has declined all opportunities to make money "on the outside" upon the theory that his time, energies and abilities belonged to the public. In all these years he has been too poor to maintain a house at Washington and has lived modestly at a hotel. By the practice of close economy he has contrived to save a little each year, and these savings added to from time to time and put at interest, amounted to about \$20,000, and this sum—his all in the world and his dependence for old age—has been in the hands of a personal friend in the banking business at Columbus, Ohio. In his business transactions, this friend has often been in need of an "endorser" and it has been Mr. McKinley's practice to lend his name and credit to this service. He has endorsed notes from time to time with scant scrutiny upon the assurance of his friend that the total of these obligations was not beyond his ability to pay.

Last week there was a crash at Columbus; and Mr. McKinley was surprised and shocked to read in his morning paper that his friend had failed; that his own small fortune had been swept away and that he was bound, in addition, as an endorser in the sum of *ninety-five thousand dollars*. The savings of a lifetime were lost, and, furthermore, he owed a vast sum to persons who had lent it upon the assurance of his promise to pay. It was indeed a hard situation. He was at once overwhelmed with offers of help, but he has declined them all and announces his purpose of going to work at his profession (the law) and of paying up the debt as rapidly as he can. He hopes to secure a sufficient delay to allow him to serve out his term as Governor; but if this cannot be effected he will resign and go into professional work at once. McKinley is a fine lawyer and there is no doubt that he will work his way out in time, but it will be a hard and a long pull. But, hard as it is, it has served to bring out the true ring of his honest manhood; it has set before the country the fine example of a man at once distinguished, honest and poor; a man who thinks more of fairly meeting his private obligations than of public honors; a man who is too high-minded to accept help from others while he has the opportunity to help himself. There are millions who do not like Mr. McKinley's politics; there are millions who do not approve of the "McKinley Bill," but among them all there is not a man who does not respect Mr. McKinley for the misfortune he has suffered and for his good grit in standing up to meet it like a bold and honest man.

The several California county exhibits at the World's Fair give promise of being most attractive from an artistic

view, and entirely characteristic of the regions which they represent. Ventura county is to have a large Japanese pagoda, made entirely of beans. Eighty different varieties will be used, and it will take 2000 pounds of Boston's pet food to complete the building. Santa Barbara county will have a cloister, made in the old Spanish fashion, to represent the early life in California. Santa Clara county will erect a large equestrian statue, the pedestal to be made of raisins in fancy boxes, and the horse itself to be covered with prunes and other fruits. Boxes of dried fruits will be sent to decorate with, the boxes being made of the wood of the tree upon which the fruit grew. San Bernardino's exhibit will have in the center a large arcade, made of pure crystals of salt cut in blocks. A complete mineral exhibit of all ores found in the county will also be sent. The commission has just shipped to Chicago 500 pieces of California woods, containing 65 different varieties. This wood was in the Forestry Department of the national exhibit, in which a space of 19x52 feet has been allowed California.

An old landmark has just disappeared from San Francisco. It is the building in which the famous "Fountain Head" restaurant was started, in 1851. It is said that, with a branch establishment, the Fountain Head fed 3000 persons daily. There were 100 attaches in the two establishments, at an average salary of \$90 per month and boarded. The meat bill per month was \$8000; flour bill, \$4000; milk, \$2000; sugar, \$3000; butter, \$2000; other items necessary to carry on the two establishments, \$5000; rent in both places for one year, \$54,000; paid for ice and eggs in five months, \$28,000, more than has ever been paid in same length of time before or since; has sold in one day 1500 glasses of ice-cream. Those were great days for the few producers of butter, eggs and other necessities. The best of it is, there is substantial profit yet in the dairy and the poultry yard, rightly conducted. It is not necessary to have a great mining excitement to create a paying demand for these staples.

THE number of persons who "view with alarm" the possibility of fruit overproduction is not diminishing; nor does it seem to be much on the increase. Whatever chance there may be of an oversupply of fruits, it is certain that there will always be a first-class market for fruits of fine grade. If, therefore, those who fear overproduction would talk less and do more to improve the quality of California fruits, they will add a mite toward increasing the demand and widening the market for our fruits. There is little danger of overproduction of first-quality fruits. Let us guard against glutting the market with inferior grades.

WATER has remained too long on many of the Yolo county hopyards. But the floods cannot be regarded as an unmixed evil. Growers say they effectively rid the yards of the destructive red spider which appeared last season. Mr. A. Menke says he noticed last year that where the ground had been very wet in the spring there were no signs of the spider, but where the land was dry the year round, or where the water would not stand, the spider was most effective in its destructive work.

MRS. ANNIE SANDERSON of Fresno, has just succeeded in hatching over 450 chickens from 460 eggs. Last year she hatched and raised over 1000 chickens from 1800 eggs. But for the fact that the last 600 were set in the heat of summer and over two-thirds proved unfertile, the number would have been much larger. Mrs. Sanderson has amply proven that there are no insuperable obstacles to successful poultry raising in California.

TWO RABBIT DRIVES near Franklin, Sacramento county, last Sunday, netted from 400 to 500 hares. Another is advertised to take place in Fresno to-morrow, (Sunday). Like the coyote, the rabbit-hunting biped has no scruples against pursuing his destructive practices on Sunday. Still a rabbit killed on any other day would be just as dead. This is not a case of the "better the day, better the deed."

THE managers of the cannery at Santa Maria have decided that it will be necessary to run at full capacity this season. A local market for all fruit growing about Santa Maria is thus assured. Canneries are a most valuable and important adjunct to the fruit industry of California. There should be more, and, judging by reports from various localities, there will be more.

ENGLISH APPLE BUYERS do not accept the fruit on the appearance of the top row in a package, but one barrel of each lot on sale is emptied on a platform in plain sight of purchasers. This circumvents tricky apple packers to some extent, and it is a practice which might be adopted with profit by American fruit buyers everywhere. The man who packs big apples and big strawberries on top is a deceiver and a fraud who should be ruthlessly exposed.

Hop Supply and Demand.

The world's supply of and demand for hops has attracted some attention, as the compilation of the following table of estimated totals published in the New York Homestead indicates:

THE WORLD'S SUPPLY AND DEMAND.

	Supply in 1892.	Pounds, 1891.	Demand, 1891.
England.....	46,285,008	48,912,192	72,800,000
Germany.....	50,000,000	53,000,000	35,500,000
France.....	5,500,000	5,500,000	6,000,000
Belgium.....	9,900,000	9,500,000	7,250,000
Russia.....	2,750,000	2,800,000	275,000
Austria.....	17,000,000	15,662,270	12,200,000
Other Countries.....			4,000,000
Total Europe.....	131,455,008	135,374,462	138,025,000
United States.....	139,339,560	38,758,860	36,000,000
Total World.....	170,664,568	174,133,322	174,025,000

The aggregate European supply appears to have been 131,455,000 pounds, nearly 4,000,000 pounds less than in 1891, while the aggregate crop in the United States was almost half a million in pounds larger, thus making the combined European and American yields 3,500,000 pounds smaller than in 1891, the yield for the season being 170,664,568 pounds.

The argument in reference to the demand for hops throughout Europe and the United States is, that as it amounted to 138,000,000 pounds for Europe in 1891, and will probably be not less than 36,000,000 pounds here this year, the aggregate will exceed 174,025,000 pounds. This, when confronted with the estimated total supply of 170,665,000 pounds, shows a nominal shortage and lends a bullish aspect to the general situation.

The estimate of domestic consumption of hops is explained as follows: During one-third of the season, including the months of September, October, November and December, 1892, the output of beer was 10,370,000 barrels, as compared with 9,868,000 barrels during the corresponding months in 1891, an increase in round numbers of 500,000 barrels. It is extremely probable that this increase will be fully maintained during the remaining eight months of the season, because the months of largest consumption in the spring and summer have yet to be reached, and because of the Chicago exposition, which naturally will create some additional demand. "It is a very conservative estimate to place the amount of hops required by brewers in this country during the current year at 35,000,000 pounds, to which may be added 1,000,000 pounds for hops used for medicinal and other purposes."

There are more than six months of the year to pass before the 1893 domestic crop will be available, and these six months are the months of largest consumption.

Regarding stocks on hand, it is admitted that England had at the close of 1892, 6,000,000 pounds less hops than at the close of 1891, 2,700,000 pounds shortage being in her own harvest, and the remaining 3,300,000 pounds shortage being in the quantity imported from this country only during the first four months of the current season. The probability of the estimated demand proving real and affecting prices in the next five months is therefore rendered of special interest.

It is of interest to note that "the average export price of American hops this season was 25 1/4 c. per pound, as compared with 19 1/4 c. per pound during the corresponding months a year ago, an increase of 5 1/2 c. per pound this season."

Farmers' Institute at Bakersfield.

A Farmers' Institute was held at Bakersfield on Feb. 18th, which was well attended and full of interest. Prof. Wickson, of the University, conducted the Institute, and a lecture on alkali soils was delivered by Mr. M. E. Jaffa, assistant in charge of the agricultural laboratory of the State University. Discussions were held upon various subjects, in which all freely participated.

An organization was effected to undertake preparation for future meetings.

D. M. Pyle was chosen temporary chairman and J. M. Hunter temporary secretary. The chair appointed a committee of five to report a plan of organization: S. L. Harmon, Joel McMillan, W. W. Frazier, Thos. Dickenson and E. H. Loveland. The committee reported the following:

CONSTITUTION OF THE KERN COUNTY FARMERS' INSTITUTE.

1. This organization shall be known as the Kern County Farmers' Institute.
2. Its object shall be the holding of meetings for general discussion and conference on farm and home topics, to participate in which all interested are welcome.
3. Officers shall be as follows: President, vice-president, secretary, treasurer and an executive committee of three. The duties shall be such as usually pertain to these offices.
4. Meetings shall be held quarterly, and preparations for them shall devolve upon the president, secretary and executive committee.
5. A membership roll shall be opened by the secretary, upon which names of those desiring to contribute to expenses of the meetings shall be inscribed. The annual fee shall be 50 cents.

The election of officers followed, with the following result: President, D. M. Pyle; vice-president, W. H. McKittrick; secretary and treasurer, J. M. Hunter; executive committee, Mrs. W. Canfield, Mr. E. H. Loveland and Mr. H. C. Park. Every one present enrolled his name as a member, and doubtless many more will do so from time to time, but it should be distinctly remembered that the meetings are for all regardless of membership.

The Outlook for Wheat.

The Chicago Farmers' Review, Feb. 23d, says: "Reports on the winter wheat show that in most of the States a critical point has been reached, and on the next few weeks will depend the future of the crop. In Illinois, Indiana and Kentucky there has been so much freezing and thawing, alternating with ice and snow, that many of the correspondents confess themselves at this time unable to tell the exact condition of the plant. In some cases the snow melted and formed ice over the wheat, and the ice was in

turn covered with a heavy blanket of snow, which still remains. In such cases it can only be conjectured as to the condition. In other places the ice and snow have melted and the top of the plant seems to be in bad shape, but the roots are apparently all right; in other localities the plant has been frozen out.

In Ohio more than half of the correspondents report the conditions as good, and most of the remainder report fair. A very few report the condition as bad or doubtful. Altogether the outlook in this State is better than in most of the wheat States in the west. In Michigan the ground is covered with snow to such a depth that little can be told.

In Missouri a few of the correspondents report wheat in good condition. More report fair, and most report the condition as bad and doubtful. In Kansas and Nebraska the general outlook seems to be good, but there is so much uncertainty about it that it will require a few days of warm weather to reveal its true condition.

In Iowa the fields are still covered with snow to such a depth that it is believed the crop is yet safe, but the danger will come when the snow melts. The same is true of the wheat in Wisconsin and Minnesota.

Notes from Escondido.

TO THE EDITOR:—The outlook for water development for the Escondido region begins to be quite promising of late. Judge Puterbaugh, of the San Luis Rey Flume Company accompanied by Engineer McCray and Prof. George Davidson of the U. S. Coast and Geodetic Survey, spent nearly all of last week inspecting the proposed flume line from the San Luis Rey river to Escondido, and it is understood that if Prof. Davidson makes a favorable report, there are persons in San Francisco who will advance money to do the work. Judge Puterbaugh and Prof. Davidson have gone to San Francisco on business connected with the work, and a favorable report is expected soon.

Mr. J. C. Long who represents a solid financial company, was here a few days ago conferring with the people of Escondido on the water question. The company is ready to make a proposition to furnish water to individual land owners at a stipulated price per acre, if they are ready and willing to take it without an irrigation district organization, and there are many in favor of that plan. There is no better investment for capital in the State of California than to put water on the 40,000 or 50,000 acres of rich land lying in and around the Escondido valley. The San Luis Rey river furnishes water enough to irrigate it all and much more.

A larger acreage than ever before is being planted to grain this season. Not less than 30,000 acres are being put in within 10 miles of Escondido. Most of it is already planted.

Escondido is beginning to export considerable quantities of farm products for a five-year-old town. One firm alone took in on last Monday 360 dozen of eggs, and the others had their share as well. The eggs, poultry and butter exported from Escondido for this season have exceeded in value \$150 per day.

A. H. Beach has ordered four carloads of sacks for this season's grain trade.

Dixon & Son sold \$1700 worth of lemon trees in one order last week, besides many smaller orders, all to be planted near by.

Most of the grain is up two or three inches and gives promise of a good yield. The rainfall to date is about eight inches, with the expectation of getting about as much more before the rains are over.

Wm. Wooldredge is loading several cars of oranges this week to ship to Chicago. He has one of the few places in the valley where the oranges are in bearing, most of the groves being only two years old, or less. P. S. H.

Escondido, Feb. 23, 1893.

Southern California Fair.

By order of the State Board of Agriculture the Fourth Annual Citrus Fair for Southern California will be held at the new Horticultural Pavilion at Colton, under the direct management of the Twenty-eighth District Agricultural Association, commencing on Wednesday evening, March 15, 1893.

The jurisdiction of this fair extends over what was formerly the Sixth Congressional District, embracing the following counties:

San Diego, San Bernardino, Los Angeles, Orange, Ventura, Santa Barbara, San Luis Obispo, Kern, Tulare and Fresno.

After full consultation it has been determined to conduct this fair with a view to developing the citrus fruit industry of Southern California, the main contests for premiums being largely scientific tests as to quality of fruit, under such conditions that neither awarding judges nor even owners of the fruit can locate the ownership of the fruit prior to making the awards.

Great preparations are being made for an exceptionally fine display.

Root Knot Contagious.

John Scott, horticultural commissioner for Los Angeles county, has decided that the "root knot" disease in trees is contagious and his opinion has been indorsed by the district attorney. Mr. Scott concludes as follows:

"My opinion, therefore, is that the disease called root knot is a contagious disease; that it is within the meaning of the acts above quoted, and that the proper officer named in said acts [the inspector] is clothed with full power to destroy all such trees, if the disease be incurable, and I am advised that it is."

GOVERNOR MARKHAM has appointed and commissioned Park Henshaw a director of the State Board of Agriculture in the district which comprises Butte and Colusa counties, vice Shippee, who failed to qualify.

Gleanings.

THEY are giving "butterfly teas" in Pasadena.

FROM three to four cents a pound in the sack is now paid for Tulare raisins.

WHAT'S IN A NAME? No rain has fallen in Arizona during the "rainy" season.

ONTARIO, in San Bernardino county, has been holding a citrus fair of its own during the week.

A SACRAMENTO YOUTH was recently killed for stealing chickens. Nevertheless, to paraphrase an old saying, not every pullet has its billet.

A YOUNG FRESNO woman has just eloped for the seventh time. Not all young ladies, we are happy to state, are so anxious to leave Fresno.

THE prospects of construction of the Lodi-Stockton irrigation canal are said to be first-class, nearly the entire 20,000 acres bonus having been subscribed.

A CAREFUL CANVAS of the apple crop in the town of Red Hook, Dutchess county, N. Y., last fall, shows that at least 30,000 barrels were sold, netting the growers about \$100,000. Most of this stock was exported to Europe.

THE Santa Maria Times is urging the organization of a local fruit union. The Times ought to have no trouble accomplishing its purpose. Experience everywhere else in California has taught that in union there is strength—and profit.

THE State Senate has passed the bill to send an expert to foreign countries to collect and import parasitic and predaceous insects. It bids fair to be a law, though it is opposed by some Southern California fruit men, who object to have the matter placed in charge of the State Board of Horticulture.

HENRY DOTY, of Naples, Santa Barbara county, was bitten by a rattlesnake last week. The reptile twice buried its fangs in his leg. It was twenty inches long and had four rattles. Treatment was applied to the wound. The snake was killed and Doty lives. A twenty-inch snake has an almighty poor show in a match with a four-foot club.

A MEETING of the orange growers of the valley was recently held at Riverside. Messrs. A. B. Ruggles, L. G. Haight and other representatives of Redlands attended the meeting. It was decided to maintain the former prices—\$1.75 a box for seedlings and \$3 a box for navels. The demand for oranges is on the increase and it is likely that prices will be kept up.

LAST FALL the Board of Supervisors of San Luis Obispo county ordered the expenditure of \$2500 for a World's Fair exhibit for that county. Auditor Farnum refused to issue a warrant for the amount until the Superior Court had passed upon the bill. Tuesday the Court ordered the auditor to deliver the warrant, and now that he has done so the matter is at an end.

THE fruit men of the vicinity of Suisun have organized the Suisun Valley Fruit Union. The capital stock is \$10,000 and is divided into 1000 shares. The directors elected are L. B. Abernathie, R. D. Robbins, Charles E. Barnes, Charles Williams and Grant Chadbourn; secretary, Frank Gordon; treasurer, the Bank of Suisun. Articles of incorporation will be filed in a few days. Next!

SOMEbody wrote to an editor to ask him "how to break an ox." The editor answered as follows: "If only one ox a good way would be to hoist him by means of a long chain attached to his tail, to the top of a pole 40 feet from the ground, then hoist him by a rope tied to his horns to another pole. Then let descend a five-ton pile-driver, and if that don't break him let him start a newspaper and trust people for subscriptions. One of the two ways will do it sure."

THERE are times when the people can look on the organization of a trust with a good deal of complacency and satisfaction. One of them is in the case of the flour trust, which precipitated a war that has kept the price of flour down somewhere in the neighborhood of cost. Now if the railroads would only take it upon themselves to organize a trust based on similar lines, the average farmer and fruit man will consider the circumambient atmosphere perfectly ambrosial.

THE Eastern Packing Company at Fresno, which held its raisin stock while others were dumping trainloads on the markets, has sold within the past few days to the Johnson-Locke company free on board at Fresno 40 carloads of loose raisins in sacks at 4 1/2 cents per pound. Within the past week a carload of loose raisins in sacks were sold at Selma, f. o. b., at five cents per pound, and a quantity of loose raisins were sold by a Hanford firm, f. o. b., at Hanford at five cents. Raisins are on the rise.

THE actor, M. B. Curtis, whose sensational trial for the murder of a San Francisco policeman has commanded a large share of public attention, owns a vineyard near Sanger, Fresno county, and has recently purchased 800 acres of adjoining land—80 acres in vines and 720 acres sown in wheat. Actor Curtis's trial is still pending, but he clearly thinks the best thing a man in the shadow of the gallows can do is to go down to Fresno county and try to get in the sun. That's where the sun lives.

CATS are in demand in Wallowa county, Or. A Prairie Creek farmer went to Joseph the other day and gathered up every cat he could find in the town, irrespective of age, color, sex or general nativity. He explained to the wondering spectators of his collection that the squirrels are beginning to appear, and that a herd of cats on a ranch is a better investment than poison in the determined war that has to be made on Wallowa county's pests. There are some cats in California the owners, or the owners' neighbors, will be willing to let the Oregon farmer have on his own terms.

THE Florida Agriculturist prints a letter from J. H. Goodbar of St. Louis, the owner of a Florida orange grove, saying that he should have on the market in time for 1893 crop a machine that will size and wrap oranges at one operation, thereby saving time and money to the grower. He claims that it is truly a wonderful machine, yet simple, and only requires an operator, runs either by hand or power and is very light, cheap and durable, sizes perfectly and wraps better than by hand. By the introduction of this machine he expects to save the growers many thousands. If the inventor succeeds as well as he anticipates it will enable the packer to still further economize in cost of putting our great product on the market, something we shall need to do as the production increases.

FOLLOWING is a review of the orange shipments from Riverside for the current season, and for former years:

Crop of 1892-93.	Boxes.	Cars.
January shipments.....	37 466	131
To February 23.....	30 608	107
Totals.....	68,074	238
Shipments in former years.		Carloads.
Crop of 1880-81.....		15
Crop of 1881-82.....		42
Crop of 1882-83.....		45
Crop of 1883-84.....		50
Crop of 1884-85.....		456
Crop of 1885-86.....		506
Crop of 1886-87.....		375
Crop of 1887-88.....		725
Crop of 1888-89.....		982
Crop of 1889-90.....		1500
Crop of 1890-91.....		1446
Crop of 1891-92.....		1406

THE Whittier cannery shipped \$750,000 cans of fruit in 1892, paid \$35,000 for labor and \$65,000 for fruit. The erection of another cannery in Whittier, much larger than the existing one, was begun last week.

RURAL IMPROVEMENT.

Wayside and Ornamental Trees.

An essay by A. L. BANCROFT of San Francisco and Contra Costa, read at the February meeting of the State Horticultural Society.

As the traveler moves along the roads of Central and Northern California, even in the more thickly settled and level portions of the farming country, the appearance of the roadsides is, as a rule, far from pleasing. Barbed wire and split picket fences border the roads, and the dry grass on the margins, in the summer, is heavily coated with brown. The roads themselves are deep with the finest of powdered dust, which rises in clouds as the heavy teams stumble and kick their way through it.

The passing of the homes of the "Dago," "Portigee" or family from the Fatherland or the Emerald Isle which have intruded themselves upon us within the generation does not give much relief to the somber hue of the surroundings. The front yard may be a horse or cow corral and the flower garden a pig-sty. The road in front of the house is likely to be occupied with the hay-wagon, a cultivator out of season or a broken-down thrashing machine.

Nor does the approach to a schoolhouse and grounds where the buds of the family should blossom into beautiful youth and vigorous, healthy young man and maidenhood raise the spirits of the depressed traveler to any great extent. The yard is more than likely to be bare and brown and be occupied by promiscuous and scattering groups of horses, carts, harness and saddles belonging to the children who come from a distance. The base of the house shows the marks where last winter's mud was rubbed off by the bands of roving hogs. The ever-present and necessary out-buildings, bare and bold, occupy the farther corners of the yard. And this is where our children are to spend much of their week-day time!

As we pass along, a few trees may be seen—some alive, vigorous and beautiful, but often the remains of many which died young, showing good impulses on the part of the land-owner, but also indicating weariness in well-doing or ignorance as to the means to be taken to score a success in this direction. These failures are many times pitiable to see.

Much of this might be and should be better. Some shade and ornamental trees near the roads; a short stretch of painted fence in front of the houses with flowers and shrubs in the yards; sprinkling the roads where the condition of the country and the travel upon them would justify it, are things which would help. The naming of the roads, the systematic numbering of the country houses, naming of the home itself, are influences which tend in the right direction in such progressive efforts.

The school grounds should be models showing what it is possible to do in the line of ornamentation—experimental grounds where the children would not only have their beauty to enjoy, but would be surrounded constantly by object-lessons, which would teach them how to produce similar results at their homes. California is a large State, and certainly from six to ten acres of it is not too much to devote to each of its country schools. The grounds should be divided into three enclosures. A small one enclosing the building should be filled with shrubs, flowers and a few trees artistically planted and highly cultivated, each child having a few square feet assigned it, the work upon which should be done entirely with its own hands. The larger scholars could also help upon the work about the grounds. Most of them would gladly spend an hour after school occasionally at such work if led and instructed by the teacher or a competent gardener. Upon one side there should be an enclosure for the horses ornamented with a line or several lines of trees and shrubs fenced off along the front and on the side next to the school. Shade trees and water for the animals should be provided and also a building for sheltering the carts and in which to store the horse traps. Upon the other side of the school-building should be the playground, with room enough for baseball, football, etc., for the boys, and more sheltered spots for lawn tennis, croquet, etc., for the girls' outing. Some fruit trees in this enclosure would not be out of place.

It is said that where flowers have been set out about schoolhouses that the appreciative visitor takes not only the flowers in bloom, but the plant—root and branch as well. The ideal country schoolhouse would be one that would have a library large enough and filled with books to interest all, both old and young, in the district; to have a general meeting-room which could be lighted and warmed during the winter evenings, where any and all could gather and spend their evenings. In fact, make of it a country clubhouse. With a family living in the house to care for it, the flowers and plants in the grounds would be safe from the intruder.

The present California road law provides as follows:

May Plant Trees.—"Section 2633. Any owner or occupant of land adjoining a highway not less than three rods wide may plant trees in and along said highway on the side contiguous to his land. They must be set in regular rows, at a distance of at least 20 feet from each other, and not more than six feet from the boundary of the highway. If the highway is more than 80 feet wide, the row must not be less than six nor more than twelve feet from the boundary of the highway. Whoever willfully injures any of them is liable to the owner or to the occupant for the damage which is thereby sustained."

This to some extent gives shape to what may be done in planting wayside trees. Of course, all may do as they like along their frontage inside of their own lines.

Kinds of Trees Available.—Some of the kinds of trees having but little or no economic value which would be available, would be the Blue Gum, Monterey Cypress, Monterey Pine, Locust, Osage Orange, Pepper, Lombardy and Carolina Poplars, Cork Elm, European Pine, Texas Umbrella Tree, Acacia, Native Laurel, Eucalyptus-diversicolor and E. Polyanthema. It is also said that some of the slow-growing hardwood trees of the East will do well in California, such as the Maple, Elm, etc. The Eucalyptus-Globulus may be made to contribute to the fuel supply by planting them upon a division or cross line, or as a wind-break. By setting them quite near together, say

about eight feet, after the trees are about five or six years old every alternate one could be topped about 12 or 15 feet above the ground. The tops can be used for firewood, and a new growth will soon replace the old one, and the trees will become more stocky. In say three years those left growing can, in their turn be topped and then each five or six years the tops of half of them can be taken for fuel without affecting the vigor of the tree. Each time the cut should be a few inches lower than the previous time.

In some parts of Germany the roads are lined with German prune trees. They belong to and are cared for by the road management. When the fruit upon them is well advanced the crop is sold at auction and the proceeds go to the road fund.

While we in America would naturally not manage the thing in this way, there appears to be no reason why the owners of frontages upon the public country roads should not set out trees upon them which would combine beauty and usefulness, and retain all of the crop, which the passers by would allow, for their own use. There is available for this use the California Walnut, the same tree worked over to the English Walnut, the several varieties of chestnuts, almond, olive, cherry, prune, crab apple, fig, etc. For ornament the manner of pruning the roadside trees would naturally be somewhat different from that used in the orchard; but they can be pruned for ornament and still produce a fair crop. No more beautiful tree can be found than the olive, and the crop should be a material item. The crops from such wayside trees should pay for the cost and care of the trees and a profit besides. In the no-fence counties, where feasible, the fences should be removed in order that the trees may be cultivated on both sides. This leaves no uncultivated strip to dry out and furnish a harbor for gophers, squirrels and weeds. Evergreens should be avoided upon the south side of roads running east and west, as the shadows cast upon the roads will keep them muddy during the wet season.

The Care of Trees.—The only places in California where some kind of an ornamental tree cannot be made to grow is where it is all rock or all water, or where the soil is impregnated with salt or strong alkali. Care, however, is required in establishing them in their new location. The holes should be large and the soil be well pulverized, and the surface soil filled in first when the trees are set. The trees should be set so that they will be but about an inch deeper after transplanting and the earth becoming settled, than they were when standing in the nursery rows. Now, trees, in order to grow, require moisture. It must either be "kept up" by cultivation, or the trees must be irrigated. Many trees, like the Eucalyptus, Cypress, Pine, Pepper, etc., will take care of themselves, and do well without either cultivation or irrigation, provided they are watered by hand and the soil stirred at times during the first one or two years while the roots are striking down and establishing themselves.

The way to water young trees is to dish out the ground about them so that it will hold a whole bucket of water. Give each one a full bucket or more. The following morning stir the damp soil and cover with fine, dry dirt to prevent cracking and drying out. They will require no further attention for a week or ten days. The second year they should require less attention, and by the third year should be able to get along well without anything further than an occasional stirring of the soil to keep it well pulverized and to keep the weeds down and thus prevent them from drawing the moisture from the soil, which the trees themselves require.

Co-operation.—In wayside ornamentation, if the people of a school district would organize and improve the school grounds, cemeteries and roadsides of the entire district; or of the roads in front of the places owned by the members, and have some one competent person superintend and direct the whole work, better results would probably be obtained for the amount of time and money expended, than in any other way. The situation, as a whole, could be considered, and while a variety of effects could be secured, it at the same time could be made a harmonious and pleasing whole.

FRUIT MARKETING.

The Santa Clara County Fruit Exchange.

An Essay by E. F. Adams, of Wrights, read at the February meeting of the State Horticultural Society.

Responding to the invitation of the Society to give some account of the aims, methods and prospects of the Santa Clara County Fruit Exchange, I will state the essential facts in regard to them as briefly as possible.

At the present time the dried-fruit output of the State is handled by a small number of so-called "commission houses," which, however, are as often buyers as commission men—they operate either way.

A great part of their operations is conducted through local men of comparatively small means, who, while operating under their own names, do business on capital wholly or largely furnished by some one of the firms in question. The nature of the relations existing between the commission houses and the local buyers varies mainly according to the amount of capital or credit supplied by the local man, but the essential features usually are that the local man buys, grades and otherwise prepares the fruit, and the commission house supplies the information about markets and does the selling.

This concentration and grading of the fruit is essential to its proper marketing, and the necessary expense thereof is a charge which the product cannot escape; whether, however, this can or cannot be done more cheaply than by the present methods is a proper subject of inquiry and experiment.

I am satisfied that we see a way to an actual saving, and am sure that the grower can do more of the necessary work and so get a larger share of the money, but I do not

know that most of us who have given the most time and thought to this movement would have made the effort for the sake alone of making the saving possible between the present methods as employed by honorable dealers and any other methods which we can substitute; it might have paid us to make the effort, and probably would, but I doubt if we should have bothered with it had it not been for gross evils inseparably connected with present methods.

The fundamental evil of the present system is the fact that the grower, when selling, knows much less about the current value of his product than the buyer; in fact, in most cases, he knows next to nothing. If the grower could be put on an equality with the buyer in this respect, most other conditions might get themselves fairly well adjusted, but the ignorance of the grower opens the way to impositions upon him by the sharper class of buyers, and usually, in years of full crops, has led to a senseless and indiscriminate scramble to sell on the part of the weaker growers, of which buyers naturally take all the advantage possible, and of which the result is that the strong growers as well as the weak are forced to take less than the actual value of their product, which is thereby made, at the grower's expense, to yield the middleman more than a legitimate profit.

Our "aim," then, is to remedy this evil; incidentally we hope to save some expense in marketing, our object being to ensure to ourselves whatever is paid for our product by the ultimate consumer, less the expenses incident to transportation, and due compensation to all necessarily handling it *en route*. Our plans also include systematic work to enlarge our markets; this is much more the interest of the producer than of the dealer; the dealer need not buy what he does not see his way to sell; the producer whom the Lord has blessed with a bountiful crop cannot help taking it and *must* get rid of it. This part of the work would be one legitimate function of the State Exchange which I think we shall finally reach.

Our "methods" are perfectly obvious, when we come to think of it; only one way is possible, I think, and that ought to be effective, and that way is, of course, to let growers know what their product is worth and provide a way for them to get it. To ascertain what the product is worth in any year, we must simply do for ourselves what all prudent buyers on a large scale are compelled to do for themselves, that is, have the best possible canvass made of the acreage and condition of crops throughout the world, and the amount of old goods carried over and remaining; take into consideration the financial condition of the world, and then look back and see what prices have formerly been obtained under similar conditions. This is all that anybody does, or can do. Everybody in the trade in a large way does this every year as best he can; some do it well, and some ill, according to their means and ability; nobody gets it right every time, and absolute certainty is of course impossible, but it is evident that the more time and money intelligently spent, the nearer will be the approximation; growers can afford to do this much more thoroughly than buyers, for the latter must subtract all their expenses from their gross profits only, while growers can spread it over the whole value of their product. It is true that the total cost of this work—and all other work—by whomsoever done, must be in the end a charge upon the aggregate product, yet if the grower does it the relative cost is less, and the relative value more. The grower needs the information in his business, and so far as the Santa Clara grower is concerned, you may set it down that he is going to have it. If the buyers will join us in the expense, we can do the work far better than it has ever been done, and do it better every year, and what we can learn shall be used for mutual benefit; if they will not join us we will do it alone, or in connection with other growers elsewhere. It is a matter of great detail to do it well, but we know, or can learn, just how.

The other part of our work will be to provide an independent outlet for our product, but before it can be marketed it must be concentrated and graded. For this concentration we are about buying a site, and shall build and properly equip a warehouse. Just what methods of sale will be adopted is not determined, and if it were they probably would not be made public; up to a certain point all co-operative transactions must be open to everybody, but when it comes to actually selling goods under strong competition, personally I do not believe it can be done by a *à la carte* meeting. The terms of office of the present management will expire in May, and the manner of making sales will be determined by our successors. We shall doubtless give them such suggestions as occur to us for their consideration. We have those among us who are perfectly competent to sell our output economically either through existing agencies or outside of them, as may seem best. Our main points will have been gained when we have concentrated our fruit, prepared it for market, and informed ourselves as to its value.

As for our "prospects," all we can now say is that we shall certainly build our warehouse and commence business this season. We are having no difficulty except the mere labor of canvassing in getting the necessary funds. We have nearly as much subscribed as we shall need to use, and we have hardly begun. We obtain funds by selling stock upon which six per cent interest is to be paid, which will be charged upon the business done just as other items of expense. We ask for subscriptions at the rate of \$3 per acre of prunes, peaches and apricots, whether bearing or not bearing, but if we know a grower to be seriously embarrassed for money, we advise him to take less. We want such men in the association, and do not want to sell them what they cannot pay for. We are able to do this because so large a majority of the growers join us. I have so far taken most of the stock, and frequently work all day without a single refusal. I do, however, find some close-fisted men who wish to get whatever benefit there is without adequate payment—well-to-do men with from 30 to 50 acres of bearing orchard who offer to take one or two \$10 shares, as they sometimes say, "just to identify themselves with the movement." Such subscriptions from well-to-do men are not taken; they must furnish their share of the capital or stay out. Sometimes they do one and

sometimes the other, but we are so strong that it is a matter of indifference to us.

There are two co-operative drying associations in operation in the county and two more just organized, all of which will sell their fruit through the Exchange. These four concerns will give us, say 200 carloads of dried fruit; there are likely to be several more soon organized. In addition to that, we shall get from individual stockholders as much as we are likely to wish to be responsible for marketing the first year. If we see our way clear to marketing so large a quantity the first year, we can easily get 1000 carloads.

So much I can say as to prospects; beyond that it is a question of management. A co-operative concern is like any other business concern; if it has adequate capital and is well managed, it will make money; if it is poor and illy managed, it will go to the dogs. We shall have capital enough; all we need is enough to buy our business property, pay the expense of organization, and a small amount for working capital. As for business capacity, we have no fear. In this, as in most counties, we have among the fruit-growers many who have had large experience in business whose services we can command until younger men develop who will take hold of it permanently. The present management feel entirely competent to do the work I have outlined at a less aggregate charge upon the fruit than it now bears for concentrating and marketing. Our terms of office expire in May, and there is an abundance of good material from whom to choose our successors.

It is often said that farmers will not work together for mutual interest. We have no fear of that so far as we are concerned; our movement is in the hands of those who have no private interests to serve by it, and consequently have no general policy to promote for which we are not able to disclose the ultimate reasons to every stockholder; we abuse nobody—not even the railroad—but simply attend to the business committed to us to the best of our ability; our sole object is to dispose of our fruit to the best advantage, and we have no quarrel with those choosing other methods, or with others in the fruit business in any capacity. We explain the last detail of the business to every stockholder who cares to know, and when we get them together in our annual meeting, we shall take care that all our plans and prospects are perfectly understood, and have not the slightest doubt that the stockholders will fully empower our successors to proceed with them if they themselves approve them. Acting in every way openly and above board, we can hardly fail to command the confidence of our stockholders, and we do command it. Not one of the directors, I presume, has the slightest desire for re-election or will lift his finger to promote it, and probably not one will refuse to serve if re-elected. All we desire is the effective prosecution of the business.

I speak of these things because, in my judgment, it is the key to all success in co-operation. The stockholders must furnish the motive power, and must be served by directors of their own choice, who will undertake to do only what they have the assurance of general support in; whatever has its origin in the general wish of the stockholders will go with power; whatever is opposed by a respectable minority should not, usually, be undertaken. That stockholders may give intelligent direction in their business, they must be educated in business methods. For the present, I regard this as one of the principal functions of the management. As one of our directors, it is my ambition to go out of office leaving a body of stockholders fairly well able to judge of what is reasonable and what is unreasonable to expect in the marketing of their fruit, and what charges are necessary and what are unnecessary. I believe that we shall have a thoroughly interested body of stockholders prepared to stand by their management in all things reasonable, and a management that will never undertake anything unreasonable.

Co-operation is a growth which must begin at home. Our County Exchange—which we expect to see embrace not alone Santa Clara county, but all the territory naturally making Eastern shipments from San Jose—would not be possible, were it not for the neighborhood drying associations, wherein large numbers of our orchardists have learned to co-operate successfully; they have been the backbone of our larger enterprise. The president of one is the president of our exchange, and the president of another is one of our most active directors; the stockholders of all are those upon whom we most rely to familiarize all with sound business methods. The fact that of the two drying associations in operation the first year, one has divided nearly \$90 per ton for green prunes and the other will probably divide more, while no individual orchardist selling green got over \$60, and that both divided more for refuse peaches and apricots dried, per green ton, than the very same people got for their very best sold otherwise, has been simply a knock-down argument with the doubters. I earnestly hope for such further organization of growers throughout the State during the coming season, as will warrant the establishment of a State Exchange next year. I do not favor it now, because I do not believe it would be successful. Company drill must precede regimental drill, and regimental drill must precede general movements. A State Exchange must be mostly officers, and officers without troops cut a very poor figure.

It is the dried-fruit interest that now needs organization, and I earnestly recommend that it begin in a small way, in neighborhoods. I will also say that it would seem to me unwise in any contemplating such movement not to take full advantage of our experience—our mistakes as well as our successes. If any grower contemplating such a movement in his neighborhood will come to San Jose, I will take him in my buggy and let him ride a day with me among our orchardists, and our president, Colonel Hersey, will show him the details of his two seasons' experience.

Any association anywhere, no matter how small, could doubtless arrange with our exchange to derive most of the larger advantages which we expect to secure, and thus lead the way to a more general movement. In Santa Clara county—I live in Santa Cruz county, by the way—we are enthusiastic for co-operation in marketing. We are entirely

confident that we are bright enough to sell our own fruit, and at any rate we are determined to know as much about its current value as buyers know, or as any one can find out.

THE VETERINARIAN.

Anthrax.

Mr. T. Duckham, a great English authority on live stock matters, through the columns of the *Mark Lane Express* sounds a warning note to British stockmen in regard to the malignant and fatal disease, anthrax, to which all domestic breeds of animals, cattle, horses, sheep and swine, are subject.

The dangerous and fatal nature of the disease has been set forth in our columns on different occasions and by more than one writer. There have been, to our personal knowledge, several well-authenticated cases of anthrax in this State. If there are any seeds of the disease hidden away in the soil, this is the kind of a season most likely to develop them into disease-bearing germs, spores, or bacilli; the cause of anthrax being a "microscopic organism known as the anthrax bacillus, having the power of indefinite multiplication," under all favorable circumstances, among other favorable conditions for the development of the disease are lands subject to floods, succeeded by hot, dry weather, pools of stagnant water, soils in any way impervious to water, such as cold, undrained clay lands, etc.

As we are likely to have all these conditions and more developed in this State during the coming spring, it will be well for stockmen to be on their guard, and should any have had known cases of anthrax on their land, or any particular parts of the same, it will be prudent to keep cattle from grazing on such, if possible, so long as there is danger.

When once the land has become infected it takes a long time to overcome the danger, in fact it is almost impossible to do so in any reasonable length of time. Instances have been known where cattle were wont to die in certain fields every year, when grazing, also when fed on hay grown on the same land; not only that, but when the land had been plowed and cultivated they would continue to die when fed on the produce of that land. Of course, such extreme cases are rare, but there are such on record, which serve to show the great care that is necessary to be taken in order to prevent the continuance of the disease on the same land, as well as the spread of it from place to place.

Undoubtedly the improper, or, perhaps more frequently, the non-disposal of dead carcasses is the greatest cause of propagating the disease. Next to burning, which is not practicable with a large carcass, deep burial in a whole skin at the place of death, if possible, is the best method of disposing of the victims, as well as everything with which they have been in contact. There should not be a particle of anything belonging to the animal left on the surface of the ground. The only safety lies in prevention. Treatment is useless, even if the animal be discovered in the earlier stages of the attack, which is highly improbable; as a rule, the dead animal itself is the first indication of the disease.

Mr. Duckham, in the article above referred to, gives some striking examples of the dangerous and fatal nature of the disease to both man and beast. He says:

"During 1891 there were in Great Britain 51 infected counties, 234 outbreaks, and 484 animals attacked; of those, 300 were cattle, 15 were sheep, 156 were swine, and 13 were horses.

"In 1888 Professor Crookshank was instructed to make an experimental inquiry, and succeeded in infecting swine, which were previously held to be not susceptible of the disease. In his report he relates a serious outbreak in Somersetshire, where several sheep had died; their heads and necks were swollen, breathing became embarrassed, and death resulted in a few hours. The carcasses were skinned and opened in a pasture close to the homestead, and hung in trees to be used as food for the dogs. After this, seven out of eleven horses died on the farm; two pigs, two ferrets, a cat, and a dog, which partook of the raw flesh, died suddenly without any premonitory symptoms of ill-health. A portion of the carcass of one of the horses was removed to a neighboring village, where a man boiled it down for pigs. Two of the pigs died, and shortly afterwards the man also.

"In the autumn of 1889 a friend of mine in Wiltshire had a calf die very suddenly; it was considered to be a case of quarter-ill. Unfortunately no precaution was taken, and three pigs ate a portion of its flesh; they became ill, their throats much swollen. A veterinary surgeon was called in, and pronounced it quinsy.

"They all died, and unfortunately no precaution was taken respecting their proper burial. In a few weeks the cows were put to graze in the field where the pigs were buried. One morning a cow was found dead there, but no knowledge of the nature of the disease or cause of death existed, and a man had the carcass to boil for his pigs; the pigs and his cat died. My friend lost 12 cows, two valuable horses and his son's hunter. Fortunately he was recommended to consult Professor Penberthy, of the Royal Veterinary College, which resulted in the inoculation of 150 animals with lymph from M. Pasteur. Only one cow died of inoculation; probably she had contracted the disease before the operation, inoculation being a preventive, not a curative measure."

Compensation for slaughter is now provided for in Great Britain, under the Contagious Diseases (Animals) Act, subject to certain regulations for giving public notice of any outbreak of the disease, or even of suspicious cases; also in regard to removal of animals or anything with which they have been in contact, and to the disinfecting of premises, etc. All owners of animals who disregard the law in regard to diseased animals in that country are sure to suffer for it, sooner or later; therefore they find that the most

prudent and economical course for them is to report at once to the proper authority, whose duty it is to investigate all suspicious cases, and in turn report to his superior in authority.

As we have no law in regard to the movements of diseased animals in this State, it is left for every stock owner to be a law unto himself, and see to it that every precaution is used to prevent the spread of any disease whatever, that is of a dangerous nature to man or beast, or both—for such is anthrax.

As will be observed from what is stated above, the flesh is poisonous, and it is absolutely dangerous to handle a beast—or any part of the same—that has died of the disease, especially to the man who has the smallest scratch or pimple on his hands or other exposed parts.

In handling a beast that has died, whether of any known disease or not, it is well to use caution in this and every other respect. Through neglecting it we have known cases of very severe suffering, where life was endangered through handling dead carcasses.

Lumpy-Jaw Meat in Germany.

The following from Dr. C. A. Cary, veterinarian, appeared in the *Dakota Farmer* and has been going the rounds of the press:

"The readers of the *Farmer* will remember that during the early part of the year the question of meat inspection was much discussed, especially in its relations to actinomycosis ('big-jaw' or 'lumpy-jaw') and in its bearings on the admission of American pork into Germany. As I had an opportunity to observe the methods of inspection in several of the greatest slaughter-houses in Germany and Austria, I shall give you an idea of what may be termed the German methods of meat inspection. During the great Peoria trial, when the stockmen of Chicago were trying to force the carcasses of actinomycotic cattle upon the market as fresh and wholesome, testimony was there given which claimed that the Germans simply cut away the diseased parts and used or consumed the rest of the carcass. That testimony is true as far as it goes, but it leaves out a very important qualification. The carcass or beef from an animal affected with actinomycosis is stamped as meat from a diseased animal. The price for which it must be sold is fixed by the veterinary inspectors, and it is then sent to the 'Friebank,' the market-place where all meats from diseased animals must be sold."

For ten years Dr. Hertwig has been director of the Berlin Slaughter-house, established under the Imperial Board of Health, and I took occasion to write him concerning the foregoing statements and ask him the point-blank question:

"Is the meat from lumpy-jaw cattle classified as lower in quality, and so sold when the carcass is otherwise in as first-class condition as that of an animal not having lumpy-jaw?"

Here is his answer, closely translated:

BERLIN, Jan. 18, 1893.

My Respected Colleague Billings:—That which has been communicated to you over the condemnation of animals diseased with lumpy jaw is not correct. When the animal has lumpy-jaw, and the remaining parts of its body are healthy, only the head is condemned; the other flesh, however, is freely given over to human consumption without reserve. HERTWIG, Director Vieh-hof, Berlin, Germany.

So far as Germany is concerned, that ends it.

F. S. BILLINGS in *Breeders' Gazette*.

What Is This Disease?

TO THE EDITOR:—Having been for many years a reader of your paper, and knowing that through the medium of its columns we may often find out that which we desire to know, I now wish to ask a question relative to a disease that affects small pigs. I am, as you will surmise, in the hog business. I have been raising hogs for many years, but a person always learns something from others. What I wish to know is, what causes the shoats and young pigs to cough and get blind, run at the nose, and often die? I have been trying to take extra good care of mine this winter, as the prospect for prices is so good. I have fed them on chop, barley, bran, beets and what grass they could get. I have good sheds for them to sleep in, and sprinkle carbolic acid around their sleeping places, and still they will die. Now, if there be any one among the readers of your valuable paper who knows the why and the wherefore of this disease and can give a preventive, I shall be very grateful to him. A. A. DECKIE.

Suisun, Feb. 13, 1893.

This letter was referred to A. E. Buzard, veterinary surgeon, with the following result:

TO THE EDITOR:—From the symptoms given, I should judge the pigs are suffering from a small thread-like worm (*Filaria Bronchii*), which infests the windpipe and bronchial tubes. Turpentine is indicated. Give one-half-ounce doses in the food every day for four days. In some future article I will give the distory of these parasites. A. E. BUZARD.

405 Broderick St., Feb. 18, 1893.

THE GARDEN.

Deep vs. Shallow Potato Planting.

TO THE EDITOR:—Mr. McCrary, of Humboldt county, has given his experience, as related by Ed Robertson in the *RURAL PRESS* of Feb. 11th, and as some of the information therein given is so different from mine, as well as being at variance with generally received practices in potato culture will you kindly allow one who has had over 50 years' experience, not alone in one locality but in the States of New York, Michigan, Colorado and California, to give his experience? The conditions may be such in Humboldt county that Mr. McCrary's practices

may be good to follow there, but they are of doubtful general utility. Information, to be beneficial, should be general in its application, not local. There are several points in this article to which exceptions may be taken, such as the importance of a "thorough cultivation of the ground," so emphatically insisted and urged, "hilling" and "irrigation." But I will confine myself mainly to deep and shallow planting, and only allude to the others incidentally.

The best potato crops I ever raised or saw grow were from deep planting—not the extreme depth of 10 inches, but from 6 to 8 inches, so as to do all the hilling-up at the time of planting. I first learned this when a boy by seeing the Irish women plant their potatoes, when they would dig a little hole, drop in the seed, haul over a mound of dirt, keep the weeds out, and they always raised a large crop. The largest crop we ever raised here was raised on one and a quarter acres of ground, by plowing a furrow, dropping in a quarter of a large potato some six inches apart, and covered by plowing a furrow on each side, making a ridge. From this acre and a quarter there were taken 640 bushels of nice potatoes dug by running a plow each way through the ridge. An Englishman in this State secured 160 acres of oak opening land, running in debt for the whole of it. He commenced raising potatoes by putting the seed on the unbroken land, digging a ditch each side, turning the grassy sod over the potatoes, plowing a ridge, and he soon paid for his farm from the proceeds of his potatoes. While managing the Colorado Agricultural College farm, I raised the first crop of potatoes said to have been raised there in six years. A furrow was plowed. A quarter of a large seed potato—there is a difference even in large potatoes for seed—was dropped in, having first been covered or dusted over with land-plaster; a furrow turned over the potatoes from each side; a little stream of water from the irrigating ditch allowed to trickle down between the ridges, which was continued every few days till the tops attained a sufficiently large growth, when the water was shut off. The tubers were then plowed, and a large crop was raised. A neighbor plants from 15 to 20 acres of potatoes every year on clover sod, places the seed right on the sod, turns a back furrow over the seed, plows up the intermediate sod, harrows thoroughly every few days till the tops get too large, and raises fine crops of potatoes with no hoeing or hilling. The Chinamen and ranchers in Salinas valley, California, covered their seed potatoes with the plow from 6 to 8 inches, harrowed down the ground level, and left it level, and raised fine crops. Where hilling is done, either to corn or potatoes, dirt is drawn from the small feeding surface roots and merely piled up around the tops, exposing the roots to the sun, to the great detriment of the plant. Where a pyramid of earth is made about the tops of potatoes or hills of corn, water is diverted from its proper destination. Plant from 6 to 8 inches deep; keep the weeds down, the ground level and moist while the tops are growing; plant either a whole large potato, selected at the time of digging, or a quarter of a large one cut lengthways; keep off the bugs, and a good crop may be seasonably expected in most any climate or soil.

J. S. TIBBITS.

Asparagus from California.

The New York Commercial Bulletin of Feb. 23d says: Charleston, S. C., has just commenced to send in the first lots of asparagus, which have been placed so far at about \$1.50 to \$1.75 per bunch in first hands. This season, however, the first asparagus in the market was from California, quite large quantities being received. Dealers were at first reluctant about handling it, especially before the Southern arrived, claiming that the California product was small and poor, and they did not believe they could get it regularly, with the result that the first arrivals were very difficult to move, and seemingly low prices had to be accepted.

About this time a little from Charleston appeared, and a few bunches were received for several days until the cool wave checked shipments, and in the absence of Southern the dealers took California, and while the demand is limited, it seems gradually increasing in favor, and it looks as if the early Southern will find a serious competitor in the California product, and it is believed it can be laid down here profitably at prices equal, if not below those usually obtained early in the season for Southern. Receivers here look forward to increased quantities arriving in the near future.

HORTICULTURE.

Horticultural Legislation.

To the Members of the State Horticultural Society:—Before our next meeting the Legislature shall have adjourned, therefore I take this opportunity of informing the society of impending legislation of direct interest to the members. On yesterday the Senate passed a bill appropriating \$10,000 for the purpose of sending an expert to foreign countries to collect and import parasitical and predaceous insects. This bill is on second reading in the Assembly. A "special" to the Chronicle of yesterday says, that a memorial in opposition to this bill has been gotten up at Los Angeles and will be forwarded to the Legislature. In this bill it is contended that the funds appropriated two years ago have been barren of results, a fact which requires time and experience to establish. The other allegations are groundless, inasmuch as what the memorial asked was done, and it is simply the outcome of personal jealousy. Professor Albert Koebele was sent on this mission and his ability as an expert entomologist stands pre-eminent. Professor Koebele discovered the *vedalia cardinalis*, which saved millions of dollars to California. The attacks on his competency and service to the country and State are unjust and without cause. The bill will no doubt pass and

become a law, notwithstanding the animosity, for selfish motives, entertained by those in opposition.

An Act to amend an Act to regulate the sale of olive oil is on second reading in both Houses. This bill provides that every article, substance or compound, or oil other than that extracted solely from the fruit of the olive tree, made in semblance of olive oil made solely from the fruit of the olive tree, is declared to be "imitation olive oil;" and any person who adulterates, or manufactures imitation olive oil (under heavy penalty) must place a label on the can, bottle, or vessel, bearing the words "imitation olive oil." Also, no person shall knowingly ship, consign, or forward, by any common carrier, any imitation olive oil, unless marked as such; and no person shall offer for sale imitation olive oil, under the name of or under the pretense that the same is pure olive oil. Oil manufactured out of the State cannot be sold under representation that it is manufactured in California.

If this bill becomes a law it will put a stop to adulteration.

A bill to regulate the sale of fertilizers is on second reading in the Assembly, and will no doubt pass that body and be transmitted to the Senate at an early day.

The constitutional amendment, exempting fruit trees and vines from taxation, bids fair of passage. The society can take such steps as it may deem wise to aid these measures in becoming laws.

At the last meeting of the society the question of olive culture was discussed. This discussion somehow conveyed to some the idea that there was no money in growing olives. I have received several letters asking why. My attention has also been called to various comments in certain papers. There was nothing said at the last meeting which would give this impression, other than what the letters from growers themselves contained. One fact must not be forgotten or misunderstood, and that is, that if we are to have no laws to prevent the adulteration of olive oil, and to prevent spurious oils from being sold for pure California olive oil, so long will the industry suffer. Then it behooves every one to do his might in the passage of such laws that will protect the industry from such rascality. Adulteration of food products is an abomination that no language is too severe to condemn.

B. M. LELONG,

San Francisco, Feb. 24, 1893.

President.

POULTRY YARD.

Chickens vs. Wheat.

Daniel Campbell, who lives west of Gridley, is the owner of one of the finest poultry farms in this county and his experience is worth something to many, for he is the owner of 400 acres of rich and fertile land that he devotes to wheat. Wheat growing is not very profitable, so \$500 was devoted to chickens and the gentleman and his wife have studied the poultry question thoroughly. They purchased the best breeds, Brown and White Leghorns and Plymouth Rocks, planted an acre or two to alfalfa and took excellent care of the hens. They select the white eggs from the brown and by so doing obtain two and a half cents a dozen more for the white than for the brown eggs. They have established a deserved reputation for fine, large fresh eggs in the metropolis and thus get from three to four cents more a dozen than the ordinary farmer who sends his eggs to market.

In the season when eggs are high the utmost attention is paid to the poultry so as to reap a big price for the eggs, but when eggs are low they are hatched by means of an incubator and the young chicks are raised by hand. They have been so successful that Mr. Campbell recently said to a friend that he was clearing more money from his poultry than from his 400 acres in wheat.

We hope his example will be followed by many, for there is a big demand for eggs and poultry in this State, and we send away each year thousands of dollars that ought to be retained in California.

The price is not likely to lessen and we wish Mr. and Mrs. Campbell may continue to reap a rich reward from their flocks and that the lesson they teach may be learned by those who cry hard times yet fail to get out of the old-time rut.—Oroville Register.

Black Minorcas.

The Black Minorcas, above all other fowls, can be safely and highly recommended for their laying qualities; the egg of this bird, when fully matured, being the largest of any breed, says an exchange. They are of good size, are hardy both as fowls and chicks, easily raised, mature early and pullets commence laying when very young. They are non-setters, small eaters, splendid foragers, and without doubt very profitable. Their adaptability to all soils and places, whether in confinement or allowed unlimited range, make them very popular, and suitable to the city fancier as well as to the farmer. Their plumage is pure black with a green or metallic luster. The legs are featherless, clean, and of a dark slate color. The chief and striking ornament of the cock is his comb, which is very large, single, straight as an arrow and evenly serrated; has a large flowing tail, carried somewhat high. The comb of the hen lies over on one side of the face in a peculiar fold, similar to those of the Leghorn, but much larger, wattles being in proportion to the combs. The face is red but the lobes are of pure white, and show up very distinctly. They are very stylish, with a stride as majestic as that of a king. There does not exist a more useful, handsome, or profitable breed of fowls and those lucky enough to secure a setting of eggs therefrom can consider themselves as more than fortunate.

Stuffed Eggs.

Boil twelve eggs as hard as possible. Take off the shells carefully, cut the whites lengthwise into two parts and remove the yolks. Mash the yolks very fine; add a heaping teaspoonful of rolled crackers, a teaspoonful of celery seed, the same of mustard, pepper and salt to taste. Mix well, and add a teaspoonful of melted butter to the mixture.

Stuff each half of the white as full as possible and place in a pan. Set in the oven long enough to brown the top slightly.

THE DAIRY.

What Thought Did.

A Parable.

Now when he had milked the kine and his wife had strained the milk into pots made of clay.

He sat himself down and putting his hand into his pocket, hunted for a nickel.

And behold he findeth none.

And he said unto his wife: "Why is it that we have so few shekels? I work hard from early morn till dewy eve (in winter till frosted or frozen eve), but the shekels disappear as fast as I can take them in, and I cannot get any to lay away for a rainy day."

Then his wife answered and said unto him: "I have been thinking much about these things lately, and I am afraid we are not walking in the right dairy path, and one that leadeth to a pocketful of shekels. Why not take some good farm papers and read up on the business?"

And he taketh his wife's advice and subscribeth for several papers.

After a few months he beginneth to see where he had been making mistakes.

And he sayeth to his wife: "Let us hump ourselves, and do exactly as the papers teach." And they humped.

He selleth all of the kine that were poor milkers and investeth some of the shekels in a new dairy outfit, and had enough left to purchase several tons of good feed wherewith to feed the rest of the herd.

He resolveth to keep a winter dairy, and breedeth his cows with that object in view.

He maketh granular butter, and wrappeth it up in parchment paper.

He selleth his butter to persons living afar off in a large city, and he getteth twice as much for it as he used to get for his buttermilk-flavored butter.

He raiseth the heifer calves from his best kine that he breedeth to a bull whose name is recorded in a herd-book.

He groweth crops for soiling when the drouth comes, and he talketh about building a silo.

His wife getteth the kinks out of her back while attending to the portable creamery.

His children became acquainted with store clothes and go to school, while his big dog churneth the butter.

We worketh not so many hours as heretofore, but the work he now does tells.

When he now putteth his hand in his pocket it graspeth a lot of shekels.

He layeth by some shekels in a bank, so that when he getteth old he will be provided for.

His wife employeth a hired girl and findeth time to grow some flowers.

He improveth the farm and keepeth the house painted.

Yes, verily, he becometh a model dairyman, and so enlighteneth his neighbors that they begin to catch on and be in it.—National Stockman.

Keep the Stable Clean.

Next to good and regular feeding there is no more important matter about the winter dairy, to be looked after, than its sanitary condition; not to be looked after by fits and starts, but a uniform, every-day attention. While the stables should be kept clean at all times of the year, says John Gould in *Practical Farmer*, the winter season is yet more important, as the cows are confined in them the greater part of the time. If the stable-boy gets the habit of keeping the stables tidy early in the season, he will be apt to keep it up through the winter. To keep the stable clean means more than taking out the contents of the gutters each day. It means keeping the stables dry, free of smells and supplied with fresh air, so that the cows are in a healthy atmosphere. The stable-floor should be abolished, *i. e.*, a floor raised up on logs, from one to four feet above the ground, and the graveled or cemented floor substituted. The old-style floor, with its cavern of winds and abode of foul odors beneath, has had its day and should be relegated to the past, in all well-appointed dairies, where winter milch cows are confined. There should be a generous using of dry leaves, straw, etc., in the stables, absorbents in the gutters; and, where plaster cannot be readily had, "dry" road dust should be sprinkled in the gutters daily. Milk is made from the blood of the cow. Blood is purified in the lungs of a cow by the inhaling of fresh, pure air, and if the air is loaded with impurities, how can the blood be thoroughly oxygenized? Of course it is more work to keep a stable tidy than to simply clean it out; but then no reader will think of stable-work except by the best methods, and this paragraph is for him to read to his more indifferent neighbor.

Dairy Notes.

The dairy farmer who knows about what income he may expect each week can gage his expenses according to his means much better than the man whose income depends upon the sale of wheat or some other crop that he only realizes profit from once a year.

In testing milk with the Babcock machine it has been found that the morning's milk is richer than the night's, because the cow goes through less motion at night, and all motion robs the milk of fat. This is a great argument for keeping the cows stabled all winter, if not all the year round.

Do not wait for more than three days' cream to accumulate in order to get "enough for a churning." Three times a week is none too often, and the butter will come with less labor, and there will be less chance of bitter butter or buttermilk. We would prefer to churn three times a week than twice or once, as we think it could be done with less labor, and know it would be sure to make better butter.

THE HOME CIRCLE.

Farmer Brown's Conclusion.

Well, the first I heard about em
Was through some boarders we had
That talked about microbes and such things
Till I own I was fairly scared.
We've lived on the farm for thirty odd year,
And been middlin' healthy, too;
We've raised eight good, smart children,
Which's as well as most of folks do.

But last summer we took some professors,
And they made my blood run cold,
For ghosts and goblins warn't nowhere
Compared to the yarns they told
About microbes that swim in water
And fly on wings through the air,
That have feet to walk about with
And can stick to your skin and hair.

They peeked over the edge of the well curb
To see if the bucket was clean,
And analyzed the pertaters
To find the Paris green
That I put on the tops in early spring.
Afore the pertaters was growed,
Though how they thought it could get inside
Was more than ever I knowed.

They wanted our Tomcat kept to home,
Because one of 'em heard of a case
Where a cat brought home a disease in its fur,
Though there warn't one to ketch in the place.
They went up into the paster
To see if the cows eat weeds,
For if they did, the milk we used
Would be full of colic seeds.

They peeked in the sullen and aired the barn,
Though I allurs took pains to keep clean,
And sprinkled cleansin' powders around
That smelt wus'n any old dreen.
They hunted 'em faithful all summer
Till I kind of pited the things,
And thought to myself the Almighty was wise
When on some of the kinds he put wings.

Well, after they'd gone away in the fall,
Matilda she says to me:
"The best thing we can do, Caleb,
Is to let the whole thing be."
So we come to this conclusion,
No matter what microbes might bring,
A little bit of larning
Is a mighty dangerous thing.
—E. L. WALDRON in the Yankee Blade.

Widder Rattlebee's Speech on Viticulture.

Written for the RURAL PRESS by LAURA J. DARIN.



THE other day Jasper an' I
Went down ter the Fruit
Growers' Convention an' we
Had a mighty peart time,
I kin tell ye. There was right
Smart o' men an' womin thar
An' they spoke jus' like it war camp-meetin',
on'y it was about moths 'n bugs 'n hotty-
culter, but mostly it was about prunes 'n
apples 'n grapes. Wal, ez I was sayin',
everbody tuk turns talkin' an' gassin' roun',
so I hunched Jasper an' whispered an' sez,
sez I:

"Git up an' tell 'em 'bout our apples an'
prunes, our Cornish John grapes, Musky
Elexander; Black Phareoughs, an' so on,"
sez I. But he just hugged the seat like a
snail does its shell; he wouldn't stir a inch.
So I whispered ag'in behind my gloves an'
sez "Ef you'd on'y be'n learnin' a peace ter
speak 'stead o' fittin' Reub Toben you'd er
hit it fer onct," sez I, but he hild holt o' the
seat tighter'n ever.

"Wal, bimeby the Pres'dent of the meet-
in' that was up on the platform ris out'n
his cheer an' sez, sez he:

"Has the grape question be'n discurs'd
in all its bearin's? Has nobody nothin'
more ter say on vitticuler?"

"When I heard that I jumps up; fer ef
ennybody kin cook good vittles I kin. An'
I sez, sez I:

"Mr. Pres'dent, I reckon vitticuler
means cookin' vittles the best way, an' I
mus' say I allers hev right good luck with
things, tho' some folks say Missouri'ans air
gin'ly or'nary 'bout cullender matters, but
my gran'maw come from New Ham'sher an'
she handed down her reseats to my maw an'
me, so thet back home that we was quite
notified fer cookin', ef I do say it thet
ortent to," sez I.

"An' I ain't goin' ter take up yer time
tellig' how ter make cake 'n pies," sez I, "fer
ev'ry mag'zine an' nusepaper ez plum full o'
them reseats; but I'll tell ye how ter git up
a old-fashern biled dish sich ez they useter
hev back East long ago. Now, most ever-
body in Californy cooks ther meat in one
kittle an' ther veg'tables in a nuther an' ther
tatoes 'n puddin' in the oven, like's enny way.
But thet's mighty or'nary fer a biled dish; ye
want a kittle thet'll hold the hull codwal-
lopin' lot; an' ye put in yer cornbeef an' a
leettle peace o' pork an' let 'em bile a spell,
then ye put in yer rontabeggar turnips an'
beats ef they're big, an' ez soon ez they git
to bilin' good, hev ready yer puddin' in er
bag an' drap thet in. Ye make yer puddin'

out'n buttermilk 'n sallyraters, with co'n-
meal 'n flour stirred in, an' a spoonful o'
lasses an' plenty o' home-made ra'sons. We
make all our reasons out'n the Muskyteller
grapes, an' I don't see but they're jes' ez
good ez store reasons, an' they're mighty con-
trivin' ter hev in ther house; back home we
uster put in dried ras'bries. Wal, you let
'em bile till 'leven er'clock; then ye wash
an' reyse yer 'tatoes in hot water an'—O, I
forgot to put in the cabbage, yis; ef it's er
big, solid head put it in middlin' early, 'fore
ye do the puddin', say, so't the water won't
stop bilin' after thet's in. Ye don't pare yer
'tatoes 'fore ye put 'em in, 'cause they're bet-
ter cooked in ther skins, but ye want ter
skim off all the fat thet's riz on the water the
fust thing ef ye don't want yer veg'tables
greasy; yis. Wal, now everything bein' in
one kittle, it all gits pervaded by the meat
an' tastes right relishin'. Ef the puddin' is
a leettle too salty on the outside ye kin scrape
off some, but it's gen'ly mighty nice ef ye
make a good sarse to eat on't.

"An' thar's carrits, they's reel delterns in
a biled dish, too, an' some doctors 'low
they're more conclusive ter health thun any
other veg'table 'thout it's onions, so I eat
'em, tho' I ain't no great favorite of 'em
reely. But cows an' ho'ses, they're rav'nus
for 'em ef you give 'em the white, bulgin'
kind; they kin be planted 'tween yer fruit
trees when they're small, an' not hart 'em
a grain.

"Now, I reckon ye'll 'low I've told ye
'bout the reg'lar old-fashern biled dish sich
ez our antsisters had," sez I. "We hev it to
the ranch ever once'n awhile an' it's mighty
appletizin' ef yer wukin' hard; an' ye got ter
wuk hard ef ye want good crops. I find a
body kin raise most ennything ef they'll
plant it on er mountin' ranch an' tend to 't.
But we planted one thing that was wus'n
Canady thistles er pisen oak; it spread 'n
spread till it like ter tuk the hull ranch. It
cost lots o' money ter take keer on't an'
seemed like 't would kill us all, but last year
we cleaned it off, an' it was a right smart
load I tell ye. What ye 'spose 'twas?"

"It was a mogidge! Take wa'nin', don't
never plant no mogidge."

"Wal, I tuk my seat an' sot down, an'
everbody jes' stomped n' cheered like they
was mighty pleased at my speech, an' I
reckon they was, tho' when I fust begun
talkin', Jasper had pulled my gownd an'
whispered that the pres'dent didn't say 'vit-
tles,' but of co'se I knowed better, an' when
he riz up on the platform an' thanked me
fer detainin' the awjence so well, I reckon
Jasper changed his mind, yis."

Meaning of the Various Colors.

White was the emblem of light, religious
purity, innocence, faith, joy and life. In the
judge it indicates integrity; in the sick, hum-
ility; in the woman, chastity.

Red, the ruby, signifies fire, divine love
and royalty. White and red roses express
love and wisdom. The red color of the
blood has its origin in the action of the heart,
which corresponds to, or symbolizes, love.
In a bad sense it corresponds to the infernal
love of evil, hatred, etc.

Blue, or the sapphire, expresses Heaven,
the firmament, truth from a celestial origin,
constancy and fidelity.

Yellow, or gold, is the symbol of the sun,
of marriage and faithfulness. In a bad sense
yellow signifies inconstancy, jealousy and
deceit.

Green, the emerald, is the color of spring,
of hope, particularly of the hope of immortali-
ty and of victory, as the color of the laurel
and palm.

Violet, the amethyst, signifies love and
truth, or passion and suffering.

Purple and scarlet signify things good and
true from a celestial origin.

Black corresponds to despair, darkness,
earthliness, mourning, negation, wickedness
and death.

Country Girls' Advantages.

"What advantages has the country girl
over the city girl?" asks "Delira" in the
Marysville Democrat. Well, we glanced at
the question upside and down the other day,
and came to the conclusion that the country
girl has considerably the larger half. Please
keep your seat, city folks; I am not through
yet. In the first place, where will you find
more pure air, better exercises and good
food than in the country, the very elements
essential to constitute a good foundation
that will stand the wear and tear that de-
volves upon them when once they shoulder
the realities of life? Take the country girl
when but a mere child and her first lessons
are from nature, while the little city girl,
penned up and debarred from all these
privileges, is perhaps being loaded down
with all the gewgaws conceivable; little
palms squeezed into tight-fitting gloves,
some kind of a little knit concern stuck on

its head neither beneficial nor ornamental,
rigged out for a street parade. Or if sent to
school the little brain is stuffed to its utmost,
until what do you see, a pale-faced physical
wreck. The country girl who lives with
nature develops the faculties given to her as
nature would have her do. Some say her
educational advantages are not so good.
Our schools and colleges of to-day extend
the same privileges to the country as well as
to the city girl. You have your libraries,
while the country girl has not what you
have. But literature, and good literature, is
within the reach of almost every one. Out-
side the libraries there is as much literature,
yes, if not more, than in the city, and better
use made of it. "As woman is not content
with woman's recognition," the writer heard
a man, yes, a city man, too, say, that the
country girl was better posted on all current
events than the city girl, generally speaking.
Her mind isn't dwarfed by fashion; a scien-
tific matter is of more interest to her than the
fashion plate, and hasn't as many tempta-
tions to lure her from the nobler purposes of
life.

Grains of Gold.

A man without decision can never be said
to belong to himself.—Foster.

Toil is the lot of man, and not of the poor
man exclusively.—Freeman.

It is more honorable to acknowledge our
faults than to boast of our merits.

He serves his party best who serves his
country best.—Rutherford B. Hayes.

Riches only adorn the house, but virtue
adorns the person.—From the Chinese.

Do not look upon the vessel, but upon
that which it contains.—Hebrew Proverb.

Be decent at home, for, as Bouring says,
"A happy family is but an earlier heaven."

Whatever creed be taught or land be trod,
man's conscience is the oracle of God.—By-
ron.

Naught from my birth or ancestors I
claim; all is my own, my honor and my
fame.—Ovid.

Preach not because you have to say some-
thing, but because you have something to
say.—Whately.

There is a certain noble pride through
which merits shine brighter than through
modesty.—Richter.

I will chide no breather in the world ex-
cept myself, against whom I know most
faults.—Shakespeare.

Do not think it wasted time to submit
yourself to any influence which may bring
upon you any noble feeling.—Ruskin.

Man is himself the crowning wonder of
creation; the study of his nature the noblest
study the world affords.—Gladstone.

The proud have no friends; not in pros-
perity, for then they know nobody; and not
in adversity, for then nobody knows them.—
Charron.

Contact with good never fails to impart
good, as travelers' garments retain the odor
of the flowers through which they have
passed.—Smiles.

Lost wealth may be replaced by industry,
lost knowledge by study, lost health by tem-
perance or medicine, but lost time is gone
forever.—Smiles.

Curious Vital Statistics.

The human family living on earth to-day
consists of about 1,450,000,000 souls—not
less, probably more. These are distributed
literally all over the earth's surface, there be-
ing no considerable spot on the globe where
man has not found a foothold. In Asia, the
so-called "cradle of the human race" there
are now about 800,000,000 people, densely
crowded, on an average of about 120 to
every square mile. In Europe there are
320,000,000, averaging 100 to the square
mile, not so crowded as Asia, but every-
where dense and in many places overpopu-
lated. In Africa there are approximately
210,000,000, and in the Americas—North,
South and Central—110,000,000, these latter
of course relatively thinly scattered over
broad areas. On the islands, large and
small, there are probably 10,000,000 more.
The extremes of the blacks and the whites
are as five to three, the remaining 700,000,000
intermediate brown, yellow and tawny in
color. Of the entire race 500,000,000 are
well clothed—that is, they wear garments of
some kind that will cover nakedness; 250,-
000,000 habitually go naked and 700,000,000
only cover the middle parts of the body;
500,000,000 live in houses; 700,000,000 in
huts and caves, the remaining 250,000,000
virtually having no place to lay their heads.
Philadelphia Press.

Lobelia for Sore Eyes.

Solomon Jewett, over 90 years of age, a
pioneer sheep-herder in California, recom-
mends steeping the leaves of lobelia (Indian
tobacco) and applying carefully to the lids
for sore eyes of man and beast.

Concerning Easter Cards.

Many of the most artistic Easter cards are
now made at home, and much originality
may be displayed in this delightful work.

Flowers are the favorite decorations.
White lilies, pansies and violets are usually
selected as especially suitable for this spring
festival, the lily as a symbol of purity, the
pansy, "thoughts," and the blue violets,
faithfulness.

Dainty booklets of water-color paper often
contain a short Easter poem. These may
be either painted or printed with India ink
in old English letters. The leaves are
fastened together with narrow ribbons in the
light, delicate shades used lavishly. The
edges are made ragged, and the cover a little
larger than the leaves. Holes through
which the ribbon is slipped are burned in
the paper with a small iron heated red hot.

On a deep cream-colored card, which is
diamond-shaped, a garland of lilies of the
valley is gracefully painted, and within this,
in letters of silver "Easter-tide fill thee with
joy."

Another card, made in the form of a heart,
is white with gold decorations. It has a
narrow gold border surrounding this line
from a hymn: "Hallelujah! Hallelujah!
Hearts to heaven and voices raise." Still
another handsome souvenir has a group of
three angel faces painted on a very light-
pink background. Beneath these the beau-
tiful Easter thought, "God hath sent His
angels to the earth again," is quaintly let-
tered.

One card shows an old subject treated in
a new way. A heavy cream card is deco-
rated with a silver cross, on which is in-
scribed, "Hail the day that sees Him rise." A
wreath of blue violets is twined around the
cross, while several clusters of these dainty
flowers are arranged at its base.

A very original Easter card has a wide
border of a cold, stone gray. Toward the
center the color is lighter, and at the top of
the card it is the light gray so often seen in
a Winter's sky; through this a flood of most
radiant sunshine sheds its rays over these
purple words: "The Easter sunshine breaks
again."

One artistic remembrance gracefully com-
bines fair Easter lilies, buds and blossoms,
and happy birds hovering near them. The
background is light blue. In the lower right
corner is this appropriate quotation in silver
and white:

"The world itself keeps Easter Day,
And Easter birds are singing;
Easter flowers are blooming gay,
And Easter buds are springing."

The cover of a long, narrow booklet is
painted light pink, with a pretty little bed of
crocus. This suitable verse runs through
the pages:

"Out of the snow the crocus so white
Is heralding in the Easter morn,
With cups as pure as the morning light
That glows in the east now freshly born.
Rare Easter blossom with heart of gold,
Springing so white from earth's dark mold
Ring pure white bell! ring pure white bell,
To all the earth your gladness tell."

White celluloid is used for the cover of
one card; a wreath of purple, lavender,
golden brown and yellow pansies is painted
around the border. The celluloid is then
cut away from the edges. On a card painted
sky blue several silver bells were painted.
Underneath were these lines in letters of
silver and white:

"Ring happy bells at Easter time,
The world is glad to hear your chime."

Lilies are again seen, this time on a gold



A cream of tartar baking powder. High-
est of all in leavening strength.—Latest U.
S. Government Food Report.
ROYAL BAKING POWDER CO., 106 Wall St., N. Y.

booklet. Across the front is a cluster of the white lilies tied with long, white ribbon, and this sentence in white: "The great hope of Easter, that day will follow night."

On the inner pages is this wise verse:

Dear Human Christ, the vision
Of thy divine despair
Will hallow all Good Fridays,
And make all Easters fair;
For death must turn to gladness
As sunshine follows rain,
And in the heart of sorrow
We see thy smile again.

Several very choice cards showed only exquisite lettering. A very acceptable one, which is still fulfilling its mission, was sent to a family of three small children:

Little children dear, look up!
Toward His brightness pressing,
Lift up every heart, a cup,
For the dear Lord's blessing.

Booklets composed of favorite Scriptural quotations are happy selections.—New York Times.

Literary Labor.

In a sketch that has recently been printed of a living literary man, we are told that "it is his custom to write about 6000 words every day." There is no man in all the world who can write every day 6000 words that are worth reading, or one-half that number. For a good solid day's work of a man of thought and knowledge 1000 words are sufficient, and if on any one day he writes twice that number he should take a rest the next day.

We are not speaking of copyists or shorthand reporters, but of men who think with all their soul as they write with all their power.

The fast-writing author whose biography lies before us is sometimes seized with the scribbler's mania, and while it lasts he surpasses, on a long stretch, his ordinary daily record of 6000 words. A short while ago he knocked off in twenty-five days a book containing 150,000 words; and as he wrote on the eight-hour system, he must have thought and written 750 words every hour of his working day, right straight along, or at the rate of about thirteen words a minute. We are disposed to guess that this author's literary value, remarkable as it is, might be enlarged if he had some experience of the writer's cramp.—New York Sun.

Battles Fought on Sunday.

Many of the most famous battles of history have been fought on Sunday, says the St. Louis *Globe-Democrat*. To go no further back than the beginning of the present century, the battle of Eylau, won on February 8, 1807, by Napoleon, over the Russians and Prussians, and the battle of Friedland, June 14, 1807, won by Napoleon over the same allies, were fought on Sunday. On Sunday, May 21, 1809, Napoleon was defeated at Essling; on Sunday, May 2, 1813, won the victory of Lutzen, and on Sunday, June 18, 1815, was overthrown at Waterloo.

Wellington, besides Waterloo, won several of his greatest victories on Sunday, being victorious at Vimeira, in Portugal, August 21, 1808; at Fuentes de Onoro, May 5, 1811; at Orthez, February 27, 1814; at Tarbes, March 20, 1814, and at Toulouse, April 10, 1814, all these battles being fought on Sunday. During the civil war in this country the first battle at Bull Run, July 21, 1861, was fought on Sunday, and the battle of Chickamauga, September 19 and 20, 1863, ended on Sunday. Vicksburg was surrendered on Saturday, July 4, 1863, and formally occupied on Sunday, the following day, and on the same day Lee began his retreat from Gettysburg. Petersburg fell on Sunday, April 2, 1865, and on the following Sunday Lee surrendered.

How to Clean Dresses.

Get five cents worth of soapbark from the druggist (about a teacupful). For one dress take half of it and steep in about one quart of boiling water for about half an hour or more, then strain through a cloth.

For a silk dress, while the liquid is warm, take a piece of white flannel and dip into it at intervals, and rub the silk or satin with it till it seems cleansed. When done, pull the material straight and hang it to dry. Do not iron either the silk or satin. If the dress is very much soiled, use clean liquor to rinse it, but do not use clear water for silk, or it will not stiffen up well.

For a woolen dress, dip the part to be cleansed, or the whole of it if needed, into the liquor. This can be rinsed in the same after washing, or in clean warm water. If very dirty, put the dress to soak in a tub in the liquor with more water added before cleaning or washing. The woolen goods should be pressed until it is quite dry.

Water in which potatoes have been boiled will cleanse delicate-colored woolen or worsted goods. The dress should be wet all

over. Use no soap. Rinse in clear, warm water. Press while still damp. This will not injure the most delicate colors.—American Cultivator.

An Editorial Homily.

None of us, surely, do as well as we know, and few can even live up to their expressed convictions; yet in order to have our words carry much weight, a certain degree of consistency between deeds and words is essential. A deep feeling of sympathy pervades the mind, however, especially among editorial brethren, when reading of this tragic, but all-too-common occurrence:

"Yes," said the editor, as he put his gumbrush into the ink-bottle, and tried to paste on a clipping with his pen, "yes the great fault of the newspaper contributors is carelessness."

"Indeed," he continued, as he dropped the copy he had been writing into the wastepaper basket, and marked "Editorial" across the corner of a poem entitled "An Ode to Death," "contributors are terribly careless."

"You would be surprised," said he, as he clipped out a column of fashion notes, and labeled them "Agriculture," "to see the slipshod writing that comes into the editorial sanctum. Misspelled, unpunctuated, written on both sides of the sheet, illegible, ungrammatical stuff! Contributors are terribly careless. They are—"

Just then the office-boy came in, in that dictatorial and autocratic manner he has, and demanded more copy, and the editor handed him the love-letter he had just written to his sweetheart.—Exchange.

YOUNG FOLKS' COLUMN.

The Fishing Party.

Wunst we went a-fishin'—me
An' my Pa an' Ma—all three,
When they was a picnic, 'way
Out to Hanch's Woods, one day.

An' there was a crick out there,
Where the fishes is, an' where
Little boys 't ain't big an' strong
Better have their folks along.

My Pa he 'list fished an' fished
An' my Ma she said she wished
Me an' her was home; an' Pa
Pa said he wished so worse 'n Ma.

Pa said ef you talk, er say
Anythin', er sneeze, er play,
Hain't no fish, alive er dead,
Ever go' to bite, he said.

Part' nigh dark in town when we
Got back home; and Ma, says she,
Now she'll have a fish fer shore!
An' she buyed one at the store.

Nen, at supper, Pa he won't
Eat no fish, an' says he don't
Like em. An' he pounded me
When I choked!—Ma, didn't he?

—JAMES WHITCOMB RILEY.

Culture on Bitter Creek.

ABOUT the time the Union Pacific railroad reached the Bitter Creek country I made my first overland trip to the Pacific Coast. I staved it from the then terminus of the Union Pacific to the Central Pacific, which was pushing east. The stage broke down on Bitter creek and the passengers had to walk to the next station. I grew tired of walking before I reached the station, and, coming late in the afternoon to where some teamsters were camped, I concluded to stop with them for the night. On asking their permission to do so, they assented so heartily that I felt at home at once. Life in the West was something new to me. I was young and buoyant and just out of college. I was fond of talking. I thought it would be novel and delightful to sleep out of doors with these half-savage ox-drivers, with no shelter but the vaulted, star-gemmed heavens.

There were four teamsters and as many wagons, while thirty-two oxen grazed around in the vicinity. Of the teamsters, one was a giant in stature, and wore a bushy black beard; another was shorter but powerfully built, and one-eyed; the third was tall, lank and hame-jawed; while the fourth was a wiry, red-headed man. In my thoughts I pitied them on account of the hard life they led, and spoke to them in a kind tone and endeavored to make my conversation instructive. I plucked a flower, and, pulling it to pieces, mentioned the names of the parts—pistil, stamens, calyx, and so on—and remarked that it must be indigenous to the locality, and spoke of the plant being endogenous, in contradistinction to oxogenous, and that they could see that it was not cryptogamous. In looking at some fragments of rocks, my thoughts wandered

off into geology, and I spoke of the tertiary and carboniferous periods of the pterodactyl, ichthyosaurus and dinotherium.

The teamsters looked at me, then at each other, but made no response. We squatted down around the frying-pan to take supper, and, as the big fellow with his right hand slapped, or sort of larruped, a long piece of fried bacon over a piece of bread in his left hand, sending a drop of hot grease in my left eye, he said to the one-eyed man: "Bill, is my Shakespeare in yo' wagon? I missed it to-day."

"No. My Tennyson and volume of Italian poets is in thar—no Shakespeare."

The lank-looking teamster, biting off a piece of bread about the size of a saucer, said to the big man, in a voice which came huskily through the bread, "Jake, did yer ever read that volum' of po'ms that I writ?"

"No; but hev often hearn tell on em."

"Yer mean 'Musin's of an Idle Man'?" spoke up the red-headed man, addressing the poet.

"Yes."

"Hev read every line in it a dozen times," said the teamster with the red hair; and as he sopped a four-inch swath with a piece of bread, across the frying-pan, he repeated some lines.

"Them's they," nodded the poet. "The Emp'r of Austr'y writ me a letter highly complimentin' them po'ms."

"They're very techin'," added the wiry man.

I took no part in these remarks. Somehow I did not feel like joining in.

The wiry man, having somewhat satisfied his appetite, rolled up a piece of bacon rind into a sort of single-barreled opera-glass, and began to squint through it toward the northern horizon.

"What ye doin', Dave?" asked the stout man.

"Takin' observations on the North Star. Want to make some astronomical kalkulations when I git inter Sacramenter."

"Well, yer needn't make that tel'scope. I could er took yer observation for yer, as I hain't but one eye."

"Git out dar, yer durned old carboniferous pterodactyl," yelled the hame-jawed driver to an ox that was licking a piece of bacon.

"I give a good deal of my time to 'stronimy when I was in Yorrup," remarked the tall man.

"Over thar long?" asked one.

"Good while. Was Minister 'o Rooshy. Then I spent some time down to Rome."

"Rome!" exclaimed the lank individual. "Was born there. My father was a sculptor."

"Well, one wouldn't er thought it ter look at yer."

"I never was in Yoorup," remarked the one-eyed man. "When I occupied the cheer of ancient languages in Harvard College my health failed, and the fellar that had me hired wanted me ter go ter Yoorup for an out, but I concluded ter come West ter look—hold up thar, yer infernal old flea-bitten ichy'ceverus," he bawled to an ox that was chewing a cud.

I felt hot and feverish and a long way from home.

"I got ready once ter go to Rome—wanted ter complete my studies—but give it up," said the one they called Dave.

"What fur?"

"They wanted me ter run for Guv'nor in Virginny."

"Yer beat 'em?"

"Thunder, yes."

"Why didn't yer stay thar?"

"Well, when my job as Guv'nor gave out they 'lected me 'Piscopal bishop, an' I hurt my lungs preachin'. Come West for my lungs."

"Found 'em?"

"Well, I'm improvin'."

I did not rest well that night. As day came on and the men began to turn over in their blankets and yawn, the tall one said:

"Hello, Bill! How yer makin' it?"

"I'm indigenous."

"An' Dave?"

"I'm endogenous."

"An' you, lanky, yer son of a sculptor?"

"Exogenous."

"How you feel, Jake?" inquired one of the three.

"Cryptogamous, sir; cryptogamous."

I walked out a few steps to get a drink. I felt thirsty and I ached. Then I heard a voice from the blankets: "Wonder if those durned old dinother'uns of ourn are done grazin'?"

Then a reply: "I guess they've got to the tertiary period."

I walked a little piece to breathe the morning air. I kept on.—San Francisco Waep

Justice to All.

It is now apparent to the Directors of the World's Columbian Exposition that millions of people will be denied the pleasure of becoming the possessors of

World's Fair Souvenir Coins

*The Official Souvenir
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The extraordinary and growing demand for these Coins, and the desire on the part of the Directors that equal opportunities may be afforded for their purchase, have made it necessary to enlarge the channels of distribution. To relieve themselves of some responsibility, the Directors have invited

THE MERCHANTS

Throughout the Nation to unite with the Banks in placing Columbian Half-Dollars on sale. This is done that the masses of the people, and those living at remote points, may be afforded the best possible opportunity to obtain the Coins.

THE FORTUNATE POSSESSORS

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\$10,000 Was Paid For The First Coin

They are all alike, the issue is limited, and time *must* enhance their value. The price is One Dollar each.

HOW TO GET THE COINS:

Go to your nearest merchant or banker, as they are likely to have them. If you cannot procure them in this way, send direct to us, ordering *not less than Five Coins*, and remitting One Dollar for each Coin ordered.

Send instructions how to ship the Coins and they will be sent free of expense. Remit by registered letter, or send express or post-office money order, or bank draft to

Treasurer World's Columbian Exposition, Chicago, Ill.

Seeds, Plants, Etc.

100,000 EXTRA FINE
BARTLETT PEAR TREES.Apple, Pear, Plum, Cherry, Peach, Apricot,
Nectarine, Quince, Grape Vines
and Small Fruits.

500,000 FRUIT TREES!

Orange, Lemon, Lime, Olive, Japan Persim-
mon, and all kinds of Nut-Bearing
Trees, Shade and Ornamental
Trees, Shrubs, Etc.IMPORTED FRUIT TREE SEEDLINGS
Ask for Prices.

James T. Bogue, Marysville Cal.

SANTA ROSA NURSERIES.

R. W. BELL.

Santa Rosa, - - Cal.

AN IMMENSE STOCK OF

BARTLETT'S & FRENCH PRUNES

ON PEACH, VERY CHEAP.

Freight paid on 500 or over of above surplus stock.

A fine lot of PRUNES on Myrobolan and
Almond.Muir Orange, Orange and other PEACHES,
ALMONDS, APPLES, ETC.

All first class and raised without irrigation.

New price list free on application. Correspondence
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IMPERIAL PEACH.

The Earliest Yellow Freestone Known.

CURL LEAF PROOF.

TWO WEEKS EARLIER THAN FOSTER
OR EARLY CRAWFORDThe Best Peach Known for Early Ship-
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A. T. FOSTER, Dixon,

Or, I. H. THOMAS & SON, Visalia.

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Grass, Clover, Vegetable and Flower Seeds,
Onion Sets.LARGEST STOCK AND
MOST COMPLETE ASSORTMENTIllustrated, Descriptive and Priced Seed Catalogue for
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PACIFIC NURSERIES,

ESTABLISHED 1869.

A Large and Extra Choice Stock of
Fruit, Shade and Evergreen Trees
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—ALSO—

The Largest and Best Stock of Camellias,
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Salesyard at Baker and Lombard Sts., San Francisco.

—ALSO—

F. LUDEMANN, Pacific Nursery,
Baker & Lombard Sts., San Francisco, Cal.
Send for Price List.

PRUNE TREES.

A few thousand No. 1 FRENCH,
1-year old, on 2-year-old
Cal. Peach Roots,
4 TO 8 FEET HIGH.Warranted True to Name and Free
from Insects or Scale.

ADDRESS:

THOS. J. DAVIS, Attorney in fact for
C. E. WATKINS, Portland, Or.

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NEVADILLO BLANCO, 4 TO 5 FEET,
THREE YEARS OLD.By the Hundred, 25c; by the Thousand, 20c;
Larger Quantities at Reduced Rates.
JOHN COOKE, Nurseryman, East Berkeley.

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PROPRIETOR

Napa Valley Nurseries,

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CLYMAM PLUM TREES.

The CLYMAN is the earliest shipping plum, as
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well deserves its good nameTRAGEDY PRUNE TREES, SATSUMA BLOOD PLUM,
KELSEY JAPAN PLUM, PEACH PLUM,
DUANE'S PURPLE PLUM,All first-class shipping varieties and the safest and
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FRENCH PRUNE TREES on both Peach and Myrobolan Roots.

CLING PEACHES OF SEVERAL VARIETIES.

PAPER SHELL WALNUTS, PERSIAN, Etc.,
And other stock, both useful and ornamental.
(PRICES VERY LOW PER THOUSAND.)REMEMBER! This is not a puff ad., but a statement to
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All in bearing at test orchards at Sausal Fruit Farm.

All unirrigated, clean, well rooted and true to name.

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ALMONDS! I. X. L. COMMERCIAL
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EARLY CRAWFORD, FOSTER
MUIR, AND ORANGE CLING PEACHES!

FRENCH PRUNES on Myrobolan, Peach and Almond Roots.

BARTLETT PEARS, Apricots, Cherries, Olives, Walnuts, Etc.

Correspondence Respectfully Solicited.

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GROWERS OF FRUIT AND ORNAMENTAL TREES, VEGETABLE, FLOWER AND FARM SEEDS,
419-421 SANSOME STREET, SAN FRANCISCO, CAL.

1,000,000 TREES,

COMPRISING A GENERAL ASSORTMENT OF

Fruit & Ornamental Trees & Plants, Shrubs, Roses, Etc.

ALSO A FINE STOCK OF

ORANGE AND LEMON TREES FOR SALE AT LOW PRICES.

O. W. REED & CO.,

SACRAMENTO, CAL.

1893.



1893.

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Giving to customers cash discounts on orders. We up 3)
catalogue that best of all bush beans, the Warren, and
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other Seed Catalogue, of America or Europe,
contains so great a variety of several of the stand-
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varieties peculiarly our own. Though greatly
enlarged in both the vegetable and flower seed depart-
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warrants still hold good, and our customers may rely upon it,
that the well earned reputation of our seed for freshness and
purity will continue to be guarded as a most precious part of
our capital. J. J. H. GREGORY & SON, Marblehead, Mass.

1838.

55 YEARS.

300 ACRES.

1893.

NUT TREES AND NEW PEARS

Parry's Giant, Pedigree Japan Mammoth, Paragon and other Chestnuts, Japan
Persian, French and English Walnuts; Pecans, Almond and Filberts. Lincoln Core-
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Bartlett's. Japan Golden Russet, Vermont Beauty and Idaho. In collection at
reduced rates. Edgus Longpipes, Hardy Oranges, Wine-berries and other valuable
novelties. Shade Trees for Lawn or Street; Ornamental Shrubs, Vines, etc. Grape
Vines, Small Fruit plants. Immense stock Maples and Poplars for street planting.
Illustrated descriptive catalogue free.

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FARM AND GARDEN SEEDS,

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Timothy and Orchard Grass, Assorted Rye Grass, Red

Top Grass, Kentucky Blue Grass, Mesquite Grass,

ASSORTED MILLET SEED,

Onion Sets and Top Onions, Mangle and

Sugar Beets, and Carrots for Cattle

Feed. Also, All kinds of

FRUIT AND ORNAMENTAL, AND CALIFORNIA

FOREST TREE SEEDS.

ALL OF THE BEST QUALITY!

Write for Prices.

D. W. LEWIS,

Kings River
NURSERY.

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ROYAL APRICOTS

ORIENTAL PLUMS,

GRAPE VINES.

General Nursery Stock.

ORANGE AND LEMON TREES.

Some choice Orange and Lemon land planted and
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On Myrobolan Stocks, at Low Rates.

Also, a general assortment of Apple, Pear, Peach,
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loam, without irrigation, which gives a fine proportion
of roots. I offer no trees but what are grown in my own
grounds and known to be true to label and free from
scale bugs. Address: W. H. PEPPER,
Petaluma, Cal.Owing to age and poor health, I will sell my place and
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stock, together with horses, wagons and implements,
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for enterprising men with capital to step into a
good-paying business. For further particulars address,
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OLIVES, LEMONS, ORANGES

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And especially PALMS and TROPICAL FRUIT AND
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Trees, Pineapples, Bamboos,
Aquatics, Etc.Plants easily shipped every-
where. Send stamp for new
and full catalog which tells
all about this subject.
REASONER BROS
Gaines, Fla.

SURPLUS STOCK!

We Have on Hand and For Sale

FRENCH PRUNES on Peach and Myrobolan, 1 Year Old.
CHERRIES, PEACHES and APPLES 1 and 2 Years Old.
Also a very Large and Complete Stock of SHADE AND
ORNAMENTAL TREES. The Finest Stock of ROSES in
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28th Street, near San Pablo Ave., OAKLAND, CAL.

25,000 MONTEREY CYPRESS,

15,000 BLUE GUM TREES,

20,000 RED GUM TREES.

And a General Assortment of

Roses, Shrubs and Plants for Sale at bedrock

Prices.

HUTCHISON & SANBORN,

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ORANGE AND LEMON TREES.

Fruit, Shade and Ornamental Trees of all Varieties.

We have an extra large and fine stock of Peach, Prune, Apple, Apricot, Nectarine, Pear and other Fruit Trees.

Largest and Best Stock of Orange and Lemon Trees in the State.

WRITE FOR PRICES.

W. R. STRONG COMPANY, - SACRAMENTO, CAL.

McKEVITT'S EARLY.

The New Yellow Freestone Peach.

FIRST AND BEST OF EARLY YELLOW PEACHES.

RIPENS IMMEDIATELY AFTER THE ALEXANDER (White Cling), which is the earliest peach in market.
Fruit is round, of medium size, VERY HIGHLY COLORED, flesh firm and sweet.
THIS PEACH HAS BEEN SUCCESSFULLY SHIPPED EAST FOR FIVE YEARS and is no new, untitled variety.
Tree healthy, strong grower, and heavy bearer, never having missed a crop.
A limited number of yearling trees for sale this season. Apply early before stock is exhausted.

GIANT OAK FRUIT CO.,

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Tulare County customers can obtain stock from above Company at Farmersville, Tulare Co.

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AGENT FOR THE CALIFORNIA NURSERY CO.

LARGEST AND MOST COMPLETE STOCK OF FRUIT, SHADE AND ORNAMENTAL TREES ON THE PACIFIC COAST.

Apples, Almonds, Apricot, Pear, Prune, Plum, Peach and Cherry. Also fine stock Olives, Oranges, Lemons, Nut Trees and Small Fruits; Magnolias, Camellias, Palms. Large stock of Roses, Clematis, Etc., Etc.

SEEDS! SEEDS!

GRASS, CLOVER, VEGETABLE, FLOWER and TREE SEEDS, TOP ONIONS, Etc., Etc.
Catalogues Mailed Free. Address

THOS. MEHERIN, 516 Battery Street, San Francisco, Cal.

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For the season of 1892-93 we are prepared to furnish a complete line of Fruit and Ornamental Trees. Vines, Figs, Small Fruits, etc., on short notice and at reasonable living prices. Our stock is free from insect pests, and for strength and health of root growth is not excelled, as we give this special attention.

Nurseries are at Acampo on Stockton R. R., and we have an office and tree yard in Sacramento from the 1st of December to the 15th of April.

VAN GELDER & WYLIE, Prop's,

(SEND FOR CATALOGUE.)

STOCKTON NURSERIES,

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FRUIT TREES. FRUIT TREES.

GRAPE VINES.

Also Fine Stock of Shade and Ornamental Trees, Shrubs, Palms, Roses and Carnations.
PLANTS IN GREAT VARIETY.

Correspondence Solicited.

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NURSERY STOCK.

A Very Fine GENERAL NURSERY STOCK.

SPECIALTIES:

SEEDLESS SULTANA and other rooted vines.

ALMONDS, June Buds of the leading varieties.

WHITE ADRIATIC FIG TREES at very low figures.

A VERY LARGE STOCK OF FIRST-CLASS SEEDLESS SULTANA CUTTINGS.

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RIO BONITO NURSERIES,

BIGGS, BUTTE CO., CAL.

A COMPLETE ASSORTMENT OF
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FRUIT TREES, NUT TREES, TABLE, RAISIN and WINE GRAPES.

Apples, Bartlett Pears, French Prunes. Olives.

JUNE BUDS } ALMONDS, PEACHES,
APRICOTS, PLUMS,
NECTARINES. PRUNES,

FIGS: The TRUE COMMERCIAL, WHITE ADRIATIC,
AND OTHER SORTS.

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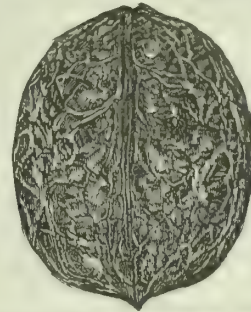
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FRUIT
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ORNAMENTAL
GRAPES.
WINE, RAISIN and TABLE.
New American Grape, "The Pierce."
Olives, Oranges, Lemons and Figs.
New California Orange, "The Joppa."
Shade Trees, Evergreens, Shrubs, Roses, Climbing Plants, Etc.
Send for our New Catalogue.
CALIFORNIA NURSERY CO., NILES, ALAMEDA CO.
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ALMOND TREES.

California Paper-Shell, Nonpareil, Ne Plus Ultra and I. X. L.

A pamphlet on Almonds mailed free of charge on application. A large supply of the GOLDEN PEACH and FRENCH PRUNE. All kinds of leading fruit trees for sale. No charges made for baling trees. Address

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Davisville Nurseries, - - - Davisville, Cal.

INSPECTOR'S CERTIFICATE FURNISHED WITH ALL MY TREES.

PROTECT YOUR TREES

— WITH —

Gilman's Tule Tree Protector.

Cheapest, Best and Only One to Protect Trees and Vines from Frost, Sunburn, Rabbits, Squirrels, Borers and Other Tree Pests.

For Testimonials from Parties who are using them send for Descriptive Circulars.

B. F. GILMAN, Sole M'r of Patent Tule Covers,
420 NINTH STREET, - SAN FRANCISCO, CAL.



AGRICULTURAL NOTES.

CALIFORNIA.

Butte.

Oroville Register: The price of meat at the present time is something out of the common. Hogs in carload lots are worth seven and a quarter cents; mutton, nine cents; veal, eight cents; while beef is down to six cents. As a rule beef ranks the highest, while at present it is lower than any of the others.

Oroville Register: The Board of Supervisors are having nine acres of land cleared and plowed, preparatory to setting out 1000 Washington navel orange trees at the County Infirmary. The trees there are among the finest in the county, and as the county owns some 30 or 40 acres of choice fruit land, it is the intention of the Board to put the land into use.

Oroville Register: M. V. Row of Nimshew was in town on Monday. He has seven or eight men at work this spring building fences and planting trees, as he is setting out 500 prune and 500 peach trees, together with 1000 white Adriatic fig trees. He now has 4000 trees in his orchard and when he finishes planting this spring will have 6000. He has 400 white Adriatic fig trees in bearing and finds the unsulphured figs are the finest.

Fresno.

Expositor: The Johnson-Locke Company of San Francisco has purchased the entire raisin stock of the Easton Packing Company, for cash, f. o. b., for immediate delivery. The price paid was excellent, and the transaction showed that the demand for good fruit is stiffening, with prices advancing. There is no glut in the market and sound, well packed, well cured fruit now finds ready sale.

Los Angeles.

The Mazona almond plantation in Antelope valley, Los Angeles county, continues to expand. Two years ago there were, perhaps, 30 acres set to trees. Now there are about 1300 acres planted and carload lots of trees are arriving every few days. It promises to become, if it is not already, the largest almond plantation in the world. The trees, if planted in a single row two feet apart, would reach nearly from Los Angeles to San Francisco.

Mendocino.

Republican-Press: H. B. Bowman came down from Cummings this week with a fine drove of Long Valley hogs—116 in number—averaging 162 pounds. They were sold here to Henry Barker of Sanel.

Merced.

Modesto Herald: Roe Rogers of Westport came to grief yesterday morning while handling a boar. He had lassoed the beast and was pulling on the rope, when the boar concluded to come his way, a determination executed so promptly that the animal shot between Rogers' legs, one of its tusks ripping a deep gash in the limb in passing. The boar was more scared than savage.

Monterey.

Watsonville Pajaronian: The annual spring egg boom is opening up in great shape in the Pajaro valley, and the express company is doing a rushing business handling hen fruit for the city market. As in everything else that is first-class, Pajaro valley leads the State in quality of eggs.

Salinas Index: A large number of fruit trees will be put out in San Miguel canyon this spring. H. C. Tuttle says he will put out 1500 trees, principally prunes, and that the two parties who bought land of him during the year will also put out a large number of trees, and that all the land-owners of the canyon will put out more or less.

Orange.

Pasadena Star: Santa Ana ships 10,000 dozen eggs a week, says an exchange, which shows that the new county of Orange is getting along all by itself and don't ask any odds of anybody.

The Santa Ana Blade says that over 170 acres of fig trees have been rooted up in that vicinity this season because it has been found the variety of figs planted was not the right one for curing in this climate. The figs have generally ripened so late that artificial means had to be used to dry and cure them, and as yet no artificial fruit-drying or curing process has been found equal to the rays of Old Sol.

Placer.

Peach trees on the ranch of Ira Avery, near Rattlesnake Bar, are in bloom, and Mr. Avery has apricot trees with the foliage of last season still upon them as luxuriant as though they belonged to the evergreen family. While our Eastern friends are talking of the spring thaw, etc., we in Placer will be eating our early peaches, strawberries and cherries.

San Bernardino.

Chino Champion: The founders of East Ontario have received several carloads of deciduous fruit trees for the improvement of that locality.

Chino Champion: The first carload of beet seed has arrived here. This is part of a consignment of 78,000 pounds shipped from Germany the first of the year. It has come none too soon. Mr. Shone is preparing his ground, and has notified the other farmers, so that seeding will commence not later than Monday in earnest.

Ontario Observer: The Ontario Fruit & Produce Company authorizes the Observer to say that the first of next June it will begin to can tomatoes, and that for the first ten days of that month it will pay \$8 a ton for tomatoes; the second ten days, \$7, and the third ten days, \$6

per ton. All desiring to engage in tomato culture will be furnished free seed upon application to the company.

The Colton Fruit Packing Company is actively preparing for the fruit season, says the Chronicle. The cannery is being enlarged about 10x80 feet and otherwise renovated. Mr. Hays, the manager, visited Old San Bernardino, and interviewed numerous fruit-growers in regard to the prospects, and they were informed that his company will be in the field as a buyer on the most extensive scale, and fair prices will be paid.

Chino Champion: A vegetable garden of considerable extent is to be started south of town this spring. About 25 acres between the sugar-factory grounds and Central avenue will be planted to a variety of vegetables by Mr. Gird to supply his different boarding-houses at all times during the seasons for the fresh vegetables; and, by the way, Mr. Gird's boarding-houses always set up much better fare than the average boarding-house for a large force of laboring men. This will best still further improved by fresh vegetables in variety ad lib. from this new garden.

San Joaquin.

Stockton Mail: William Beck of Clements yesterday morning killed a California lion measuring six feet and ten inches from tip to tip, and weighing 200 pounds. The lion was killed three miles above Clements on the Moquelemon grant. The animal stood three feet and eight inches in his stocking feet and was a savage-looking beast. Mr. Beck killed him with a rifle.

Santa Barbara.

Santa Maria Times: Our farmers wear a good-natured smile nowadays. Never before has there been a more favorable outlook for the agriculturist at this time of year.

Santa Maria Times: Capt. T. J. Williams has his 60-acre apricot orchard all pruned and has plowed, planted or prepared to plant 100 acres, and has done all the work himself, with the aid of a team and a boy a part of the time. He says that farming in the Santa Maria valley is an all-the-year-round pleasure.

Santa Clara.

"If prunes don't bring \$50 a ton on the trees next September, I will never make another prediction about fruit," is what A. R. Coates, the wealthy old fruit-grower of Santa Clara county, is quoted as saying.

Solano.

Dixon Tribune: It is reported that there is fine hunting over near Rio Vista at the present time, and a telephone message reported that one man had killed 150 ducks in one day. The news excited several of our local nimrods and they started for the good hunting-grounds, but we have not heard the result yet.

Sonoma.

Santa Rosa Democrat: Andy Williams, the famous coon-hunter, and his little dog, "Chuck Berger," and Lem Bills, captured four young but full-grown coons, all in one tree on the Slusser ranch, near Fulton, one day last week. The next day they located the old female in a tree on the Kruse place, and with a coon snare succeeded in capturing her alive, a monster weighing 21 pounds.

Sonoma Tribune: The result of last year's run of the Russian River Cannery in Healdsburg has been most satisfactory and far more profitable than the proprietors expected. Mr. Hotchkiss, a member of the firm, says that if this year's operations will prove equally as good he will be perfectly satisfied. The coming season this cannery's output may be larger than during last season; at any rate, preparations for a heavier run will be made. A new warehouse, the same size as the present one, will be constructed adjacent to the cannery, and this will give more space to all departments.

Sonoma Tribune: A few days ago J. W. Hotchkiss sold his '92 vintage, consisting of 30,000 gallons, to a Napa county wine-dealer at 12 1/2 cents f. o. b. at Grant's station, and the buyer paid the expense of the cooage. This is one of the several good sales made by local growers in the past three weeks.

Tulare.

N. W. Motheral, of Hanford, says that nearly all the young orchards in the Lucerne country are infected with scale.

J. J. Cairns and wife of Lindsay were in town Tuesday. Mr. Cairns will have, when finished, about 20,000 acres out to grain.

Porterville Enterprise: Last week Captain Hutchinson, of Lindsay, sold 300 acres of land to a San Jose syndicate. Two hundred acres will be put out right away to oranges and lemons.

Tulare Times: The cannery seems almost certain to be erected this season. Already some \$14,000 has been subscribed and more is in readiness. Those interested in the matter held a meeting Saturday evening, and it was the opinion of those present that a cannery should and will be built.

Lemoore Leader: The Summit Lake farmers have reasons to be extremely hopeful this season. Their crops have received an abundance of rain so far, and there is a surplus of water in the Crescent canal with which to irrigate. Some fears have been that the levees might break and the lower lands be overflowed.

Hanford Journal: H. P. Hagan and E. Barrill of Traver have taken a \$50,000 contract of constructing a 30-mile ditch, beginning at Tule river, near Porterville, in the Tulare irrigation district. The work will begin in a short time. The enterprise will add much to the wealth and prosperity of that section of the county.

Hanford Journal: C. S. Cooper, who has in a quarter section of grain on his West Side farm, which lies on Big Pinoche creek, 12 miles

west of Firebaugh's, was over there last week looking at prospects and helping to survey a ditch. There are over 8000 acres seeded in the vicinity of his farm and the grain never looked better or the prospects brighter at this time of the year.

The following from the Register shows that prune orchards are valuable property in the estimation of some persons: Sam Richardson has been offered \$500 per acre for an orchard of 160 acres, mostly prunes. The owner refused to sell at that price. This is an instance of the faith of one man, at least, in the future of the fruit industry.

Tulare Times: A number of settlers residing in the vicinity of Springville, on upper Tule, are going to hold a meeting soon to discuss the question of making a new ditch that will place under irrigation several thousand acres of land in that vicinity. The ditch will take its water from middle Tule, near the union of that stream with the main branch of north Tule, and will run west of Springville, south toward Globe postoffice.

Tulare Times: The Hugh Hamilton place, three miles east of Kaweah station, on the Mineral King road, was recently purchased by the heirs of the Emerson estate, of Santa Clara. There are 1000 acres in this tract, 500 of which will be planted to prunes, peaches and apricots. J. A. Hill, of Santa Clara, is the manager of the ranch. He is now working a number of men putting the cleared portion of the ranch in grain in order to get it in good condition for the reception of trees next year. A nursery for raising stock to be used on the place will be planted this year.

Ventura.

Free Press: S. B. Seeley, who has a ranch near Santa Paula, told us that off of 25 acres of apricots he realized last year a profit of \$10,200. This is \$408 an acre. Just think of it. A net profit of \$408 an acre from one year's crop; and not from one acre alone but from an orchard containing 25 acres. He gathered and dried the fruit himself. Mr. Seeley will this year set out over 5000 new trees—all apricots of the Royal variety.

Free Press: C. H. Sheldon exhibited on Monday four dozen Navel oranges, that were grown on his ranch at Matilija from three-year-old buds, that weighed even 48 pounds—a pound apiece. They were placed in the exhibit that is to go to the World's Fair.

Yuba.

Marysville Democrat: The Buckeye Mill Company has been busily engaged all of this week in unloading from cars a large invoice of wheat which they had shipped from Live Oak and Reeds station. They quote wheat at \$1.15 and barley at 75 cents per cental to-day.

OREGON.

A horse recently purchased from a farmer near Independence, to be taken to the World's Fair, is said to be 20 hands and 2 inches high. He will out-top all others, and can pick the tallest persimmon.

WASHINGTON.

During the recent blizzard in Washington, the Skagit river froze solid, and snow in the Sauk valley was reported to be seven feet deep on the level.

Walla-Walla Union-Journal: State Fruit Inspector D. M. Jessee visited the fruit farm of Dr. N. G. Blalock Thursday afternoon and made a thorough examination of the extensive orchard located there. Mr. Jessee found that the frost had damaged the peach and cherry trees to a great extent, and the prospect for a

crop is very discouraging. The prune, apple and pear trees have been injured to some extent, but not so bad as to materially injure the prospects for a fair crop. Mr. Jessee reports that the frosts have played havoc with all kinds of fruit, and in the Snake river region there will be no peaches at all.

FOR \$19.00

We can send you one of our

SPECIALTY SINGLE BUGGY HARNESS,

Which is the result of years of figuring to make the best harness ever known for the money. It is made from oak stock, hand stitched and finished by skillful mechanics, handsome full nickel or Davis hard rubber trimmings.

Just the Harness for an Elegant Turnout.

They sell here for \$25.00, and harness not as good is often sold for \$35.00 in retail shops. If harness is not as represented, money will be refunded.

Liebold Harness Co.

110 McAllister St., San Francisco.

Collar and Hames, instead of Breast Collar, \$2.00 extra.

Please state if you want single strap Harness, or folded style Harness, with traces double throughout.



Horse Owners! Try GOMBAULT'S Caustic Balsam



A Safe Speedy and Positive Cure

The Safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes all Bunches or Blemishes from Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING. Impossible to produce scar or blemish. Every bottle sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars. THE LAWRENCE-WILLIAMS CO., Cleveland, O.

BEEKEEPERS SEND FOR SAMPLE COPY OF CLEANINGS IN BEE CULTURE. BEE SUPPLIES

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CURES

RHEUMATISM, LUMBAGO, SCIATICA, SPRAINS, BRUISES, BURNS, SWELLINGS, NEURALGIA.

A copy of the "Official Portfolio of the World's Columbian Exposition, descriptive of Buildings and Grounds, beautifully illustrated, in water color effects, will be sent to any address upon receipt of 10c. in postage stamps by THE CHARLES A. VOGELER CO., Baltimore, Md.



SOLID COMFORT THE "WONDER ON WHEELS"

TONGUELESS, Self Guiding. SIX OR EIGHT HORSES, depending on size of plows and kind of work.



12 ACRES A DAY instead of three.

ONE MAN instead of four.

Especially adapted to Traction Engine.

Uses wheel landside, which resists pressure of four furrows. No bottom or side friction. Weight of furrows, frame and plowman carried on three crossed spindles. Draft reduced to lowest possible limit. Foot brake prevents gang running on team. Levers and turning device within easy reach. LIGHTER DRAFT than any Gang in America. Easier able frames—can be narrowed or widened at will. Made with stubble, sod and stubble, or breaker bottoms. Ten or twelve inch cut.

ECONOMIST PLOW CO., So. Bend, Ind., or Stanton, Thomson & Co., Sacramento. Special prices and time for trial given on first orders from points where we have no agents. Our book, "FUN ON THE FARM," sent Free to all.

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Strongest,
Cheapest
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90 lbs. to
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Steel
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"ASPINWALL" POTATO-PLANTER

PLANTS
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Beans,
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ALL IN ONE OPERATION.

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A Boy Can Operate It.

Cuts Potatoes for Seed Faster
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Will Pay for Itself In One Day.

FULLY WARRANTED.



Simple In Construction.

It consists of a series of knives
secured in an opening of the table.
The potato is placed in a pair of
hinged jaws above the knives, and by
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satisfactory manner. The screen be-
low frees the seed from dirt or chips
and more thoroughly prepares the
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Thoroughly practical.

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EXTRA SLIDES for planting
PEAS, BEANS, etc. with
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Furnished plain or with
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pacity of distributing from
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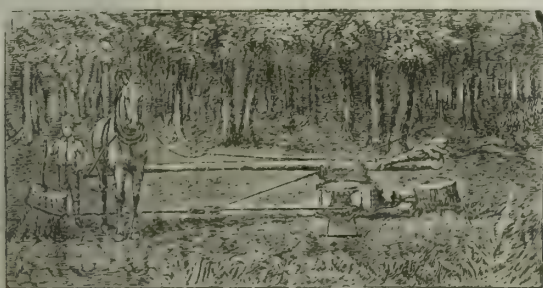
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It is the Cheapest, Best and
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chine in the world, and has
established and maintained
its reputation for superiority
against all competitors. Dur-
ing the last six months over 600 LITTLE GIANTS were sold to Minnesota and Wisconsin farm-
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chunk of a boy can do the work of ten men. For illustrated Catalogue, prices, terms, referen-
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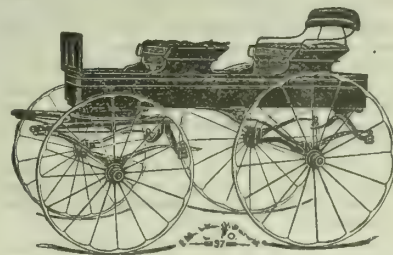
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Price, \$125.
Equal to any \$200 job.

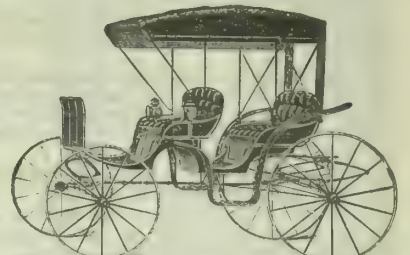
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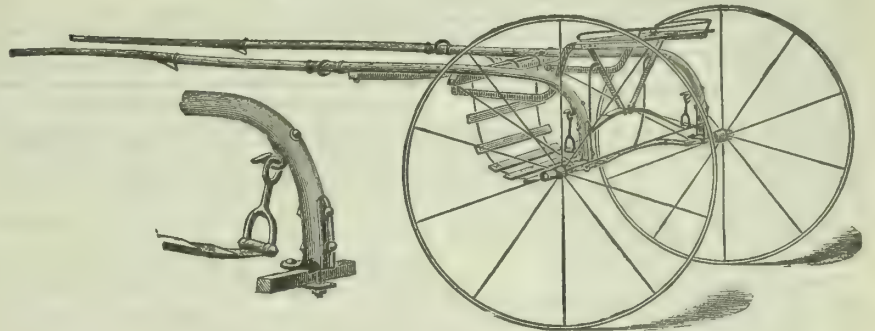
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As good as any \$135 job.



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Sells Elsewhere for \$100.



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Compares with the Best.



No. 5 Cart. A Good, Strong Cart. Price, \$16.

All Kinds of Vehicles and Harness Way Below
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WE SHIP ALL OVER THE PACIFIC STATES.

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36½ to 44½ FREMONT STREET,

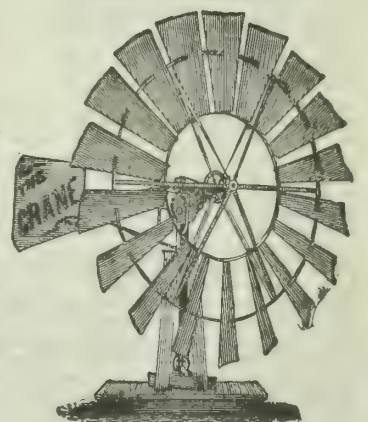
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WHEN IN WANT OF A MILL
BUY THE BEST!



It Will Cost You
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Was Awarded the Premium at State Fair Sacramento, OVER ALL OTHERS.
WE MAKE THEM BOTH PAINTED AND GALVANIZED.

8½ and 12-FOOT DIAMETER.

Please note that an 8½-foot mill has 6½ feet more wind surface than an 8-foot m

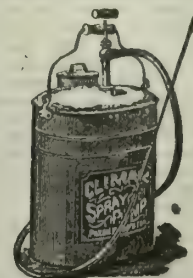
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ORIGINAL AND BEST IN THE WORLD.

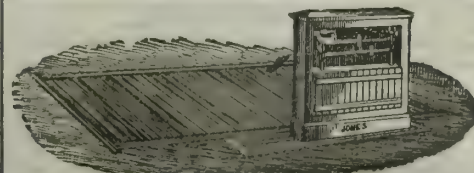
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THE JONES 5-TON WAGON SCALE.
Price \$66, Delivered Anywhere in the
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These Scales have STEEL BEARINGS, Not Wood-
BEAR THIS IN MIND.

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Elevator, 12 Front.

PATRONS OF HUSBANDRY.

From the Worthy Master.

Splendid sunshine and joyous spring weather have been the rewards of the honest husbandman for the past week.

Worthy Overseer Roache expects to do considerable Grange work during the coming months. He is a host within himself, and farmers in Southern California ought to profit by his eloquent words and strong arguments.

Brother Cyrus Jones, of the Executive Committee, has planned a rousing campaign for his section of the State.

Merced Grange expects to have a big class for the Third and Fourth degrees on Saturday, March 4, 1893. The Master regrets that private affairs prevent his acceptance of an invitation to be present and to eat chicken and talk turkey.

Yuba City Grange reports a new class of 17 members, and the cry is, "still they come."

Vaca Valley Grange has outlined a series of very interesting social and literary Grange meetings for the spring months. All success to its efforts.

Stand up for agriculture and the Agricultural College. Give the boys and girls of the farm bright minds and, like the polished plow-share, they will cut a deep, clean furrow in the field of daily duty. Encourage the educated young to feel that knowledge is power, in the hayfield as well as at the forum. Teach them that agriculture is both a science and an art. Let us insist that our Agricultural College shall not be considered a fifth wheel to an empty wagon.

When are you going to do that long-promised work for the Grange? You ought to remember the fable of the mother lark and the idle farmer, viz.: That so long as you wait for others to do the work it will never be done. Please off with your coat and at the work in hand. Now is the accepted time. Let all labor and all time tend to moral, financial, educational and general improvement.

Farmers, will you suffer yourselves to be over-taxed, overburdened and non-represented while all other vocations enjoy more than a full share of county, State and Federal emoluments? If so, refrain from united action. United we will stand, divided we are sure to fail. United!

Bennett Valley Grange, always among the thrifty and progressive, is preparing to move from the theoretical to the practical, and is figuring on the cost of a first-class creamery. No doubt they will make a success of the undertaking.

By the hour these words are coned by the many readers of the RURAL it will be ex-President Harrison and President Cleveland. With the one man the exacting and onerous duties of the highest office in the gift of the people of the republic will have ceased, and with the other man they will have only fairly begun for his four years' term. No doubt many will wonder why the change from a Republican to a Democratic administration has not shaken the Union from center to circumference. And yet none but a comparatively few interested politicians will know of the exact moment or condition of the change whereby one man only—an honest man at that—becomes an ex-President, and another becomes a President. The republic is so strong, so healthy, so independent, that the making or unmaking of a man, yes, even of a President, does not cause an extra ripple on the surface. It is fortunate that such is the case, and that each one of us, whatever our personal political sentiments, is willing to bow to the will of the majority. No doubt each will be as loyal, as industrious and as zealous as an American citizen, as though he had voted for President Cleveland. It is a duty to the country, to the administration and to the happiness of all our people. Let Patrons and Alliance join with Democrats and Republicans, and these with Populists and Prohibitionists, and they with Taxpayers and Woman Suffragists, each with the other, and all together, to make this the greatest, most intelligent, most respected nation on earth. Let each one of us see to it that the Stars and Stripes float in honor, with dignity and national pride in every Territory and State of this great nation. Let brotherly love prevail and every moral and social virtue cement us.

Stop long enough to hear the Grange roll-call; then respond with a few new names at the next meeting of your subordinate Grange. Surprise the master and the secretary when, in the order of business, "applications for membership" is reached, by handing in four or five applications. Try to get the best farmers and their families. You will be complimented by the surprised members when the Grange is closed. Try it and see if I am not right.

The Concord, N. H., Commercial Club, which did so much towards entertaining the National Grange at its last session, has caused to be printed and neatly bound, a souvenir of the session. A copy has just been received by each of the representatives from California, who hereby return sincerest thanks to the far-sighted, liberal-hearted and intelligent members of the Concord Commercial Club. May they ever act with the same spontaneous and hearty concord in promoting all good causes that they did in entertaining the National Grange, and may the happiness of the just be their full share, is the wish of one who enjoyed many favors from this celebrated commercial club.

Do you know that where there is a failure there is generally a cause for it? And do you know that success is not an ever-waiting reward for those who toil not, and spin not? The prize-winner is the person who contends, with fix'dness of purpose, for the cause he believes to be just; hence it is, there are those in the Grange who, for more than 25 years, have battled for the cause of the farmer. They believe, and wisely, too, that no organization ever known is able to do more for the American farmer, his home and his family, than the good, grand Order of Patrons of Husbandry. Join the nearest Grange and see if this is not more than true.

Santa Rosa, Feb. 27, 1893.

Reception by Eden Grange.

The Haywards Journal reports that Eden Grange, P. of H., had a grand reunion on Washington's Birthday. There were present delegates from San

Jose and Temescal Granges. The morning was devoted to a secret session, and a fine feast was served at noon. Many friends of the Order were also present, and greatly enjoyed the program of exercises. It was suggested that in the near future a picnic be given in which all the Granges in Alameda and Santa Clara counties participate. The secretaries of the various Granges were advised to correspond with each other on this subject.

The Secretary's Column.

By A. T. Dwyer, Secretary, State Grange of California.

ROSEVILLE.—J. D. Huffman, W. L., will visit Roseville Grange, March 4th, to confer the Third and Fourth degrees on a class at that Grange.

TULARE.—Several new Granges should be added to our list in Tulare county. Will some one start the work at Hanford, Visalia, Porterville or any other section of the county?

GEO. OHLEYER, Sr., of Yuba City, has been duly appointed district deputy for his jurisdiction. As a sound speaker, diligent worker and able writer, we are sure he will do his part.

START IN SEASON.—It is not too early for each Grange in the State to appoint a picnic committee. Commence in time to secure the best speaking talent in the State, able orators from both within and without the gates, when practicable.

ALAMEDA COUNTY GRANGES should at once commence preparations for a large Grange and farmers' picnic. Held at Alvarado, perhaps San Jose would join hands with Alameda Patrons. We would recommend that each Grange appoint a picnic conference committee at its first meeting.

LECTURER HUFFMAN called on Saturday last, looking over the wants of the Grange field before commencing his spring campaign. There is observed much labor needed in the field, and the lecturer appears ready to do his share. Announcements for Bro. H. and others are soon anticipated.

SUGGESTIONS from Granges and individual members, looking to visitations by State officers, general or county lecturers, should be sent in early from all quarters, that the best and most effective arrangements can be made, at the right time, in each local Grange jurisdiction and other places where Granges may likely be established.

THE SACRAMENTO COUNTY EXHIBIT at the Mechanics' Fair was a decided success under the charge of the worthy steward of the State Grange, W. W. Greer. Bro. G. was giving careful attention to packing the extensive exhibit for the World's Fair at the pavilion last week. He contemplates a trip to Chicago some time previous to the next State Grange session.

GIVE TIMELY NOTICE.—We do not deem it the duty of deputies to always wait for an invitation to visit Granges. Both general and district deputies, when willing and ready to visit any Grange or district, may well signify that fact to Granges and inquire if it will be convenient at certain dates for them to receive their visits. Give plenty of time for correspondence and due announcement in the local and Grange papers.

GRANGE CIRCULARS, blanks for organizing new or reviving old Granges, will be duly supplied on application to the secretary of the State Grange. Any farmer or member of his family who requests further information or instructions will be promptly supplied. The Grange is the oldest and most substantial of farmers' organizations, and should be unhesitatingly organized in every rural community.

PATRONS, warmly support your deputy lecturers. Encourage them to visit your Grange. Go with them in their efforts to revive the work in your own jurisdiction and every neighboring field where Granges can be instituted or revived. See that some one invites the visiting deputy or Grange speaker to a welcome home. He will be more pleased to partake of your every-day fare, with a real welcome, than to put the good wife to unnecessary labor.

WASHINGTON.—State Lecturer Huffman will visit Washington Grange March 11th to confer the Third and Fourth degrees. Bro. John Northrup of that Grange previously stated that if Washington would get up a class of ten or more, at one time, he would come to Lodi and carry Bro. Huffman up to Washington Grange on his back. Washington Grange has succeeded in getting the required number, and March 11th will be the celebrated time. Commencing at 10 o'clock, it will be an all-day occasion.

THE GRANGE AND WORLD'S FAIR.

We regret that as a State Grange no action has been taken for a California Grange exhibit, either in the California or general Agricultural Building at Chicago. Several counties in the State have as yet made no organized effort to be represented. In these, are there not some Granges that can gather together at least a few select articles which would attract special attention from visitors from many parts of the world? California is noted for so many rare products and wonderful natural objects that we believe there is more than one Grange that could easily make a creditable exhibit if the effort was made, and thus cause the Grange in California to be known by all nations. A Grange booth maintained in the California Building would be the cause of many a pleasant reunion between members and Patrons who attended the National Grange at Sacramento in 1889 and other Grangers from all parts of the Union. Verily, California's showing at the Columbian Exposition will be deficient without a Grange exhibit and fraternal rendezvous.

WATSONVILLE GRANGE—CANNERY WANTED.

February 21st, Mrs. S. G. Cromarty, Sec'y, writes: "We had seven candidates for initiation in the First and Second degrees on the 18th. The exercises, sincere and impressive, were ably conducted by our esteemed W. M., Sister Roache. The deliberations of our secret sessions are very careful, thoughtful and argumentative, embracing questions of vital importance to each and all."

"Instead of having a feast on Pomona, Ceres and Flora Day, it was resolved that members plant seeds of fruit, flowers and grain, and that prizes be awarded to the most successful competitors in producing, with their own hands and care, the most perfect specimens of each. A committee of five was appointed as judges. We also had a very interesting discussion on the raising of chickens by means

of incubators, and also on the different kinds of incubators.

"There is a great need of a cannery here. It would do more to increase the membership and Grange interests in this locality than anything else. The subject has been under consideration for some time. My husband has toiled hard to awaken an interest, and every one admits that a cannery is a want indispensable. This is a large fruit-producing section, and growers are poorly compensated, as freight charges for transportation are excessive, and the commission men manage to control prices and returns made, so the producers are wholly dependent upon their honesty. If we had a cannery, we could sufficiently control these interests to establish a most important and lucrative business and build up the city, the Grange, and give steady employment to many who are now anxiously looking for it."

"Can the State Grange assist us in any way? Now is the time to begin to agitate for this section. Nature never fails in her productions, with proper care and culture. There must be capital seeking investment, and no better opportunity could be had than this. San Jose has five large canneries and driers. Marysville has also a fine establishment. Who will aid us in this direction? Nine acres of land near the depot will be donated for the purpose to any firm who will establish one, or a branch, here. All the fruit necessary can be had. Mr. Ira Thurber told Mr. Cromarty that he would furnish 20,000 chests of small fruits each year. This is only one offer of many."

"We hope to have more candidates on March 4th, the date of our next meeting, when the Third and Fourth degrees will be conferred on the new advancing candidates. We are aiming for a big class so that we may again become the banner Grange of California."

Resolutions by Merced Grange.

At its last meeting, Merced Grange adopted the following preamble and resolutions:

It having come to the attention of Merced Grange, No. 7, that a bill has been introduced in the Assembly of the State of California for the purpose of perpetuating the saloons of this State, and compelling the people to submit to the saloon and the sale of intoxicating liquors, which bill is numbered 693; and being further informed that a measure of similar purport and for like purpose has been introduced in the State Senate; and being further informed that provisions have been incorporated in bills for the government of incorporated cities to exclude regulation of the saloons by the Board of Supervisors; and being further informed that the same object will be attempted by amendment to the County Government bill, and particularly to Section 25, Subdivision 27—now, therefore, in the interest of good government, and in deference to the form, tradition and genius of our political institutions, be it

Resolved, That we, with all intelligent and law-respecting citizens, consider the saloon as a cause of burdensome expense to taxpayers, the agency of shameful political corruption and dishonor, the source of a turbid stream which is sweeping away the manhood and integrity of our youth, and threatening to undermine the foundations of our institutions, and from which result ineffable misery, sorrow, crime and depravity; and be it further

Resolved, That we view with apprehension any law which would force upon the different localities of this State, against the will of the people of those localities, any policy regarding the regulation of the saloons or retail of intoxicants, and that we pronounce such legislation contrary to the policy of our democratic institutions; that we believe that the incubus of saloons should not be forced upon any community against its will, by a State law fixing the maximum license tax; that we believe that the question of saloon legislation is eminently a matter of local police control, and should be relegated, as is now the case, to Boards of Supervisors of the several counties, so that the people, through them, may frame such ordinances as they desire for their government and the regulation of their local concerns; and be it further

Resolved, That in the Acts herein referred to, we see plainly the attempted domination of the State by the saloons, and an attempt to force upon the people a low license for their regulation, and that we heartily, earnestly and anxiously protest against the passage or enactment of any law accomplishing or attempting to accomplish such a purpose.

Petaluma Will Do the Handsome Thing.

Speaking of the coming session of the State Grange at Petaluma, the *Courier* of that city says: "In its possibilities of far-reaching consequences there has never been in this city a more important gathering than this will be. The attendance will embrace the salt of the earth and the cream of the farm society of the State. They must be afforded the most favorable opportunities for seeing, enjoying and appreciating the matchless advantages of this city and section. This will be an occasion when half-way hospitality will not answer. 'The whole hog or none!'"

Proposition to Simplify the Grange Ceremonies.

At the last meeting of San Jose Grange, Mr. F. D. Jefford read a paper advocating the shortening and simplification of the ritual ceremonies, and especially the formalities connected with initiation. This paper gave rise to considerable discussion, and the general opinion, as expressed by the members, was that much of the formality could well be dispensed with.

A Healthy Growth.

The popularity and sale of Walter A. Wood machines has increased so that the original works at Hoosick Falls could not meet the demand. A new factory has therefore been erected and is in operation at St. Paul, Minn. These works occupy 80 acres of ground and are the latest and probably the best of their kind anywhere. With two large factories, 40 years' experience and a rapidly-growing trade, the manufacturers are in position to make and substantiate large claims for merit and worth in their goods.

Go For the Gopher!

In the last issue of the PRESS some attention was called to the destructive work that is yearly accomplished by squirrels, gophers, crows and similar pests. As a matter of course, many farmers are familiar with the facts therein set forth, nearly all having met with more or less loss and annoyance through their depredations. But as the season is timely for a crusade against these robbers, it is thought well to offer some further remarks as to the best means by which the crusade may be carried on to the successful and complete destruction of the common enemy. It is a well-known fact that these little animals are extremely sensitive and equally wily in the matter of selecting their food. Consequently, the difficulty of inducing them to take a poison of any kind is not lightly overcome.

Traps of various ingenious designs have for years been tried with but little success, as have also different plans for fumigating, smoking, inundating, shooting, digging, etc. Of course, poisoning has met with more or less success; but, as a rule, it has not been presented to the fastidious little epicures in a sufficiently attractive form, or its quality has been poor, and it has failed to stand the test of exposure to weather and earth absorption that it must necessarily be subjected to when scattered in their runways. As a result, most attempts in this direction have proved expensive and have been abandoned. As has before been stated, it was to obviate these difficulties that the researches and experiments of Wakelee & Co., the well-known chemists of this city, were begun some fifteen years ago. The principal points to be attained were: 1st. A poison that, when taken, would prove sure death. 2d. A poison that gophers, crows, squirrels and their kind would find so much to their taste that, instead of rejecting it, they would seek it and greedily devour it when found. 3d. Put up in a form that would be easy to ship, as well as convenient and safe to handle. 4th. At a cost that would make the article very much cheaper than anything of the kind ever before attempted, and, lastly, of a quality so enduring that neither time nor exposure would be able to deteriorate it.

That Wakelee & Co.'s celebrated Exterminator has filled all of these requirements for years past, almost innumerable testimonials from the most trustworthy sources bear ample evidence. As is commonly the case when an article placed upon the market proves a success, Wakelee & Co.'s Exterminator has been extensively counterfeited; therefore it behooves the farmer who is anxious to build the largest and dearest pile of squirrels, gophers, crows, etc., at the least expense, to be cautious and buy only the genuine Wakelee & Co.'s Exterminator. Directions for using accompany each can.

Napa Valley Nurseries.

Attention is called to the advertisement of the above nurseries on another page of the RURAL PRESS. It is probable that few men in this line of business have had larger experience, or are more conscientious and painstaking in regard to its many details, than is the proprietor of these extensive nurseries. And it is also likely that few people realize the vast amount of study, knowledge and manual skill, requisite to the successful propagation of plant life on a commercial scale. One of the strongest cards that a man can hold in the nursery business is that of absolute reliability. That Leonard Coates of Napa holds this card is evident from the large yearly increase of his trade, betokening the confidence and satisfaction of his patrons. A reputation of this kind is invaluable from the fact that the buyer of trees and plants, particularly at a distance, is so comparatively helpless and so much at the mercy of the dealer. Mr. Coates is offering this spring a variety of fruit and ornamental trees that cannot fail to please all classes of buyers. They are grown on unirrigated land and are healthy and vigorous in root and branch. The stock is partially enumerated in the advertisement, but letters of inquiry addressed to Leonard Coates, Napa, Cal., will meet with prompt response.

Are You Going East?

Take the Santa Fe route. You will find it to your interest to call on or address the undersigned before purchasing tickets. No other line crossing the continent can offer you a trip combining equal comfort and pleasure. The only line running Pullman palace and tourist sleeping cars through to Chicago on the same train every day with out change. Personally conducted excursions through to Boston leave every Tuesday. W. A. BISSELL, 650 Market street, Chronicle Building, San Francisco.

\$500,000

TO LOAN IN ANY AMOUNT AT THE VERY LOWEST MARKET rate of interest on approved security in Farming Lands. A. SCHULLER, Room 8, 420 California street, San Francisco.

GERMEA
The Monarch of
Breakfast foods
THE JOHN T. CUTTING CO. SOLE AGENTS

ALNEER'S SEEDS
RELIABLE
If you want Pure Fresh Seeds Cheap, direct from the grower, send for our Beautiful Illustrated Catalogue mailed Free. Price only 2 and 3 cts. Marked Gardeners ask for MONEY
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Pure registered Berkshire Pigs. All strains.

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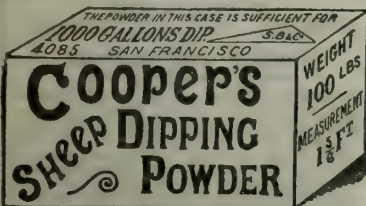
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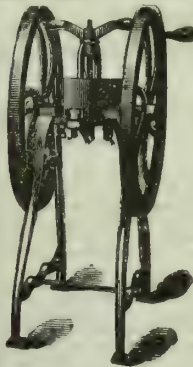


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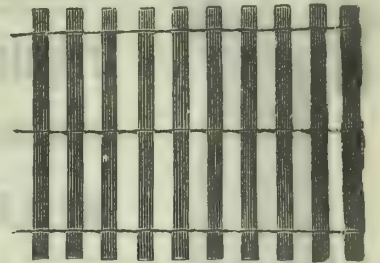
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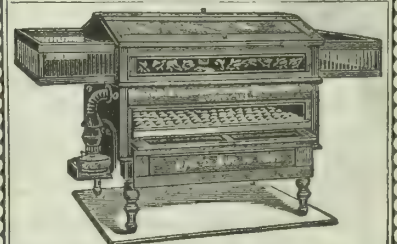
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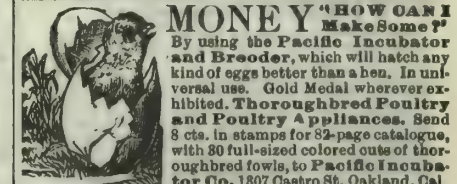
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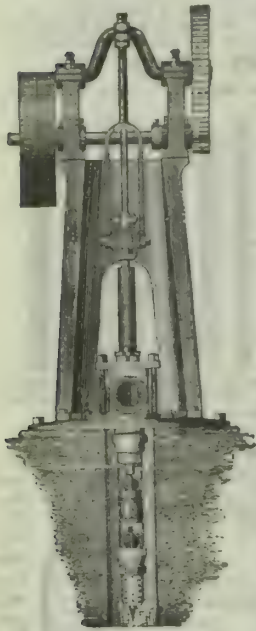
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90 Percheron Stallions

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110 Percheron Mares,

Largely Brilliant Blood,

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AND
60 French Coach Mares,

Large, Stylish, Fast,

Comprise the stock now on hand.



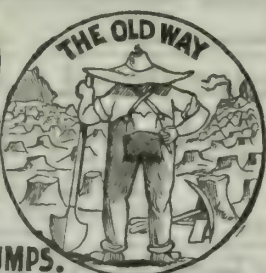
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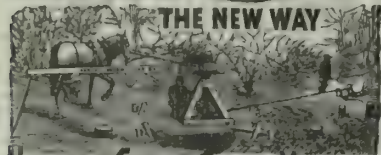
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Instead of a single tooth, drawing straight through the ground, the teeth are attached in pairs (which have a spread of seven inches) to a short beam. Every tooth has a quarter turn (to the right or left respectively), thus presenting a cutting edge to the ground, and giving to each the position and appearance of a moldboard of a plow, or the shovel to a cultivator. This form of tooth, together with the relative positions assumed by the teeth to each other, gives to them the power of cutting and pulverizing tough soils, and hard, baked ground, which is possessed by no other form of tooth yet invented. By this peculiar disposition of the teeth, they have the advantage also, that one acts as a brace or landside to the other, and so prevents their clogging, which is a serious fault existing in all spring tooth harrows whose teeth are made of one long, continuous spring. In the "BULL DOG" HARROWS the short beam which holds each pair of twisted teeth is attached by a stiff spring to the main framework of the tool. Thus these implements have the combined elasticity which exists in the teeth themselves, and in the spring which attaches the short beam to the cultivator frame. Hence the harrow retains all the vibration necessary for the successful working and cleaning of the machine, whilst it is also stiff enough to be held down to its work in the most obstinate soils without difficulty.

SHAPE OF TEETH.—As the teeth present to the soil a shear or cutting edge, they are enabled to do the most thorough work in hard ground, and, in fact, the peculiar construction all through of the "Bull Dog" Harrows adapts them for successful working in soils where no other tools of the kind can be used.

RED SEAL GRANULATED 98% LYE

HAS NO EQUAL

FOR DESTROYING SCALE BUGS AND OTHER INSECT PESTS ON TREES AND PLANTS.

FOR TREE WASH!

—USE—

One pound to 5 gallons of water.

Thousands of Orchardists testify to its value, using it in preference to all other preparations. Where the Red Seal is applied it kills the insects and at the same time forms a coating through which others cannot penetrate. When used in the above proportions, it is a

GREAT BENEFIT TO THE TREES.

Put up in SIFTING-TOP CANS so that any quantity may be used and the balance preserved uninjured.

MANSFIELD LOVELL,
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MANUFACTURED BY
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ALL GROCERS.

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It cleans floors, kills roaches and bugs of all kinds, cleans milk vessels, tin or wood; keeps farming implements bright and free from rust; is a perfect disinfectant; softens water, washes dishes and clothes; and can be put to a thousand uses in place of soap or other preparations.

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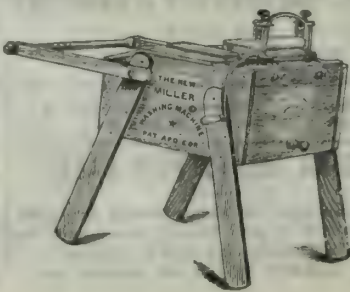
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S. F. MARKET REPORT

Market Review.

SAN FRANCISCO, March 1, 1893.

No notable changes have occurred in the San Francisco produce markets during the week. Wheat still shows a weakening tendency, while barley is somewhat firmer. Vegetables have been coming in freely, and prices are lower. Butter, eggs and cheese are marked down. Fresh fruits bring less. Dried are very strong. Potatoes show no change, while beans display more strength. Provisions are lower. These are the leading features, briefly summarized.

Grains.

The wheat market has apparently gone from bad to worse, and quotations have been steadily declining during the past two weeks, being to-day lower than for three months. The enormous visible wheat supply in the United States is decreasing very slowly, being now 79,564,000 bushels, against a little over 80,000,000 bushels for the preceding week, and twice as much as it should be at this season. An element of uncertainty is found in crop prospects throughout the United States. Advances from the Middle and Western States are conflicting, and do not give a clear view of the situation. A crop failure, or a partial crop failure, in the United States, would have an important effect on conditions, inasmuch as it would open up the way for disposition of the present great surplus. The *Farmer's Review* has advice from many States on crop prospects, which are more or less favorable. They are given on another page.

In California, crop reports are, for the most part, very satisfactory. Grain on the lowlands has been, in some places, drowned out by floods and excessive rains; but, for the most part, reports are of a promising nature. Farmers hold on to their old stocks with much tenacity. There is a general feeling that when things are at their worst they must improve; and they seem to be now at their worst. It was expected that, inasmuch as taxes will be collected on all grain in hand March 1st, there would be a general clearing up of stock in warehouses. As a rule, however, owners have held on, and they will hold on until there is reliable news of the world's crop for 1893.

In February, 19 vessels were cleared at this port with full or part cargoes of wheat. There were 23 vessels on the engaged list yesterday morning, representing 41,100 tons of registered tonnage, against 37,800 tons on the same date a year ago. The disengaged tonnage in port, while still very liberal, has been reduced somewhat of late, now being 74,500 tons, against 82,000 tons a year ago. Grain freights are dull and weak.

Barley is steady, and there is slight improvement in quotations.

Oats are dull.

Corn moves slowly, and sales are often made, if at all, below quotations.

Rye shows little change from day to day.

Dried Fruits.

Dried fruit stocks in the State seem to be pretty well cleaned up, and the few consignments made to this market are readily taken at quotations. Raisins are strong. Evaporated apples continue strong with an upward tendency, as the dealers realize the fact that there are none whatever left in the country. Large-size prunes are in request, and the general tone of the market is one that warrants full prices being obtained for the stock now remaining on the coast. Prospects now are of an abundant crop the coming season, but we may have a repetition to last season's frost, which caught the fruit in its first stages and largely reduced the output. The danger from such will not be over for some time, and speculation as to the coming crops does not amount to much. At the same time, the new acreage coming into bearing all over the State will furnish sufficient fruit for all requirements.

Fresh Fruits.

Arrivals of oranges to this market Monday were 21 cars, the largest of the season. In consequence prices range lower, and buyers can almost name their own prices. The demand has improved with better weather, but supplies are so largely in excess that it has had no appreciable effect. Recent arrivals have been mostly of inferior stock. California lemons are in light supply and the tone of the market has decidedly improved. Apples of choice varieties are in good demand and sell readily. Inferior grades are in plentiful supply and do not move off so well.

Poultry and Game.

A good feeling prevails in poultry, prices being about the same as last week. Good stock sells readily at quotations.

The game season closed March 1st, except for hares, rabbits, and geese, and nothing is being done in this line.

Butter, Eggs and Cheese.

Arrivals of butter have been free and quotations have suffered a decline. Fancy creamery, however, brings full quotations, and is disposed of without difficulty.

Cheese is a little weaker in some lines, though good stock moves off fairly well.

It is difficult to give reliable quotations in eggs. Dealers shade prices in order to sell. It is reported that one consignment of good stock brought only 1 1/2 cents. Receipts are very generous.

Provisions.

A local war among dealers in provisions has caused a cutting of prices in pork products. Prices got so high that sales were slow, and a shading of figures resulted. The situation in the East remains about the same. The condition of the hog business in the United States is shown in a recent Government report. There are now in this country but 46,094,000 hogs, as against 52,398,000 a year ago—a decrease of 6,304,000 where there should be an increase in keeping with the natural increase of population and demand. This decrease is unparalleled, as the following Government statistics on the hog crop for the past quarter of a century will show:

1869.....	23,316,400	1882.....	44,122,200
1870.....	26,751,600	1883.....	43,270,086
1871.....	29,457,500	1884.....	44,200,803
1872.....	31,798,300	1885.....	45,142,657
1873.....	32,632,000	1886.....	46,192,043
1874.....	33,860,900	1887.....	44,612,836
1875.....	28,062,200	1888.....	44,306,529
1876.....	25,728,800	1889.....	50,301,592
1877.....	22,077,100	1890.....	51,602,780
1878.....	32,262,500	1891.....	50,625,000
1879.....	34,766,200	1892.....	52,398,000
1880.....	34,004,100	1893.....	46,094,000
1881.....	36,227,603		

Vegetables.

Beans are firmer and pink show an advance. All kinds of colored beans are in better tone than a week since.

Potatoes are firm, with prices unchanged.

Though the supply of onions is large, the market is steady.

Summer squash have been received, and sell for 20 cts. per pound.

Peas, string beans and peppers are more plentiful. Tomato receipts have dropped off. Asparagus and rhubarb are easier.

Miscellaneous.

Chestnuts are cheaper.

Seeds are slow, except for alfalfa.

Fat sheep are scarce, causing firmness in mutton.

Quotations for spring lamb are nominal. Hogs are weaker. Beef shows no change.

Hay and feeds are still weak.

Hops are a little lower, stocks being ample.

Demand for honey is good and the market firm.

Visible Supply of Wheat.

During each week of February the visible supply of wheat in this country east of the Rocky mountains was reported as follows:

Week ending—	Bushels.
4th.....	81,389,000
11th.....	80,994,000
18th.....	80,216,000
25th.....	79,564,000

The last weekly report showed a decrease of 1,825,000 bushels for the month.

Breadstuffs on Passage.

The quantities of wheat and flour on passage for Europe during each week in February were as follows:

Week ending—	United Kingdom.	Continent.
7th, quarters.....	2,903,000	525,000
14th.....	3,179,000	566,000
21st.....	3,249,000	680,000
28th.....	3,280,000	713,000

In each week there was an increase for both the United Kingdom and the Continent. This fact has had an important bearing on current market prices.

Imports into United Kingdom.

The weekly imports of wheat and flour into the United Kingdom in February were as follows:

Week ending—	Wheat, qrs.	Flour, bbls.
6th.....	253,000	161,000
13th.....	142,000	127,000
20th.....	244,000	95,000
27th.....	134,000	98,000

In the latter part of the month there was quite a falling off in the flour imports, and in the last week the arrivals of wheat were comparatively light.

Produce Receipts.

Receipts of produce from all sources at this port for 7 days ending March 1, 1893, were as follows:

Flour, qr. sks.....	93,107	Wool, bds.....	11
Wheat, cts.....	334,657	Hay, ton.....	2,540
Barley, ".....	98,215	Straw, ".....	219
Rye, ".....	2,168	Wine, gals.....	373,886
Oats, ".....	7,216	Brandy, ".....	19,240
Corn, ".....	4,983	Raisins, bxs.....	2,020
Butter, ".....	1,061	Honey, cs.....	
Cheddar, cts.....	5.8	Peanuts, sks.....	
do bxs.....	78,036	Walnuts.....	51
Eggs, doz.....	35,024	Almonds.....	
Beans, sks.....	35,024	Mustard.....	
Potatoes, sks.....	35,024	Flaxseed.....	177
Onions, ".....	3,423	Popcorn.....	
Bran, sks.....	20,159	Broom corn, bbls.....	732
Buckwheat.....	2,849	Leather, rolls.....	341
Middlings.....		Tallow, cts.....	2,167
Screenings.....		Hides.....	955
Chicago, bbls.....		Pelts.....	
Hops, bbls.....	77		

Grain Futures.

Liverpool.

The following are the closing prices paid for wheat options per cwt. for the past week:

	Feb.	Mar.	April.	May.	June.	July.
Thursday.....	560 3/4	560 3/4	561 0	561 1/4	561 3/4	56 0
Friday.....	560 3/4	560 3/4	561 0	561 1/4	561 3/4	56 0
Saturday.....	560 3/4	560 3/4	561 0	561 1/4	561 3/4	56 0
Monday.....	560 3/4	560 3/4	561 0	561 1/4	561 3/4	56 0
Tuesday.....	560 3/4	560 3/4	561 0	561 1/4	561 3/4	56 0

The following are the prices for California cargoes for off coast, nearly due and prompt shipments for the past week:

	O. C.	P. S.	N. D.	Market for P. S.
Thursday.....	30 3/4	30 3/4	30 3/4	Quiet
Friday.....	30 3/4	30 3/4	30 3/4	Sow
Saturday.....	30 3/4	30 3/4	30 3/4	Unchanged
Monday.....	30 3/4	30 3/4	30 3/4	Weak
Tuesday.....	30 3/4	30 3/4	30 3/4	Weak

To-day's cablegram is as follows:
LIVERPOOL, March 1.—Wheat: Quiet but steady. California spot lots, 6s 3/4; off coast, 30s 3/4; just shipped, 30s 3/4; nearly due 30s; cargoes off coast, quiet; on passage, weaker; Mark Lane wheat, inactive; French country markets, weak; weather in England, wet.

Eastern Markets.

The following shows the closing prices per bushel of wheat for the past week at

New York.

Day.	Feb.	March.	May.	July.
Thursday.....	77 1/2	80 1/2	81 1/2	81 1/2
Friday.....	77 1/2	80 1/2	81 1/2	81 1/2
Saturday.....	77 1/2	80 1/2	81 1/2	81 1/2
Monday.....	77 1/2	80 1/2	81 1/2	81 1/2
Tuesday.....	77 1/2	80 1/2	81 1/2	81 1/2

The following is to-day's telegram—per bushel:
NEW YORK, March 1.—Wheat: 76 1/2 for March, 77 1/2 for April, 78 1/2 for May, and 80 1/2 for July.

Chicago.

Day.	Feb.	May.	July.
Thursday.....	74	77 1/2	77 1/2
Friday.....	73 1/2	77 1/2	75 1/2
Saturday.....	73 1/2	76 1/2	75 1/2
Monday.....	72 1/2	75 1/2	74 1/2
Tuesday.....	73 1/2	76 1/2	75 1/2

The following is to-day's telegram—per bushel:
CHICAGO, March 1.—Wheat: 75 1/2 for May.

San Francisco.

WHEAT.

	Feb.	May.
Thursday, highest.....	\$1 30 1/4	\$1 29 1/4
lowest.....	1 30 1/4	1 29 1/4
Friday, highest.....	1 30 1/4	1 29 1/4
lowest.....	1 27 1/2	1 28 1/2
Saturday, highest.....	1 27 1/2	1 28 1/2
lowest.....	1 27 1/2	1 28 1/2
Monday, highest.....	1 30 1/4	1 28 1/2
lowest.....	1 27 1/2	1 28 1/2
Tuesday, highest.....	1 30 1/4	1 28 1/2
lowest.....	1 28 1/2	1 27 1/2

*Sample market choice milling.
The following are to-day's recorded sales on Call:
Morning Informal.—Wheat, December, 100 tons, \$1 33 1/2; May, 100 tons, \$1 27 1/2; Regular Session.—December, 200 tons, \$1 34; May, 200 tons, \$1 27 1/2; 00, \$1 27 1/2; 2200, \$1 27 1/2; 00 cts. Afternoon.—May, 400 tons, \$1 27 1/2 cts.

BARLEY.

	Feb.	May.
Thursday, highest.....	82 1/2	84 1/2
lowest.....	82 1/2	84 1/2
Friday, highest.....	82 1/2	84 1/2
lowest.....	82 1/2	84 1/2
Saturday, highest.....	82 1/2	84 1/2
lowest.....	82 1/2	84 1/2
Monday, highest.....	84 1/2	84 1/2
lowest.....	84 1/2	84 1/2
Tuesday, highest.....	84 1/2	84 1/2
lowest.....	84 1/2	84 1/2

*Sample market choice brewing.
The following are to-day's recorded sales on Call:
Regular Session. Barley—Seller 189 1/2, new—300 tons, 84c; May, 200 tons, 83 1/2 cts. Afternoon—May, 100 tons, 8 1/2 cts; 100, 84 1/2 cts; 100, 84 1/2 cts.

Markets by Telegraph.

British Grain Trade.

LONDON, Feb. 27.—The *Mark Lane Express* says: The price of English wheat has not varied in most markets. Sales since harvest have been 3,386,000 quarters, against 3,999,000 quarters for the corresponding period of last year. Four and a half millions heretofore have been average sales. Prices of foreign wheat have slightly appreciated.

California Products at Chicago.

CHICAGO, Feb. 28.—In California dried fruits there is a steady to firm market, with no large quantity of

Continued on next page.

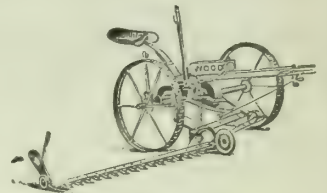
MAKE HAY THE BEST EASIEST WAY.

USE THE
WALTER A. WOOD
MOWER.

The Wood Mower is a good machine and in many ways exceptionally good. The team pulls direct from the cutter bar, which is not pushed and does not root into the ground in hard cutting, nor is the lever used when turning or backing. It has a spring lift. The gearing is compact, powerful and right. It does not clog. It is durable. It is a machine that gives satisfaction—what more can be said, unless you send for our handsomely illustrated circulars.



rake wheels made. It has many improvements for 1893. Address
Walter A. Wood Harvester Co.,
PORTLAND, OR.
FRANK BROTHERS,
33 & 35 MAIN STREET, SAN FRANCISCO.



THE WALTER A. WOOD RAKE

Is built in three sizes, 8, 10 and 12 ft., and either Hand Dump or Self Dump. The shafts are arranged for one or two horses. Its Steel Wheels are the best and strongest

ENCLOSED GEAR MOWERS.

4 ft. 6 in. cut.
5 ft. cut.
6 ft. cut.

THE LATEST STYLE
PULVERIZER!
THE PACIFIC SPADER!

Operated by one small boy. No Man required.

PACIFIC SPADER
REVERSIBLE.



Spader throwing Soil from the Center.

The Pacific Spader and Vineyard cultivator does more work in one stroke than a Disc Harrow in ten. Sizes, 5 1/2 to 12 feet.

TRUMAN, HOOKER & CO.,
San Francisco and Fresno.

SIZES:

No. 5D—5 1/2-foot Spader.....	16-inch Blades
No. 6D—7 " " " " " " " "	16 " "
No. 10D—10 " " " " " " " "	20 " "
No. 14D—14 " " " " " " " "	20 " "
No. 16D—16 " " " " " " " "	20 " "
No. 20D—20 " " " " " " " "	20 " "
No. 24D—24 " " " " " " " "	20 " "



AN OLD STYLE PULVERIZER.

Especially adapted to pulverizing "bottoms"—one man and a small boy can operate it.

Salinas, Feb. 22, 1893.

Messrs. Truman, Hooker & Co.,
San Francisco, Cal.

Gentlemen:—I have laid aside my plows and substituted the 10-foot Pacific Spader. It is the best implement I have ever seen for pulverizing the ground and destroying the foul stuff. It works like a charm in adobe and I can heartily recommend it above any other implement. An implement of this kind is what I have wanted for years.

Yours truly,

Chas. Graves.

MEXICAN PHOSPHATE AND SULPHUR CO.
SEASON OF 1893.

NITROGENOUS SUPERPHOSPHATE

AS AN EFFECTIVE FERTILIZER IT STANDS UNRIVALED.

.....Send for Circulars.....

H. M. NEWHALL & CO., Agents,

809-811 Sansome Street San Francisco, Cal

Market Reports.

Continued from preceding page.

any line of fruit offered. Prices are firm, as follows: Raisins—London layers, 3-crown, per box, \$1.40@1.60; do 2-crown, fancy, \$1.75@1.85; loose Muscades, 3-crown, according to quality, \$1.25@1.35; do 2-crown, sals, 3 lb, \$1.50@1.60; do 3-crown, 5 lb, \$1.50@1.60; do seedless, according to condition and quality, 4 lb, \$1.25@1.35. Prunes—40 to 50 to the lb, in sacks, 13c; 50 to 60, 12c; 60 to 70, 12c; 70 to 80, 11c; 80 to 90, 11c; 90 to 100, 10c; 100 to 120, 10c. Apricots—New, choice to fancy, sacks, 3 lb, 16c; 16c; new, fair to good, 16c; 16c. Peaches—Peeled, 25 lb boxes, \$1.20@1.22; do unpeeled, 12c; 12c. Nectarines—Red, sacks, 3 lb, 11c; 11c; white, 12c; 12c. Navel, only fair, \$2.75@3.50; Navel; Fancy Redlands, \$4.00.

General Produce.

Extra choice in good packages fetch an advance on top quotations, while very poor grades sell less than the lower quotations. MARCH 1, 1893.

BEANS AND PEAS.	Common.....17 @	—
Bayo, etc.....	25 @ 30	—
Butter.....	25 @ 30	—
Pea.....	25 @ 30	—
Red.....	25 @ 30	—
Pink.....	25 @ 30	—
Small White.....	25 @ 30	—
Large White.....	25 @ 30	—
Lima.....	30 @ 35	—
Fla Peas, blk eye 10 @	165	—
Do green.....	20 @ 25	—
Split.....	40 @ 50	—

BUTTER.

Cal. poor to	15 @	—
Do fair to choice	20 @ 22	—
Do Giltedged.....	22 @ 25	—
Do Creamery.....	23 @	—
Do do Giltedged.....	24 @	—
Eastern, ladle.....	15 @	—
Cal. Pickled.....	17 @	—
Cal. Keg.....	17 @	—
Eastern Creamery.....	19 @	—

CHEESE.

Cal. choice	12 1/2 @	14
cream.....	10 @	12
Do fair to good.....	10 @	12
Do Giltedged.....	13 @	—
Do Skim.....	5 @	—
Young America.....	13 1/2 @	14

EGGS.

Cal. "as is," doz	—	—
Do shaly.....	15 @	—
Do candled.....	20 @	—
Do choice.....	20 @	—
Do fresh laid.....	20 @	—
Do do white.....	19 @	—
Do selected.....	18 @	—

Outside prices for selected large eggs and inside prices for mixed sizes—small eggs are hard to sell.

FEED.

Brant, ton.....	13 50 @	14 00
Feedmeal.....	25 00 @	26 00
Gr'd Barley.....	19 00 @	19 50
Middlings.....	19 00 @	22 00
Oil Cake Meal.....	—	35 00
Manhattan Hay.....	—	—

HAY.

Compressed.....	6 50 @	9 50
Wheat, per ton.....	7 00 @	—
Do choice.....	—	12 00
Wheat and oats.....	7 00 @	9 00
Wild Oats.....	7 00 @	9 00
Cultivated do.....	6 00 @	9 00
Barley.....	6 00 @	8 50
Alfalfa.....	8 00 @	10 50
Clover.....	7 00 @	9 50
Straw, bale.....	35 @	50

GRAIN, ETC.

Barley, feed, ctn.....	75 @	80
Do good.....	81 1/2 @	—
Do choice.....	84 @	—
Do brewing.....	97 @	—
Do do choice.....	92 1/2 @	—
Do do Giltedged.....	95 @	—
Do Ohevalier.....	82 1/2 @	90
Do do Giltedged.....	1 15 @	—
Buckwheat.....	75 @	2 00
Corn, white.....	1 02 @	1 05
Yellow, large.....	1 02 1/2 @	1 05
Do small.....	1 05 @	0 75
Oats, milling.....	40 @	1 50
Feed, choice.....	1 3 1/2 @	—
Do good.....	1 35 @	—
Do fair.....	1 30 @	—
Do common.....	1 25 @	—
Surprise.....	1 45 @	—
Black feed.....	1 02 1/2 @	1 10
Gray.....	1 25 @	1 30
Rye.....	1 07 1/2 @	1 10
Wheat, milling.....	1 32 1/2 @	—
Giltedged.....	1 32 1/2 @	—
Good to choice.....	1 27 @	1 30
Do fair to good.....	1 25 @	1 27 1/2
Shipping choice.....	1 22 1/2 @	—
Do good.....	1 20 @	—
Do fair.....	1 18 @	—

WHEAT, ETC.

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Feed, choice.....	1 3 1/2 @	—
Do good.....	1 35 @	—
Do fair.....	1 30 @	—
Do common.....	1 25 @	—
Surprise.....	1 45 @	—
Black feed.....	1 02 1/2 @	1 10
Gray.....	1 25 @	1 30
Rye.....	1 07 1/2 @	1 10
Wheat, milling.....	1 32 1/2 @	—
Giltedged.....	1 32 1/2 @	—
Good to choice.....	1 27 @	1 30
Do fair to good.....	1 25 @	1 27 1/2
Shipping choice.....	1 22 1/2 @	—
Do good.....	1 20 @	—
Do fair.....	1 18 @	—

GRAIN, ETC.

Barley, feed, ctn.....	75 @	80
Do good.....	81 1/2 @	—
Do choice.....	84 @	—
Do brewing.....	97 @	—
Do do choice.....	92 1/2 @	—
Do do Giltedged.....	95 @	—
Do Ohevalier.....	82 1/2 @	90
Do do Giltedged.....	1 15 @	—
Buckwheat.....	75 @	2 00
Corn, white.....	1 02 @	1 05
Yellow, large.....	1 02 1/2 @	1 05
Do small.....	1 05 @	0 75
Oats, milling.....	40 @	1 50
Feed, choice.....	1 3 1/2 @	—
Do good.....	1 35 @	—
Do fair.....	1 30 @	—
Do common.....	1 25 @	—
Surprise.....	1 45 @	—
Black feed.....	1 02 1/2 @	1 10
Gray.....	1 25 @	1 30
Rye.....	1 07 1/2 @	1 10
Wheat, milling.....	1 32 1/2 @	—
Giltedged.....	1 32 1/2 @	—
Good to choice.....	1 27 @	1 30
Do fair to good.....	1 25 @	1 27 1/2
Shipping choice.....	1 22 1/2 @	—
Do good.....	1 20 @	—
Do fair.....	1 18 @	—

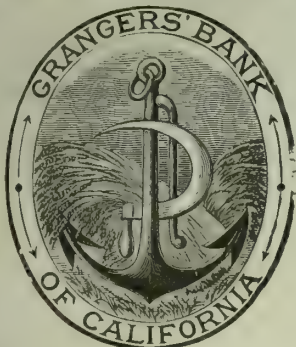
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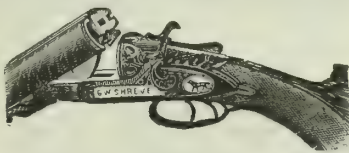
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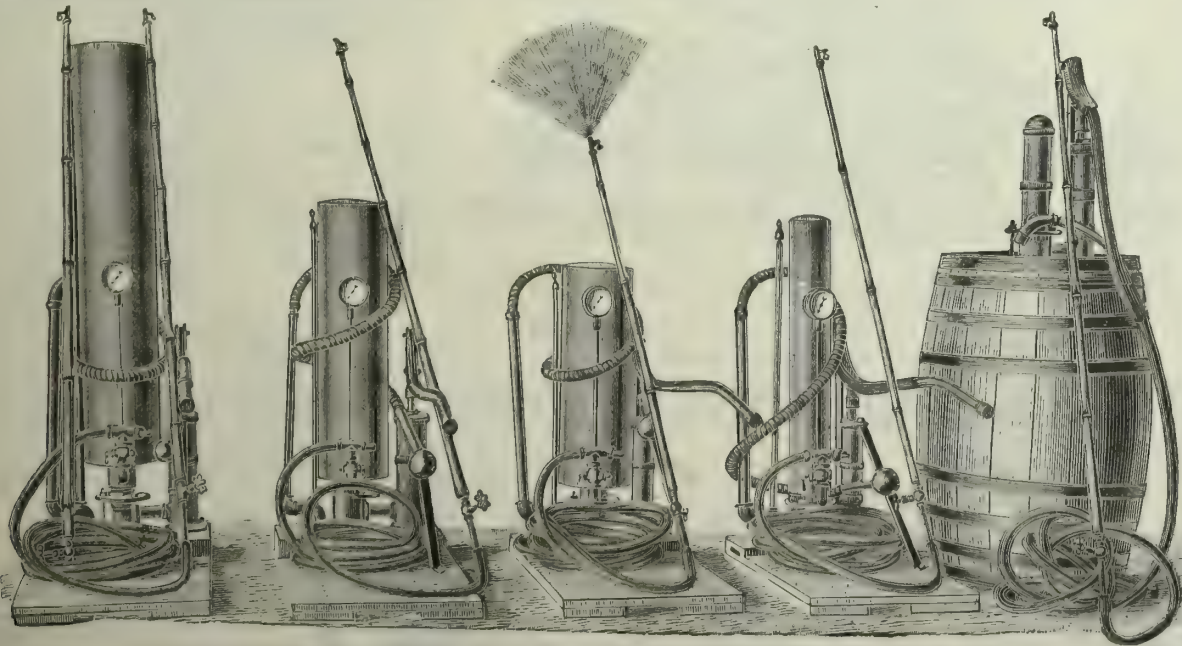
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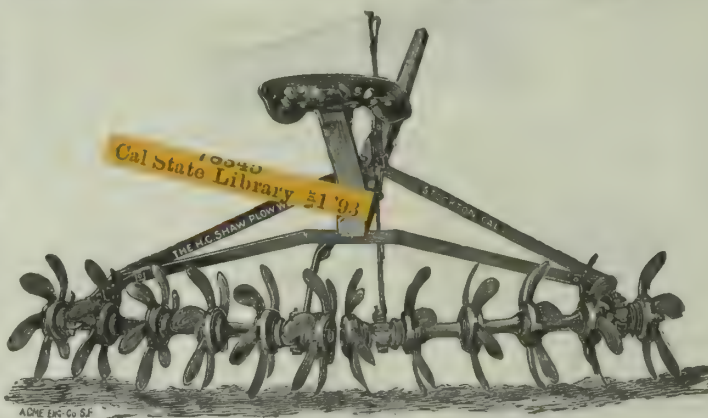
HORTICULTURISTS AND FARMERS, TRY IT.

NOTE THE FOLLOWING TESTIMONIALS FROM OUR OWN PEOPLE.

GRANGEVILLE, CAL., Dec. 25th, 1891.
Mr. James Porteous, Fresno, Cal.—Dear Sir: Your favor of 22d, asking me how I liked the Triumph Spading Harrow I used on the "Oothout Vineyard and Orchard," received. In reply would say that I have used almost all the modern implements, but as a pulverizer and cultivator combined I never saw anything to equal them. I used two two-horse and one four-horse. Yours truly,
H. H. CLARKE,
Formerly Supt. and Manager of the "Oothout Vineyard and Orchard," at Fresno, Cal.

STOCKTON, August 16, 1892.
H. C. Shaw Plow Works—Gentlemen: I have used exclusively a Morgan Spading Harrow purchased from you, in cultivating an orchard of 40 acres planted to apricot trees in February of this year, near Black's Landing, in this county. By the use of this harrow the ground has been kept free from weeds and well pulverized, thereby causing a retention of moisture and a rapid and healthy growth of the trees; the branches of some of them having grown nearly six feet within six months after planting. I consider the Morgan Spading Harrow the very best implement in use for tree and vine culture. The work is much better done than it can be done with a plow and at one-fourth of the expense.
JOSEPH H. BUDD.

FRESNO, CAL., Jan. 20th, 1892.
Mr. James Porteous, Fresno, Cal.—Dear Sir: In reply to your inquiry regarding the Morgan Spading Harrow will say that it is by far the best tool I have ever seen used in a vineyard. I had the Disc Harrow, the Drader Spading, the Clark Cutaway and the Morgan Spading Harrows all at work in our vineyard last year and soon discovered that the Morgan was the best of them all. The draft is much lighter and its work more complete, besides being the easiest handled of all others. The Morgan will be the only cultivator seen at work in our vineyard the coming season. All others will be found at rest in the fence corners. Yours truly,
S. K. LEMMON, Supt. Oakland Vineyard Co.



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THE DRAFT IS VERY LIGHT.

NOTE THE FOLLOWING TESTIMONIALS FROM OUR OWN PEOPLE.

FRESNO, CAL., Dec. 10th, 1891.
Mr. James Porteous, Fresno, Cal.—Dear Sir: Last winter I purchased a ten-foot Triumph Spading Harrow, and am pleased to say that I found it a most satisfactory tool. I used it in both my nursery and orchards and found that it left the ground in better shape than any cultivator I had ever used. For pulverizing rough and cloddy ground I don't believe there is an implement superior to it in the market. Yours truly,
GEO. G. KOEDING,
Manager for the Fancher Creek Nursery, Fresno, Cal.

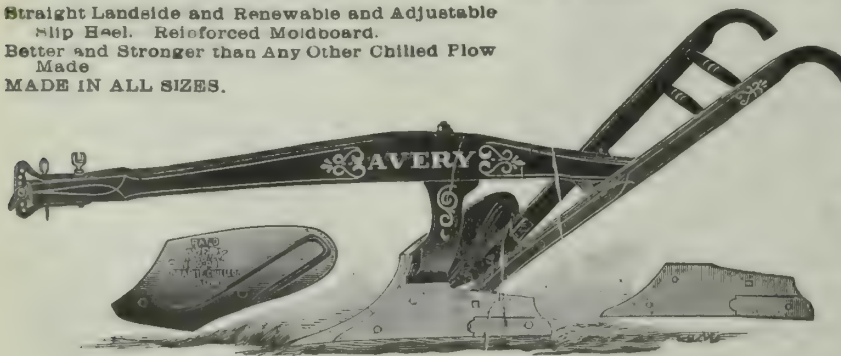
FRESNO, CAL., Dec. 19, 1891.
Mr. James Porteous, Fresno, Cal.—Dear Sir: Having used the Morgan Spading Harrow last season I can well recommend same for vineyard use; it is economical and does its work well. In heavy ground it is the best tool I have used for a pulverizer and it leaves the ground in good condition. Respectfully yours,
E. I. BABER, Manager for Eisen Vineyard, Fresno, Cal.

SACRAMENTO, CAL., Dec. 31st, 1891.
Gents:—In reply to your inquiry concerning the Morgan Spading Harrow purchased by me last spring, would say that I ordered it for the purpose of experimenting in my orchard to ascertain whether or not I could get an implement that would combine the qualities of the disc and cultivator. I find upon trial that the harrow above referred to is the most complete tool that can be used in an orchard. As a pulverizer, leveler, and cultivator, I do not hesitate to say it is the best I have ever seen. It thoroughly stirs the ground beneath the surface without opening it to the sun's rays and keeps the ground loose of sufficient depth to retain necessary surface moisture. I do not hesitate in recommending it. Very truly,
EDWIN F. SMITH,
Secretary State Agricultural Society.

BRENDEN, CAL., Dec. 17th, 1891.
Dear Sir:—Enclosed find check to pay for Morgan Spading Harrow. It is the best implement ever invented for the cultivation of the soil. Respectfully,
J. F. WARD.

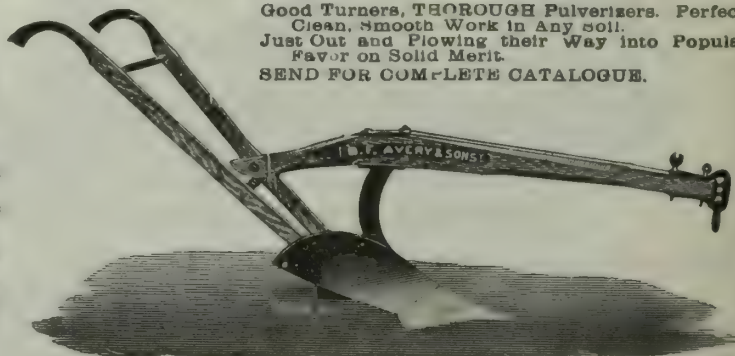
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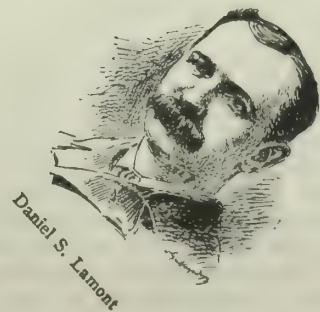
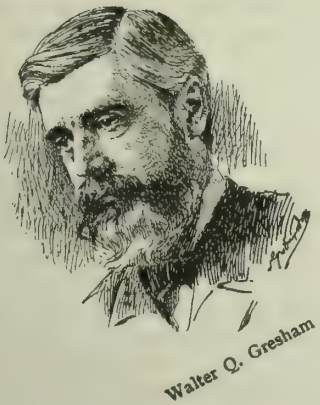
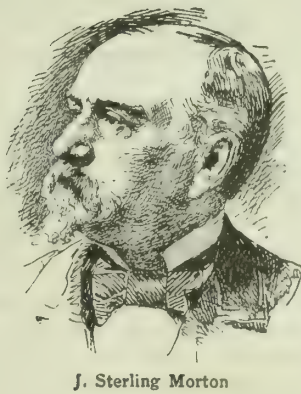
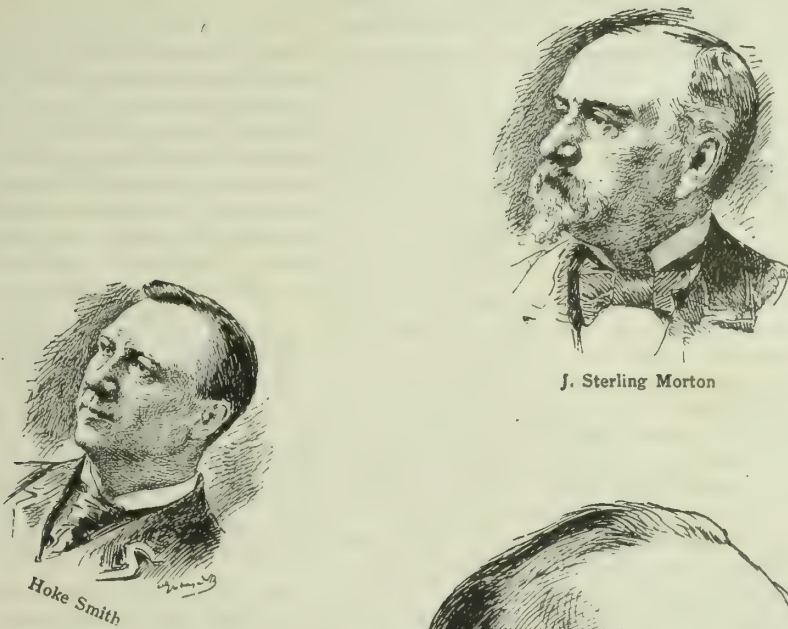
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PACIFIC RURAL PRESS

Vol. XLV. No. 10

SAN FRANCISCO. SATURDAY, MARCH 11, 1893.

THE DEWEY PUBLISHING CO.
Office, 220 Market St.



PRESIDENT CLEVELAND AND HIS CABINET.

President Cleveland and His Cabinet.

The RURAL PRESS has heretofore had its say about the make-up and quality of Mr. Cleveland's Cabinet, and nothing remains but to give the portraits which adorn this page. They are direct from photographs and are, we be-

lieve, the best pictorial representation of Mr. Cleveland and of the men who are to be his advisors yet printed on the Pacific Coast. The list includes, besides the President, Hon. Walter Q. Gresham, of Indiana, Secretary of State. Hon. John G. Carlisle, of Kentucky, Secretary of the Treasury. Hon. J. Sterling Morton, of Nebraska, Secretary of Agriculture. Hon. Wilson S. Bissell, of New York, Postmaster-General.

Hon. Hoke Smith, of Georgia, Secretary of the Interior. Hon. Hillary A. Herbert, of Alabama, Secretary of the Navy. Hon. Daniel S. Lamont, of New York, Secretary of War. The single other member of the Cabinet, Hon. Richard Olney, of Massachusetts, Attorney-General, we are not able to present at this time, as no perfect photograph of him has yet been received at San Francisco.

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ALFRED HOLMAN.....General Manager

San Francisco, March 11, 1893.

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The Week.

Nearly all parts of the State have had another refreshing rain copious enough nearly everywhere to allay all apprehension as to the season's moisture supply. If we get ordinary treatment from the clouds during the next 30 days, a good season will be fully assured.

The greatest event of the immediate future will be the Southern citrus fair which will open in the new pavilion at Colton, on Wednesday, March 15. Colton is a central point in the eastern division of the great Southern citrus region, and is readily accessible. During the last few years notably fine fairs have been held in Los Angeles, but the growers of the Colton district hope to surpass all that has thus far been attained. A liberal premium list has been published and the competition will no doubt bring out the finest of the Southern fruit. The time will be propitious for southern trips by Northern Californians who desire to observe the recent progress of the south, and we hope such visitors will be many.

An Afternoon With Economic Entomology.

There will be a meeting held at the State Board of Horticulture in this city, on the afternoon of March 16, which should attract the attention of all California horticulturists. It will be a special meeting of the State Horticultural Society in honor of Prof. J. H. Comstock, entomologist of Cornell and Stanford Universities. Our older fruit growers will remember that it was Prof. Comstock, at that time government entomologist, who came to our aid 13 years ago when exact knowledge concerning the fruit pests which then menaced our young horticultural industry, was in pressing demand. By personal investigation and subsequent close study he met this demand and placed us under lasting obligation. His presence in the State at this time led the members of the State Horticultural Society to decide upon a special meeting at which attention could be exclusively given to consideration of economic entomology. We trust this opportunity will induce a large assemblage of all interested in scientific aspects of horticulture, for the Horticultural Society invites the public to participate in the meeting.

By a fortunate coincidence Prof. V. L. Kellogg of the

University of Kansas is also in California, and will accept a place upon the program of the meeting. He has given much attention to insect-destroying fungi and will speak upon the service which this form of vegetation performs in reducing injurious insects. The meeting will open at one o'clock and continue during the afternoon. Full opportunity will be given for free discussion of the points advanced.

Popular Appreciation of Floral Art.

The spring time, with its wealth of bloom in field and garden, prompts us to remark upon the significance of California's resources in natural and cultivated vegetation. We but glance at our majestic forest trees, the unique heritage which comes down to us from beyond the world's historic periods; of their transcendent worth and charms let poets sing. Another glance at the varied flora of shrub and herb, which few but the eager botanist, the aspiring artist and the tireless tourist behold upon distant mountain-side or in canyons well-nigh inaccessible; these, too, are natural endowments which we relegate to the masters of expression to adequately characterize. Rather does the season prompt us to comment upon the nearer and lowlier growths which abound on suburban hillside and meadow, or so generously reward our efforts in parks, gardens and greenhouses.

We have frequently alluded approvingly to the manifest development of interest in ornamental horticulture, and in efforts which promise to minister to the elevation of taste and stimulation of beauty-loving among our people. This is seen in the multiplication of floral societies and in the holding of floral exhibitions. These are to be prized for their intrinsic excellence and their contribution to honorable undertaking and elevating entertainment. This quality constitutes, however, but a minor claim to approval, because its exercise is restricted, and because, in these regards, it is, after all, but an agency toward a more remote end. If California's floral resources, in nature and culture, end with the improvement of those directly engaged in work or study in connection with them, they will only suggest the mission which they should accomplish.

For this reason, we are pleading now, while flowers and their displays are in their highest season, for a wider popular appreciation of co-operative efforts which are being made to stimulate popular interest in floral displays, to educate the people in fuller appreciation of the beauty of natural and exotic flora and to disseminate truer principles of taste in floral art and decoration. This possibility should attract the interest and patronage of those who have bounty to bestow upon good causes. It is not to be expected that those who organize these societies, and directly participate in their maintenance, can carry them to their fullest efficiency in lines which most concern the public. Those who are carrying the burden do not catch the fullest beauty of the landscape. It is not the oarsman who enjoys the glories of the sunset. The active members of our societies do well if they maintain the every-day features of their organizations and embody the lessons they learn in masterpieces of cultivated excellence in plant and flower. While they are thus honorably engaged, there should be a substantial recognition of their effort on the part of wealthy connoisseurs who would find their reward in the public good and in their own improved facilities for art enjoyment, which is one of the noblest pastimes of cultured minds.

This patronage of honorable effort in any line of art or handicraft has as yet commanded but little attention in our new country, although, of course, excellent beginnings have been made. There have been munificent endowments of institutions to work in the general direction which we hint at, but not in the specific line of floral progress. And yet in older countries and in our Eastern States people of means and taste enroll themselves freely as patrons of societies which work toward this end. Splendid prize funds are created almost solely from contributions by those who think it honorable to have their names linked with such rewards of merit. These funds serve, of course, as a most potent stimulus to renewed and extended effort by the societies thus patronized, and, by such aid, floriculture is advanced as it could not possibly be by the unaided efforts of the societies themselves.

We suggest that the several floral societies of the State undertake systematic work to secure this means for renewed growth and increased efficiency. In many cases, no doubt the mere intimation that such aid would be acceptable would secure it. In other cases, argument and influence might be needed, and with many no doubt the example of those who are looked up to as leaders of society would be a most potent force. Let all these motives prevail according to the strength of each—in such matters we are not called upon to inquire the ruling principle.

We believe if our societies will work, each in its own field, in this direction, all will feel a strong stimulus and

be enabled to accomplish much that they dare not now undertake. We shall then have our popular knowledge and appreciation of floral art more nearly commensurate with our natural California endowments for such arts, and by cherishing the influences of such arts toward human elevation and refinement, shall measurably attain to the elevation of mind, gentleness of manner and purity of life, of which beautiful bud and bloom have been symbols and exponents since the days of Eden.

THE Sonoma County Horticultural Society held a meeting last week and discussed the action of the Board of Supervisors in cutting down the remuneration of fruit inspectors to \$1 per day. The sentiment was general that their efficiency has been destroyed and the way opened to invasion by fruit pests and diseased trees. Two inspectors have already resigned in consequence of the action of the board. It is to be hoped that the supervisors will reconsider their action and afford adequate protection to the ambitious fruit growers of Sonoma county. The fruit industry there is just beginning to assume importance, and the effect will be to cripple and impair its growth in its infancy—its most critical period.

THE well-known California stallion Sidney has been sold at Cleveland, Ohio, for \$27,000. Frou Frou, his famous daughter, went for \$3500, S. Henry of Philadelphia being the purchaser. Fausta, the pacer, was purchased by Millard Saunders for \$2100. Odd Fellow went to Jacobs Bros. of Hubbard, Ohio, for \$2000, and E. W. Johnson of Carthage, Mo., secured a bargain in Sidmont for \$2555. As a whole, the prices at this sale were disappointing. They indicate that the day of the \$150,000 horse seems to be over. The reason is not that horses are inferior to what they once were, but fine animals are more numerous.

PREPARATIONS are going actively forward for the annual stock and stallion show at Livermore, March 11th, and all indications are that the exhibition will be a complete success. There will be single-dash running and trotting races, and other attractive features will be added. Money has been subscribed for suitable purses. The Livermore shows have in the past been interesting stock events, and there is ample reason to expect that the usual high standard of excellence will be maintained.

THE Sutter Fruit-Growers' Association is the name of an organization of fruit-growers, with headquarters at Yuba City. By-laws have been adopted and the following officers elected for the ensuing year: B. F. Walton, president; J. Ross Trayner, manager and secretary. Directors—R. C. Kells, H. P. Stabler, J. B. Wilkie, F. Hauss, F. D. Walton, Webster Treat and O. E. Williams. The association will conduct its shipping through the California Fruit Union.

THE Lompoc Record estimates that the value of lands along the Santa Ynez river that have gone to sea this winter is \$5000. To stop erosion in the future, the farmers have appointed a committee to collect funds and inaugurate work, to commence at once. The Santa Ynez farmers have found that to keep what one has is often as difficult and expensive as to acquire more.

ONE HUNDRED AND FORTY acres per day is the rate at which the great Chino ranch is being seeded to beets. The possible repeal of the sugar bounty seems to have had no discouraging effects upon the promoters of sugar beet factories and collateral industries. The prospects are for a prosperous year at Chino. The new factory at Anaheim is certain to be built.

PRIZES FOR CLYDESDALE ESSAYS.—The American Clydesdale Association offers \$100 in cash prizes for essays on the Clydesdale horse. Competition is welcomed from all fitted by experience to write upon the subject. Intending writers can get full information on conditions, requirements, etc., by addressing Charles F. Mills, Secretary, Springfield, Ill.

THE new dairy bill, now in the hands of the Governor, provides for the appointment of three commissioners to serve without remuneration. Their duties shall be to use their best endeavors to prevent the sale of adulterated dairy products for pure butter or cheese, unless it is sold as oleomargarine or as adulterated butter.

JUST as was expected, a large amount of the damaged Florida oranges have been rushed into the Eastern markets, and low prices continue to be the rule. It is anticipated that the damaged fruit will have disappeared in a few weeks and the market will be restored to a healthier tone.

THE Sonoma County Board of Horticultural Commissioners and the Fruit-Growers' Association have been requested to recommend the use of salt, sulphur and lime for spraying fruit trees.

From an Independent Standpoint.

Inauguration Day, last Saturday, was the worst day of a bad season at the National capital. There was a cold, raw wind, and snow fell in clouds, melting as it touched the ground and making as much discomfort underfoot as there was overhead. The state of the weather, more than all the efforts of the reformers, served to impress upon the whole ceremonial of inauguration a degree of "Jeffersonian simplicity" highly gratifying to those who feel that the American eagle is in danger every time the band begins to play. The plans made by scores of political and civic organizations to join in the parade were given over early in the morning, but a certain amount of ceremony was deemed absolutely necessary, and so the National troops, with overcoats buttoned to their chins, a few civic officials, the diplomatic corps and, last of all, the retiring and incoming Presidents, boldly faced the tempest and rode it out to the bitter end. As yet, neither has died of pneumonia, but the public will scarcely feel safe until they have recovered from the cold which each got as the reward of devotion to duty. It had been arranged that Mr. Cleveland should deliver the inaugural address on a platform in the open air in front of the capitol, and he went through the ordeal with head bared, apparently as unconscious of the frightful storm as if it had been May. Fortunately for him, he had made it short, so the exposure was not so severe as it might otherwise have been; but he stood for an hour in company with Mr. Harrison, the Justices of the Supreme Court and a large number of public and private personages, in the face of about as nasty a spell of weather as has been seen anywhere for many a day. The crowd in attendance was equally brave, but it had the advantage of being able to keep its hat on and its umbrella overhead, and while everybody was wet and cold and miserable to the last degree, everybody stayed it out, although it is said that not one in five thousand heard a word of what was said or was able to see, over the forest of umbrellas, what was going on. Those of us who stayed at home and enjoyed the comfort of the California climate on Saturday last, had quite as good a view of what was being done as any save the little front rank of umbrella-holders which surrounded the grand stand at Washington. The thing was finally done; Mr. Cleveland kissed his mother's bible in due form and swore to uphold the laws; Mr. Harrison took him around to the White House and showed him that everything from the back yard to the garret was in perfect condition; Mr. Cleveland walked out of the front door with him, bade him goodbye and told him to come again; Mrs. Cleveland wept a little, as was becoming under the circumstances, and Baby Ruth slept through the whole process. It will perhaps interest the feminine portion of our readers to know that Mrs. Cleveland was dressed in gray and brown, and that there was not the smallest concession to the new crinoline fashion which seems to be so disturbing the masculine part of the United States at this time.

Mr. Cleveland's address was briefer than his public utterances are wont to be. The first point touched upon was the currency. There is nothing, he said, more fatal to our supremacy as a nation than the want of a stable currency. We cannot, he said, with all our strength and resources, defy the inexorable laws of finance and trade. He then referred indirectly to the dangerous condition of the National Treasury, adding: "So far as the executive branch of the Government can intervene, none of the powers with which it is vested will be withheld when their exercise is deemed necessary to maintain our National credit or to avert financial disaster." The meaning of this in plain terms is that Mr. Cleveland will not permit gold to go to a premium if, by the sale of bonds or any other financial expedient, he can keep the Treasury supplied with gold. And, taken in connection with his well-known position on financial questions, it means further that he will not permit a free silver coinage proposition to become a law if he can prevent it by the use of the veto power.

From the currency question, Mr. Cleveland passed to a review of what he called "governmental favoritism." It stifles, he said, the spirit of true Americanism and stupefies every ennobling trait of American citizenship. The lesson of paternalism, he declared, ought to be unlearned and the better lesson taught, that "while the people should patriotically and cheerfully support their government, its functions do not include the support of the people." Continuing, he said: "The acceptance of this principle leads to the refusal of bounties and subsidies which burden the labor and thrift of a portion of our citizens to aid ill-advised or languishing enterprises in which they have no concern. It leads also to the challenge of the wild, reckless pension expenditure which overleaps all the bounds of grateful recognition of patriotic services, and prostitutes to vicious uses the people's prompt and generous impulse to aid those disabled in their country's defense." Re-

duced to plain terms, this means that Mr. Cleveland will urge a revision and purification of the pension laws, and that he will oppose any further extension of the pension system; that he will endeavor to have the bounties now paid to sugar-planters in the South, and to steamship companies running to South American ports, done away with.

Proceeding to the consideration of the civil service, Mr. Cleveland declared it to be a plain dictate of honesty and good government that public expenditures should be limited by public necessity and that this should be measured by rules of strict economy. One mode, he said, of misappropriation of public funds is avoided when appointments to office, instead of being rewards of partisan activity, are awarded to those whose efficiency promises a fair return of work for the compensation paid them. Civil service reform had already accomplished much, he declared, and its promises of further usefulness entitle it to the ready support of all who desire to see our public service well performed, and who hope for the elevation of political sentiment and the purification of political method. With reference to the growth of trusts, Mr. Cleveland said:

The existence of immense aggregations of kindred enterprises and combinations of business interests, formed for the purpose of limiting production and fixing prices, is inconsistent with the fair field which ought to be open to every kind of independent activity. Legitimate strife in business should not be superseded by enforced concession to the demands of combinations that have power to destroy, nor should the people to be served lose the benefit of cheapness which usually results from wholesome competition. These aggregations and combinations frequently constitute conspiracies against the interests of the people, and in all their phases they are all unnatural and opposed to our American sense of fairness. To the extent that they can be reached and restrained by Federal power, the General Government should relieve our citizens from their interference and exactions.

The longest paragraph of Mr. Cleveland's brief address was with reference to the tariff, and we give it in full, as follows:

The people of the United States have decreed that on this day the control of the Government in its legislative and executive branches shall be given to a political party pledged in the most positive terms to the accomplishment of tariff reform. They have thus determined in favor of a more just and equitable system of Federal taxation. The agents they have chosen to carry out their purposes are bound by their promises, not less than by the command of their masters, to devote themselves unremittingly to their service. While there should be no surrender of principle, our task must be undertaken wisely and without vindictiveness. Our mission is not punishment, but the rectification of wrongs. If, in lifting the burdens from the daily life of our people, we reduce the inordinate and unequal advantages long enjoyed, this is but the necessary incident of our return to right and justice. If we exact from unwilling minds acquiescence in this theory of an honest distribution by the hand of government of the beneficence treasured up for all, we but insist upon the principle which underlies our free institutions, and we tear aside the delusions and misconceptions which have blinded our countrymen to their condition under vicious tariff laws, we but show them how far they have been led away from the paths of contentment and prosperity. When we proclaim that the necessity for revenue to support the Government furnishes the only justification for taxing the people, we announce a truth so plain that its denial would seem to indicate the extent to which judgment may be influenced by familiarity with the perversions of the taxing power, and when we seek to reinstate the self-confident business enterprise of our citizens by discrediting abject dependence upon Government favor, we but strive to stimulate these elements of American character which support the hope of American achievement.

In this utterance Mr. Cleveland distinctly reaffirms the pledge of the Democratic platform; and it becomes pertinent to give again the exact provisions of that platform. This is especially important because of the persistence of the partisan press in misconstruing and mistaking the facts. The radical journals and the radical party leaders are fond of repeating the utterly misleading statement that Mr. Cleveland's party is bound to immediately enforce free trade and that Mr. Cleveland is bound to urge such a policy upon Congress. The renewal of this pledge by Mr. Cleveland will afford a text for still further false and mischievous talk, and to the end that our leaders may be prepared for it and in a position to estimate all such blattance at its full value, we give again the exact text of the Chicago platform with respect to the tariff:

The necessity of the Government is the only justification for taxation, and whenever a tax is unnecessary, it is unjustifiable; that when custom-house taxation is levied upon articles of any other kind than those produced in this country, the difference between the cost of labor here and labor abroad, when such a difference exists, fully measures any possible benefits to labor, and that the enormous additional impositions of the existing tariff fall with crushing force upon our farmers and workingmen, and, for the mere advantage of the few whom it enriches, exact from labor a grossly unjust share of the expenses of the Government; and we demand such revision of the tariff laws as will remove their iniquitous inequalities, lighten their impositions and put them on a constitutional and equitable basis.

But in making a reduction of taxes, it is not proposed to injure any domestic industries, but rather to promote their healthy growth. From the foundation of the Government the taxes collected at the custom-house have been the chief source of Federal revenue. Such they must continue to be. Moreover, many industries have come to rely upon legislation for

their successful continuance, so that any change in the law must be at every step regardful of the labor and capital thus involved. The process of reform must be subject in its execution to this plain dictate of justice.

There is in this no promise to wipe out the tariff laws. There is a promise to reform the tariff upon lines of reduction, but guarded by a pledge to be "subject in its execution to the plain dictate of justice." We make space for this quotation from the Democratic platform because it is essential to a fair comprehension of Mr. Cleveland's remarks on Saturday last.

In our judgment—with the Democratic platform and Mr. Cleveland's re-affirmation of its pledges in view—there is no reason to fear a sudden and damaging revision of the existing tariff laws. The necessities of the Government (including the pension charges) now amount to between four hundred and five hundred millions per year; and it is not likely that there will be any reduction until the pension list declines, as it will in time. There is no way to raise this enormous sum excepting by the tariff and revenue charges. The total income from these charges is not more than enough to meet the public necessities. In all likelihood some bounties and some pensions will be cut off, but they will not be sufficient to allow any very great decrease in either of our sources of financial supply. Under these circumstances, free trade or anything like it is out of the question. We take comfort in the opinion that those California interests which are bound up in the continuance of the tariff policy are not in danger from the Cleveland administration.

Mr. Cleveland enters upon his second term in the Presidency not only an older but a much better and a much broader man than when he took office eight years ago. In every respect he is a good deal more of a man than when he took the Presidency in 1885. Until a short time before that he had lived in a single city, and that not a metropolitan one; his knowledge of the country was confined to a single locality, except in the most general way; he had never been west of Ohio, had never been south of Washington City; he had given only casual study to public affairs, and it is only frankness to say that his social life had not been of the nicest. Not long after he became President he had the wisdom to get married, and whatever may have been just criticism as to the disparity between his years and those of the young woman who became his wife, it is due her to say that her tact and good sense have covered all deficiencies and have more than met every expectation. The development of the domestic side of Mr. Cleveland's character, the improvement in his manners, the evident expansion of moral view and habit, are good effects, due to the influences which have followed his marriage. The Cleverlands, after leaving the White House, turned their backs upon the attractions of fashionable life and went into the country to live, and there, in the quiet and in the happiness of domestic life, Mr. Cleveland developed those better elements of character and acquired that better and truer view of manly duty and obligation that make the Cleveland of to-day a very different man from the Cleveland of eight years ago. But it is not only as a private man that Mr. Cleveland has improved—he is infinitely a bigger and better public man than ever before. He has made the best use of great opportunities, has added to his stock of information and has developed the best qualities of a mind and character naturally strong and dominant. Public honors and high responsibilities have not made him vain—on the other hand, they have brought out the best points in him. These best points are good sense and perfect frankness. His judgments are always of the common sense kind. His views on public questions are always stated clearly and without reserve. This habit of frankness is really his strongest hold upon the public. It is natural that the people should like a man who never dodges for the sake of conciliating those whose views or judgments may be opposed to his own; and who may always be relied upon when occasion demands it to say just what he thinks about things and just what he proposes to do.

Upon leaving the White House, Mr. Harrison took train for his old home at Indianapolis, where on Monday night he was tendered a reception by his fellow-citizens of Indiana. Prominent people from every part of the State were present, and the occasion was—what it was intended to be—a great ovation on the part of the people of Indiana to their most distinguished fellow-citizen. Mr. Harrison spoke with his usual felicity, although it could but be observed that he felt keenly the change which four years had made in his situation and in his fortunes. The four years of absence from home had brought with it not only great honors and great distinction, but it had brought also the direst of domestic calamities. Among other things, he said:

I do not think that even if the circumstances were more fa-

vorable than now surround us, I could say more than the fewest words of thanks. Four years ago, if the calendar is consulted, I left you to assume high responsibilities. If I should consult heart and mind, I should say it was ten years since I bade good-by to my Indianapolis friends. Not the risings and settings of the sun, but our experiences give a true sense of duration. I come back to Indianapolis, for since I came to manhood I have had no other home. Suggestions of an attractive sort were made to me to make my home elsewhere, but it seemed to me that my only home was Indianapolis. (Cheers.) I am too old to make a new home, but not too old, I hope, to renew the old associations that made this so dear a home or to take within the circle of my affectionate regard this multitude of new faces that I see here to-night.

It is too soon to write the history of Mr. Harrison's administration; almost too soon for an estimate of its relationship to the welfare of the country. But this much can be said without reservation, that without especial brilliancy and without especial circumstances of distinction, it forms an entirely honorable page in the history of the country. Mr. Harrison as President has been dignified, diligent and efficient in all things. His foreign policy as carried on in co operation with the late Mr. Blaine, has resulted in a distinct advantage to American interests and to a distinct increase of foreign respect for the American name. There have been no scandals during the administration because in every position of high responsibility there was extreme care to employ persons whose honesty and fidelity was beyond suspicion. It is a time when good government in all the detailed relations of public affairs to domestic interests is the all-important consideration of our political life, and Mr. Harrison's temper of mind and habits of labor have been just suited to the period. Whatever may have been wanting during the past four years, there has at least been no dereliction on the part of the administration in the matter of enforcing the laws. It is, perhaps, with respect to the national judiciary that Mr. Harrison's broadest qualities as a statesman have been displayed. Mr. Harrison's appointments to judicial office have been singularly and notably excellent; and most fortunately so for the country, since it has been his fortune to name more judges of the several United States courts than any of his predecessors in the Presidential office since the beginning of the Government. Although frankly a partisan in other things, in this matter he put partisanship aside, and it is safe to say that no man elevated by Mr. Harrison to judicial place is lacking either in character or in any element of fitness for the work to be done. His last appointment—that of Judge Howell E. Jackson of Tennessee to the Circuit Bench—was perhaps, of all his nominations, the one most to his credit. While Mr. Harrison's manners have not been popular, his term of official life has been marked by social propriety. His public addresses delivered here, there and everywhere when he has been away from the National Capital have been models of felicitous expression. Mr. Harrison has perhaps no equal in this or any other country as a public speaker, and it is certain that his addresses will last and have high place among our political classics. Mr. Harrison's recent domestic misfortune has turned toward him the warm heart of the country during the last few months, and the nation has seen with an admiration almost amounting to tenderness how, without putting aside his griefs, he has subordinated them to his sense of duty; how, through many weeks of personal sorrow, he has left no part of his public work undone.

Stanford University and the Fruit-Growers.

TO THE EDITOR:—It would need many columns of the RURAL to detail one tithe of the interesting information contained in last week's lectures to fruit-growers at Leland Stanford Junior University. The chief attraction was naturally Prof. Comstock's course on insects, which occupied the first hour on the special program at 10:30 A. M. But this year, as last, the privilege of temporary freedom of the University was graciously accorded to visitors, and one could begin at 8:15 with chapel and fill in the whole day to 5 P. M. flitting from class to class, sipping the sweets of science till it was fairly possible to fancy oneself a member of the busy hive.

This was the more easy, as any assumption of starchy, pedagogic pedantry is a lost art at Stanford, even with the professor of pedagogy himself, who, in my hearing, read a newspaper extract to his class deriding the use or adoption of special titles by educators. "We are simply," said he, "students working with our fellow-students." It is easy for John Granger to realize that where this feeling prevails, he will not be pestered with labored disquisitions bristling with long-tailed jaw-breakers, but will hear plain words conveying valuable truths.

It would be hard to present scientific subjects to an audience in simpler words or more attractive manner than that in vogue at Stanford while fruit-growers are being addressed. Dr. Jordan's first lecture was devoted to "Artificial Selection." He showed the endless possibilities of variation by artificial selection by reference to the pigeon, developed in endless fantastic variety. One pigeon had drawn attention to itself by a proud carriage and habit of inflating its crop with wind. This peculiarity had been perpetuated and increased by the breeder mating such as formed this habit until the Pouter pigeon, as we know it to-day, was developed—long-legged, erect and top-heavy. Another pigeon had displayed a pair of extra tail feathers.

This distinguishing feature had been seized on as a starting-point for tail development, and had culminated in the Fantail, with 24 to 40 tail feathers. Other variations in flight, in feather, in bill, had been encouraged by careful pairing, and had produced the Carrier, the Runt, the Tumbler and the endless varieties familiar to us to-day.

In plant life the same variation within certain definite limits is also attained. A slight difference in leaf, or flower, or fruit, can be encouraged by selecting for propagation only those developing the differentiating peculiarity until a new strain or variety is established.

Hybridizing, or cross-fertilization, is another method by which endless variation within certain limits is attained. Dr. Jordan dwelt on the fact that every individual of every species differs in some particular from every other individual, so that there was always some point of possible new departure ready to be seized upon and developed. In his lecture on "Natural Selection," the wonderful power of adaptation in certain insects was exemplified by reference to an edible butterfly that had assumed the shape and color of one most unsavory; and also to another little insect that, to protect itself from its foes, assumed the habits of the leaf-bearing ant and covered itself as it walked with umbrella of leaf. He also instanced the cretins of Aosta as an example of degradation by a wrong selection—the selection of centuries of war and misplaced charity. These creatures, the dregs of humanity, whose portraits looked vile by the side of that of a respectable ape, inhabit the vale of Aosta, from which the best male inhabitants have been continually drawn as soldiers. They are a race of malformed idiots, made additionally hideous and repulsive by the goitre or swollen neck peculiar to dwellers in the Alps. The more horrible in appearance, the more pity they excite and the greater success they achieve as beggars, receiving more than a shapely, hard-working man can earn. So their reproduction is fostered, and an additional monstrosity born is regarded by the family as a special godsend. Both lectures from end to end were crammed with information very suggestive to the intelligent fruit-grower or stock-raiser, but manifestly impossible to condense in a short letter. I hope to send a few points from other lectures next week, provided I can find time; if not, a little later, unless some other hearer forestalls me.

Carmel, March 6, 1893.

EDW. BERWICK.

New Laws by the Legislature.

Among laws passed by the present Legislature are the following, which are now in effect, unless otherwise stated:

Abolishing fees or commissions paid by the State for assessment, equalization and auditing and collection of ad valorem taxes. Take effect May 1st. Does not affect Assessors for collecting personal property taxes, or mileage allowed Treasurers in making settlements with the State.

Forbidding combinations to obstruct sale of live stock.

Adds Section 3819 to Political Code. That one may pay taxes under protest, and claim that the assessment is void in whole or in part; may within six months bring suit under the protest. In effect in 30 days—March 29.

Section 80 of Act of 1880, relative to insolvent debtors, amended so that the insolvent may have set aside to his use property by law exempt from execution, a homestead, as provided by Section 1465, Code of Civil Procedure. In effect March 29.

Amend Section 2691 of the Political Code, relative to highways. Awards for laying out, etc., of a road to be paid out of district road fund, except that which may be paid by interested parties; and, except when payment would be burdensome, a portion may be paid from the general road fund on two-thirds vote of Supervisors, but not to exceed 10 per cent. of general fund shall be so used in any one year. If the road is in more than one district the award and costs to be apportioned. When money is paid by any interested party it goes to credit of either fund in the discretion of the Supervisors.

Fixing price at which jute goods shall be sold by State. The Prison Directors are to fix price, but not in excess of one cent a bag over net cost of production, exclusive of prison labor. To be sold only to consumers direct. No one order to exceed in one year 5,000 bags, except by request of Warden and unanimous approval of directors. Orders to be filled in order of receipt. But after June 15th of each year orders may be filled for larger quantities to actual consumers. Orders of farmers to have precedence. Ten per cent. of purchase price to accompany order; balance on delivery. Orders to be accompanied by affidavits setting out amount of goods wanted and that they are for personal use of applicant.

To abolish the State drainage construction fund, and directing the transfer of any balance remaining therein to the general fund.

Relating to conveyances of real property by married women, and limiting the time in which to commence action for recovery of community property by husbands.

Constitutional Amendment No. 8, to amend Section 1, Article II, of the Constitution, establishing educational qualifications for voters under 60 years of age.

Is There a Hancock Prune?

TO THE EDITOR:—Various articles have appeared of late in the leading horticultural journals regarding a new prune, and which it is proposed to name the "Hancock." Many have already fallen into the error of duplicating varieties by new names, and thus confusing the nomenclature of our fruits. Last season I received samples of this prune direct from the orchard, through Mr. Edwin Boothe, of Roseville, and on comparison were not found distinct enough to be classed as a separate variety. There may be conditions in the soil, situation, etc., which may account for the variation noticeable in this prune, which may prove misleading, and before it is named as proposed, it would be well to examine into these conditions, and if none are found as I refer to, then it can be named and designated as proposed.

B. M. LELONG,

San Francisco, March 7, 1893.

Gleanings.

A DIVORCE was granted by a Los Angeles judge in six minutes.

FEARS are expressed that the almond crop along Kings and Kern rivers has been injured by late nipping frosts.

"ORANGE EATER" forgot to leave his name with his contribution. The RURAL PRESS must know the names of all contributors, not necessarily for publication, etc.

A SATISFACTORY SETTLEMENT of the differences which existed between the State and National World's Fair Commissions regarding the allotment of space to California wine exhibitors has been reached.

ANTIOCH complains that it is full of "mangy, blundering, ill-favored, clumsy, bullet-headed dogs." A good, healthy dog-tax, judiciously applied, often does two things: Increases revenues, decreases dogs.

THERE is a strong movement for a winery at Reedley, Fresno county. It is considered the most important project ever broached in that thrifty place. Wineries, henneries, canneries—these three; and the greatest of these is all of them.

THE Alessandro irrigation district makes a fine showing as compared with many other districts in regard to delinquencies. The tax levy was \$60,000, and of this only one per cent was advertised as delinquent, while a portion of this has since been paid.

TEN WIDOWS left an Iowa town last week for California. This might be called a transplanting of the weeds," says a disrespectful exchange. They'll change color soon enough when they see some of the giddy widowers we have in this land of sunshine, cerulean skies and big coyote bounties.

NYE COUNTY, Nevada, was named in honor of the humorist, Bill Nye," says an Orange county exchange. Alas! alas! Such is fame. Ex-United States Senator Nye so soon forgotten! Next some one will discover that Orange county was named in honor of the orangemen of Ireland.

THERE is on exhibition at a China store a natural curiosity in the shape of a Siamese-twins egg. It is two shellless eggs joined by a small tube. One of the sacs contains the yolk, and the other the white. Now how did that hen know Easter was coming when unusual efforts on her part would be appreciated?

A COUPLE gathered and ate mushrooms at Golden Gate Park, San Francisco, and in consequence journeyed near enough the stygian river to hear the splash of the ferryman's oars. The way to tell a "toadstool" from a mushroom, says an ancient authority, is to eat it. If you die, it's a toadstool; otherwise, a mushroom.

TALK ABOUT ENTERPRISING GIRLS, says the Placer Argus; Dutch Flat, Newcastle, Colfax or any other place in Placer county cannot surpass Auburn in that special feature of enterprise. Last week one of Auburn's most enterprising young ladies sent a telegram to a dude down the road: "Be sure and come to the theatre Monday; I have tickets." He came, he saw, he was conquered.

THE argument against crinoline most likely to appeal to the younger ladies, says the Santa Barbara Press, is that statistics are said to prove fewer marriages occurred during the last crinoline craze than when reasonable costumes were worn. The men apparently seemed to think the ladies had steeled themselves against matrimony.

ELLIOTT BEECHER rented a farm east of Stockton and placed in charge of the property a deaf man. Chickens have been stolen from the place from time to time since the deaf man has been guarding it, and recently the thieves again descended and carried away every chicken there was on the place. Next time Mr. Beecher should try a blind man. He can see well enough to shoot in the dark.

THE new county of Riverside has an area of 7013 square miles, of which 5929 square miles are desert and barren mountains. Its population is 13,745, and its assessed valuation for 1892 was \$12,549,514. There are in California 49 counties of less area, and seven only of greater; 31 counties with less population and 25 with greater; 29 counties that have a less valuation and 27 with greater valuation.

HON. BEN FOLSOM, uncle of Mrs. Grover Cleveland, has bought a Redlands orange orchard, paying therefor \$5500. Redlands welcomes Mr. Folsom to its ranks of residents and producers, and would very gladly extend similar courtesies to his distinguished relative, the President, if he can save enough out of his salary to buy a Redlands orange orchard for what it will be worth when he is out of a job four years hence.

A GHOST has been seen at Santa Rosa by a young man whose veracity is not to be questioned, which reminds us: One night a man going by a graveyard saw a ghost. Greatly alarmed, he struck at the apparition with his umbrella. The lightnings flashed, the thunders roared, the earth opened, awful figures appeared in the graveyard and the air, and all creation suddenly collapsed. When the man recovered three weeks afterward, he discovered his ghost was a white mule, which had simply kicked him.

"REMEMBER," says the Santa Rosa Republican, "that the apple, common fruit as it may be, can be made even as profitable as other fruits that everybody is raising."

The peach it has its hosts of friends,

The orange has great fame;

The apple has no friends at all, (not so many)

But it gets there just the same.

EVANS AND SONTAG were recently found again, this time near San Jose. One of the supposed outlaws was surrounded by a couple of deputy sheriffs, and—says a newspaper account—"while talking, the fellow kept his gun pointed at the deputies, but seemed so cool and collected that the deputies were fain to believe he was not the man wanted." It is surmised that the deputies were powerfully persuaded that it was a case of mistaken identity by the casual manner in which the supposed outlaw held his gun.

A YOUNG WOMAN at Stockton says she lost on the street the following articles of jewelry which she had deposited in her stocking—or, more correctly speaking, in one of her stockings: A blood-stone ring, a plain gold ring, a small-sized band gold ring, a diamond ring worth \$100, a gold ring with small blood-stone setting, a gold ring with diamond and ruby center, a flower pin with diamond center, a gold locket with diamond center, a small gold chain and a gold set with diamond centers. Still some inexperienced men wonder how ladies ever do get along without pockets.

THE following named stockholders of the Fortuna Cannery Company have been elected directors of the association for the ensuing year: J. W. Fell, W. J. Swartzel, M. P. Hansen, R. R. Smith, Wm. Evers, A. P. Campion, Wm. Dinsmore. The Robnerville Journal says the cannery has passed the experimental stage, and under the administration of these gentlemen—it is sure to be efficient—will be a success. A number of canneries are to be built in various parts of the State, and more are talked of. But they do not keep pace with the growth of fruit-planting and production. They should.

THE recent suggestion of the RURAL PRESS that apples are a neglected fruit, has been taken up and discussed by the State press. The Oroville Register says: "While growers are planting many varieties of fruit, we call their attention to the apple, the king of fruits, the most useful, the hardiest and most salable fruit that is grown. It is always in demand, can ever be sold at a good price and grows in this State to perfection. Plant apples if you want to coin money. Select the best summer varieties for very early shipments if you want to make \$100 in growing fruit where you now make one in raising wheat. Winter apples will pay well if good varieties are planted and proper care taken of the trees."

PROSPECTS about Tulare City are very promising for the season. A largely increased area is being irrigated and cultivated. Trade in the town is good. New and substantial business houses and residences are in course of construction.

HORTICULTURE.

Taxing Fruit Trees.

TO THE EDITOR:—In your issue of Feb. 11th, "Eureka" seems to think he has found good reasons why fruit-tree raisers should not "shirk" from paying taxes on their growing and unproductive trees or vines, to which I will offer the following:

It takes from six years and upward for a fruit tree or vine to commence paying expenses, provided it lives that long. In the meantime, the grain-raiser has had a fair chance for an annual crop as per past experience, or, if he loses a crop, he does not have to wait six or more years to know it will be a loss, as has been the result of many a tree planted. The expense of planting and gathering a grain crop is very small, comparatively, to that of purchasing trees, planting and working them for a series of years, and then, as is too often the case, finding them untrue to name, with varieties so mixed up that the grower finds he has very little good fruit for market. I cannot agree with him when he states: "Unproductive fruit trees certainly have a growing value which enhances with age, just as does a colt, a steer, etc." At any age, a steer can be sold and bring returns. A tree is actually worthless, even for firewood, owing to its smallness, till it produces fruit. Should it never produce, but go on for years till aged, as is the case with some fruit trees, wherein does its value consist except as an ornament?

As my case is not an isolated one, I will draw "Eureka's" attention to it. About 11 years since, I purchased a piece of property then assessed at \$900. At considerable expense I cleared it. As soon as cleared, after two years it was assessed at \$2700. I then planted fruit trees and vines and fenced and improved. The assessment was raised each year, till the present one is \$7800. I had planted 12 acres in fruit trees and 30 acres in vines. The orchard is from one year to nine years old. Many trees died from San Jose scale and other diseases year after year till there is but about one-third of the oldest trees left. The orchard did not pay the expenses of working it last year, and never has done so. Three years ago I commenced pulling up vines dead with phylloxera. Last winter I pulled up the last vine, also dead. From part of the vineyard I received one crop, enough to pay the expenses of working that season. From the balance I received two other crops that also paid expenses, but no profit. All the vines are dead, and many of the fruit trees planted, and I have had a hard fight to make the balance live, owing to pests. During the 11 years since I commenced clearing for planting and working the trees and vines, I have not received one cent of profit; yet, owing to the "improvements" I put on the place, I am assessed nearly nine times over and above the assessed value of the place when I first commenced. Now then, it will be hard work for "Eureka" to prove to me that there was any justice in my being taxed for "unproductive fruit trees that have a growing value," and it will be more difficult for him to induce me to plant fruit trees or vines to pay taxes on them. In place of taxes, a premium should be paid for each fruit tree brought into bearing.

When it is considered what "steals" there are from the amount of taxes raised, and the little good the producer gets in the way of good roads or anything of value to him, the wonder is that there is not some decided "shirking" from paying taxes.

I will also add by way of comparison ("which is odious"), for the benefit of "Eureka's" argument, that I have in the past ten years raised on the place and sold 38 "steers," 21 "colts," 11 calves, 10 cows and a lot of chickens, not one of which died with phylloxera or San Jose scale, and only one cow killed from falling down a bank, one colt died and one calf killed by a hunter, and have come to the conclusion that the growing value of a colt and steer is more than unproductive fruit trees and vines; and, as some of my neighbors state, they have realized a profit each year on grain and hay raised, I fail to see the justice of "Eureka's" argument. AMEN.

Glen Ellen, Feb. 28, 1893.

California Oranges for England.

Relative to the recent shipment of a carload of California oranges from Southern California to England, Mr. Edwin T. Earl, President of the Earl Fruit Company, says in an interview:

"The question of shipping California Navel oranges to the English market had been under consideration since November, 1891, and that after much correspondence with various firms at London, Liverpool and other points, arrangements had been recently completed to make a few trial shipments. The first carload of California Washington Navel oranges for the English market was shipped a few days ago from the Azusa district, in one of the patent ventilator-refrigerator cars of the California Fruit Express Company. The car will go through to Chicago, via Santa Fe route, in about six days, and from Chicago it will go over the Chicago and Erie road to New York. It is expected that the car will make the run to New York in about eight days, and will make close connection with one of the fast Atlantic steamers, which will land the oranges in Liverpool about 15 days from date of shipment.

"It is estimated that the total cost of picking, packing, boxes, freight and all other charges of putting the fruit on the Liverpool market will not exceed \$2.50 per box, and it may be less. Some of the oranges will be re-shipped from Liverpool to London.

"A member of the firm to which the car is consigned at Liverpool was in Los Angeles recently, and pronounced the California Washington Navel orange far superior to any orange received from Sicily or Spain, and said the only orange that compared with it was the Jaffa, which was shipped from Alexandria, Egypt. The English markets prefer large-sized oranges, and in this respect the Califor-

nia Washington Navel is just what is wanted, as they are of large sizes and are not as desirable for American markets as small sizes.

"It is not expected that the first shipment will realize prices that are entirely satisfactory to the growers or the Earl Fruit Company, but it is hoped that after the fruit is introduced it will command such prices as will justify regular shipments. Another car is now being gotten ready, and will consist of oranges from the Riverside, Redlands and Colton districts."

A Fruit Farm in Merced County.

Ora McHenry has commenced improvements on his vineyard and orchard at the Bald Eagle Ranch that will cost him \$10,000 before completion. The improvements will include a substantial two-story packing house, 50x175 feet (for which A. Calderwood has the contract), and expensive machinery for heating and drying purposes and for pumping, consisting of two 60-horse-power boilers, one 100-horse-power compound engine and two centrifugal pumps with a capacity of 120,000 gallons per hour. Mr. McHenry estimates that with these latter facilities he will be enabled to irrigate his orchard at a cost not to exceed \$2 per acre per year. The packing-house facilities will be ample for the owner's accommodation and for the accommodation of surrounding orchardists and viticulturists.

A FINE PROPERTY.

Mr. McHenry's orchard and vineyard will be three years old this summer. It was not set out until after due consideration, the owner in the meantime traversing the State, viewing orchards and vineyards in different sections and conversing with their proprietors. Becoming convinced that the enterprise would pay and that his land was adapted to the purpose, he entered into the project with enthusiasm and has since expended \$15,000 on the vineyard alone. Orchard and vineyard are given intelligent attention and their appearance is as encouraging as anyone could wish. Not only has he thus engaged extensively in the horticultural and viticultural industries himself, but he has encouraged his neighbors and friends to do likewise, furnishing them with nursery stock and giving them the benefit of his experience.

The extent to which Mr. McHenry has interested himself in this enterprise is best shown by the following figures:

	NO. TREES.	NO. ACRES.
French Prunes.....	10,500	84
Tragedy Prunes.....	1,600	13
French Apricots.....	1,750	20½
White Adriatic Fig.....	1,800	38
Muscad Grape Vine.....	72,000	160
Tokay Grape Vines.....	5,800	38

An avenue lined with walnut trees traverses this land.

In addition to orchard and vineyard, Mr. McHenry farms about 4000 acres of land, and his pay roll on the place is now \$1000 a month.—Modesto Herald.

Cut-Worms and Fruit Trees.

Perhaps of all the fruit-tree pests the most exasperating is the cut-worm. He works at night while we are asleep, and if our spring is a cool one, with more or less cloudy days, he is particularly destructive. Not only to many fruit trees (peach he seldom troubles) but also to all garden truck. I have never seen a spring yet in California that cut-worms did not show up more or less. The prune tree is one of his special favorites and unless we guard against his ravages in our young orchards the destruction he will produce will cause us to lose our trees. He lives in the ground and crawls up the body of the tree and eats the leaves during the night. If a tree is not very vigorous in sending out leaves, and there should be two or three, or sometimes a dozen of these voracious worms, located in the ground about its root, they will denude that tree of its foliage as fast as it grows and keep it clean of leaves, thus permitting the sun to burn its bark, and the tree will die. If you want to detect his presence, notice the leaves of your young trees, and if they present a ragged appearance as if something had been eating them you must scratch the ground over under the branches of the tree and generally you will find him, a green-grayish slow-moving worm built on the order of the caterpillar, only he has no fuzz or hair on his hide. You can't mistake him. When you have found him, kill him. There are several remedies for this pest and nuisance. I have found it good to get up very early in the morning and with a small quantity of coal oil in any kind of an open can go from tree to tree and hunt him, and when caught drop him in the coal oil. Another good remedy is to take a circular piece of smooth cardboard and make a split in it up to its center and then put that about the trunk of your tree, lapping the split side and fastening it in some way. This stands at right angles to the body of the tree and Mr. Cut-worm cannot walk on the ceiling like a fly. I have also seen the bodies of trees wrapped with paper and it smeared with printer's ink. If properly done this is a good remedy too. Doubtless there are other good remedies, but one thing is quite certain, any orchardist who has planted young trees should keep a careful lookout for them, and as soon as it is noticed that they are with him he should go to work at once to destroy the worm. We seldom have over one crop a year of them. —C. J. Berry in Tulare Times.

Way to Cure Figs.

C. H. Leggett is one of the best fruit-men in the northern part of the State and makes a careful study of any fruit he handles, says the Oroville Register. For the past few years he has been experimenting with the white Adriatic fig and his results show that this fig, like the common black, must be permitted to drop from the tree, that the tree must not be irrigated and the cured figs must not be sulphured. When dipped in scalding water, after being

thoroughly dried, he is confident that they will keep for a year without any danger of becoming wormy. Cutting or picking figs makes them cost too much to be profitable, irrigation makes them sour and sulphuring destroys the fine flavor of this delicious fruit.

THE FIELD.

Geomys Bursarius.

TO THE EDITOR:—During the past few months you have given the pouched gopher—*Geomys Bursarius*—considerable attention; but I think he deserves a little more, and then there will probably be found time and opportunity to mow alfalfa or harvest carrots, potatoes, etc. I have had an extensive acquaintance with the pretty little fellows; have followed their runways eight or ten inches under the ground surface at times several rods, by carefully spading out the dirt, to find the dive hole, then down two or three feet, then to one side a foot or so on an upward incline to find the main living room—their home. They tame very easily, and can be handled the same as the kitten. An aquarium, half full of dirt instead of water, is a nice receptacle, and it is as interesting to watch their work and study their habits as any line of natural history I know of. They first loosen the proper amount of soil, then turn around and breast it to the surface, holding the forearms steady, so as to secure the sides of the load. When there happens to be a surplus of grass leaves or other food below, they fill the pouches in the cheeks, that somewhat resemble the double part of a dog's ear, come to the surface and flip this pocket inside out as quickly as a gust of wind sometimes dishes an umbrella up to the rain. All this is very funny, and also teaches their habits, so that they may be surely and quite easily caught. The proper time for that is when the ground is in good working order—neither too dry nor too wet—generally March, April and May. They seem careless then, and push big loads, regardless of surroundings. One gopher will make a dozen or more mounds in a night, indicating, to the novice, a bevy of animals, but, as a rule, only a few occupy an acre of ground, and can soon be taken with good traps. *Trapus Woodii* is a cage, and the best machine for the purpose ever made, as it could not be sprung until G. B. was inside where he never could get out alone, but they are not on the market any more. The next best, though there is some danger of pinching and thus educating the little smarty so he never more will get too near any metal, is the Newhouse jaw-trap. Dig carefully down to the horizontal runway and place the machine on a level so that the animal will not have to climb to get on to it; take a little pains to do a nice job, then cover with shakes or shingles, place grass over any small apertures, and finally put on dirt until all light is shut out. Do not use an hour or so going out to set one trap, but take a dozen or more and make a business of it. Go twice or three times a day, and it will take but a few days to stop the mounds being formed on any 20-acre lot. When an animal is caught, do not set the trap in that place again or very near until fresh mounds appear. As a rule, only one gopher inhabits a home; they are not gregarious. R. E. W.

Fruitful Washington.

The State Board of Horticulture has printed its first biennial report. It contains much valuable information to the horticulturists. Among other things the report gives the average yield per acre of various fruits and vegetables in that State, which is as follows:

Apples—A tree 20 to 30 years old may be expected to yield from 25 to 40 bushels every alternate year.
 Artichokes—200 to 300 bushels.
 Beans, green or snap—75 to 120 bushels.
 Beans, Lima—75 to 100 bushels of dry beans.
 Beets—400 to 700 bushels.
 Carrots—400 to 700 bushels.
 Cranberries—100 to 300 bushels; 900 bushels have been reported.
 Cucumbers—About 150,000 fruits per acre.
 Currants—100 bushels and over.
 Gooseberries—100 bushels and over.
 Grapes—3 to 5 tons; good raisin vineyards in California, 15 years old, will produce from 10 to 12 tons.
 Horseradish—3 to 5 tons.
 Kohlrabi—500 to 1000 bushels.
 Onions, from seed—300 to 800 bushels; 600 bushels is a large average yield.
 Parsnips—500 to 800 bushels.
 Peas, green, in pod—100 to 150 bushels.
 Peaches—In full bearing a peach tree should produce from 5 to 10 bushels.
 Pears—A tree 20 to 25 years old should give from 25 to 45 bushels.
 Peppers—30,000 to 50,000 fruits.
 Plums—5 to 8 bushels may be considered an average crop for an average tree.
 Potatoes—100 to 300 bushels.
 Quinces—200 to 400 bushels.
 Raspberries and blackberries—5000 to 10,000 pounds.
 Salsify—200 to 300 bushels.
 Spinach—200 barrels.
 Strawberries—75 to 250, or even 300 bushels.
 Tomatoes—8 to 16 tons.
 Turnips—600 to 1000 bushels.

How to Make Farming Pay.

A farmer's wife says: "The cows and the hens paid for the farm. They marched up with their butter and eggs each year and ate up the notes as they fell due."

In selling the farm products, the question of how they can be best sold, and a part of their value retained to the farm, should be considered. If a dollar's worth of grain

can be converted into a dollar's worth of pork, or hay and grain into butter of the same value, it is better to sell it in the latter forms, because fat takes away but little from the farm. The value of manure left behind is considerable; but when hay or grain is sold, manure must be bought, or the farm is worth less money by nearly the amount they sell for. It is only selling the farm at retail.

In such weather as we have had this month, it is very pleasant to do the farming by the side of the stove; and a certain amount of such farming is profitable also. Read the agricultural papers and agricultural reports. Study them. Think about them. Talk with other farmers about the suggestions and facts found in them. Try to form definite ideas of what should be done and what should be avoided in the coming season, and the days so spent may prove the most profitable days of the year. A good paper gives the best ideas of many of the best-informed farmers, and it is an old saying that "many men know more than one man." Attending the meetings of the Grange or Farmers' Club is only another method of reaching the same end.—Marysville Democrat.

The Marketing of Potatoes.

Mr. J. A. Shea, representative of a Minneapolis produce firm, in California on business, has the following interview with a Stockton Mail reporter:

"I want from 50 to 100 carloads of onions from California as soon as they come in, and from 300 to 500 carloads of potatoes. If I can't get contracts in this county I'll go where I can, and other Eastern dealers will do the same. So when the time for disposing of their potatoes and onions comes, your farmers will have to sell to the San Francisco jobbers, who will fix the price low enough to make a good commission in selling to us in case we run short." Mr. Shea, in answer to questions, said he thought the farmers ought to effect some sort of an organization for the purpose of shipping directly to the Eastern wholesale produce dealers, and making the necessary contracts. It might be done through the Grange, he thought. Such an arrangement would be advantageous in more ways than one. For instance, the wholesaler could tell the growers what class of produce would be most in demand in their regions for shipment to him. In making his calculations he takes the products of every region of the United States into account; the quality and quantity of the crops, the time of their maturity, and the freight rates. From one place he gets one class of produce, from another, another class, and so on. Asked if he had succeeded in making contracts with the farmers, Mr. Shea said: "The farmers won't contract. I suppose maybe they've been bit some time and are wary. But they are apt to overreach themselves by their own caution. They are apt to hang on too long and sell for almost nothing; whereas, if they would contract with Eastern wholesalers, they would get fair prices. You see, the farmer cannot know what we know. Our information enables us to buy and sell in the nick of time, and hence we can afford to pay good prices and at the same time make money."

It is possible that the California farmers do not know as much as Mr. Shea about the condition of markets and the most advantageous methods of selling their products; but nevertheless they know a thing or two. The fruitmen, for instance, know enough to take the marketing of fruit in their own hands. The producer of garden and other truck may some time profit by their examples.

THE APIARY.

Better Methods for the Sale of Honey.

Read before the California Beekeepers' Association, Los Angeles, by JOHN H. MARTIN.

In this Columbian year we hear much about the development and progress of our nation, and whoever visits Chicago during the next few months will probably realize as never before the wonderful triumphs in all departments of human industry.

We are assembled in the interests of honey production, and we find that our industry has developed the honey bee out of the straw skep and "log gum" of our grandfathers' days into the fine hives, examples of which are on exhibition here to-day, and employing in their manipulation many ingenious fixtures and scientific points. But while development has been going on in the productive and the mechanical line, there has been little progress made in the development of methods of presenting our product to the public. The first 400 pounds of honey produced in California sold for \$1.50 to \$2.00 per pound. That of course was considered highly remunerative, and probably even at that price there was not near enough to go around. But it was only a few years before the remarkable increase of bees and their product put California at the head of all honey-producing States, and the large shipments found their way into the various commission houses on this coast and in the East; and the same method is pursued to-day, without improvement, except to the benefit of the dealer, and as a detriment to the producer. The commission business has been reduced to such a science that it makes no difference whether the yield of the country at large is a full crop or only a small portion of a crop, the quotations in New York and Chicago have a remarkable habit of remaining at about the same figures.

After our honey is massed in large quantities in a few trade centers, the distribution proceeds. At some point between the commission house and the consumer the honey is taken from the 60-pound cans and put into receptacles of various sizes and shapes, and goes into the retail markets. Mr. Muth of Cincinnati uses the well-known one and two-pound bottles. Other dealers use fruit jars, or in some cases a special glass jar is made. I find from observation in Eastern cities that California honey is hardly ever found in towns of less than 5000 population

and but sparingly in cities much larger, and in many of these smaller towns even Eastern honey is almost unknown. It is in many of these towns that comb honey is sold for from 25 to 35 cents per pound and liquid honey for 15 and 20 cents. Still there are thousands of people who never see honey in any shape. It has often been said that honey at 25 cents per pound is too much of a luxury for the laboring classes and the rich men are the only ones to purchase it. But I find that the great consumers of honey, at whatever reasonable price, are the great laboring classes, and those who will pay a fancy price are the ones to haggle over the weight of the thin piece of wood that is sold with the comb honey. I think it is safe to say that an even distribution of honey over our country, and the distribution of pure honey only, while not necessarily advancing the price to an exorbitant figure, would advance it to a far better price than we are now getting, and like the first 400 pounds produced in California, there would not be enough to go around. Distribution of California products, however, is not confined merely to sweets; and though, for a time, honey held its own with the shipments of the fruits of the vine and the tree, the latter have made such enormous progress as to leave the honey industry far in the rear. The same problem of distribution and sale at remunerative prices confronts the fruit-grower, and more intensely, from the fact that the product is increasing rapidly every year, and when shipped direct from the tree or vine it is of a perishable nature. The distribution, like that of honey, has been largely through commission houses, either direct or through auction sales. The results, too, are not wholly satisfactory and new methods are sought after. Let us turn our attention briefly to these new plans, for along these lines fruit and honey have a common interest, and the plan that is a benefit to the fruit-grower will also benefit the honey producer.

The first radical change is outlined by Mr. Lubin, of Sacramento. This plan allows any organization to hire a manager to go to New York, or any large Eastern city, and employ a number of vendors to sell the fruit, in such a manner as to advertise the section of country from which the fruit is shipped, and thus create a demand for that particular fruit. This plan has a weak point in the opposition it would create from commission men, and there might be a rivalry that would defeat the good end sought for. Another plan, and an improvement, I think, has been advanced by Mr. Mills. This plan is to send carload lots of fruit to points that are not likely to be supplied, and sell to grocers as much as the town will bear, and then pass on to the next town. I would suggest a still further improvement upon the above plans by combining interests and sending carload lots of fruit, nuts and honey, and thus reverse the old-time order of things; and instead of working from the center out, and competing with the commission men, work from the circumference toward the center, and thus between the commission houses and this plan the whole country would be covered. The more of our products we could sell to outlying towns, would so far relieve the pressure upon the great centers of distribution that better prices would be sure to follow. The successful issue of this plan, when applied to the distribution of honey, would necessitate a radical change in the style of package, especially for extracted honey. While the 60-pound can is the standard package for wholesale shipments, smaller packages of 10 and 5 pounds, and even smaller, would have to be used.

In this matter of distribution in small packages, we have a very good example in the way maple syrup is put upon the market; and in small packages for honey I find this State is remarkably free from them. I think if we had more honey in some style of a standard small package and its sale properly pushed, the result would be the creation of a larger home demand for our product.

The small package, in connection with the larger wholesale package, would give our product a wider application, in trade and would enable the producer to sell his honey direct to the consumer under his own label as trade-mark. If beekeepers themselves would put their honey upon the market this way instead of allowing the adulterator to repackage it for him, there would be less dissatisfaction with the honey markets.

The first movement then toward the development of a new and better method of distribution and sale is a thorough organization of honey-producers. In this matter of organization, our industry is away behind the times. Our fruit industry is thoroughly organized in all its departments, and, I think, in every case with beneficial results, with the various named associations for canning, preserving, packing and shipping the various fruits. It would sound very progressive to hear the name of a Honey-Producers' Grading and Packing Association; but on the part of beekeepers our State organization is only one year of age, and we have but very few county or local associations. To Inyo county we must give the honor of having a live association and the first to affiliate with us and send a representative. If such a live condition of bee-culture existed all over the State the beekeepers would have more influence for the extension of the business than they have heretofore possessed.

In studying the fruit and bee-keeping industries of California, and comparing their past history, present condition and future prospects, I believe that the beekeeper has fewer external obstacles to contend with than the fruit-grower. Fruit production is enormously on the increase, and a greater amount is thrown upon the market every year. Honey production, on the other hand, fluctuates, and, if the production has not already attained its highest point, it will do so in the near future unless a cultivated honey plant comes to the front. The sterile mountains do not yield honey in amount to the fertile valleys, and the rank growth of honey plants in the valleys, where our tons of honey have been distilled, is being rolled under by the plow of the homeseeker, and the beekeeper is compelled to fold his tent and depart.

At this stage of bee-keeping, it is a time to give the problem of distribution more attention. Let us heed the signs of the times and be up and doing.

POULTRY YARD.

Poultry on a Large Scale.

Writing to the St. Helena Star, Mr. Charles Blom makes the following suggestions: I notice quite a number of people in the vicinity of St. Helena have embarked in the poultry business. While I have great faith in the business and believe that there is no farm produce that will give better or quicker returns for the amount of money invested than chickens, yet in order that a person make a success of it on a large scale it is necessary that he should have experience or failure will be the result. To those that have been in the habit of raising annually 100 fowls and had good results from them, this may seem an absurd statement, but it is a fact nevertheless.

I have visited some of the largest poultry ranches near Petaluma, which is conceded to be the poultry center of the Pacific Coast. It may interest some of your readers to know something about their methods. Flocks of 1000 are quite common. One place that I visited, owned by Mr. Nisson, nine miles from Petaluma, had in the neighborhood of 2000 fowls. He had an incubator, as also have others, of 2000 eggs capacity. Eggs seem to be the main dependence. The broiler business being a trifle uncertain, some seasons they make money on them, some they lose. Last season was a bad one in this respect. When I was over there a month ago they told me there was a little fortune in broilers, but very few had them. Probably a good deal of the success of the Petaluma poultryman is owing to his dealing directly with the consumer. Of course, great care is needed to keep such a trade, as but one stale egg is necessary to spoil a reputation. The Leghorns, white, black and brown, seem to be the only kind kept; of course, there are other breeds, but so few in comparison to the Leghorns that they hardly cut any figure at all. There is no good reason why St. Helena should not be a poultry center; she is not as well situated as some parts, as far as transportation is concerned, but she has a climate that more than compensates for this drawback.

Had I the land and means I should not hesitate a moment in entering the business here for market purposes.

Don't think the poultry business is an insignificant one, for it is not. Petaluma alone shipped to San Francisco last season one million dollars' worth of poultry and eggs. This sum was not paid at the end of the season either, but was paid the producer as soon as his poultry and eggs were received, thus enabling him to do business on a cash basis.

Poultry Notes.

The usual number of hens allowed to one gobbler is from 15 to 25, so that there should be five gobblers with 100 hen turkeys.

Diarrhœa may be stopped by mixing a little chalk with their soft food. Put a half-teaspoonful of tincture of iron in two quarts of their drinking water. Acting sleepy is an indication that either they or their roosts are lousy.

Coal ashes are good both for a dust supply and to furnish grit, but wood ashes, owing to the potash or lye contained in them, will bleach and roughen feet, skin and plumage, and should not be put into the chicken yard.

We see no reason why young turkey gobblers could not be profitably turned into capons, though we know of no breeder who has tried it. The chance of loss and increase in size would be about the same as with chickens similarly treated.

The poultry business cannot be made anywhere to net \$1.50 to \$2 per hen yearly, season after season, unless the manager is exceptionally well-qualified to make it profitable. An average of \$1 per hen yearly, however, with good management, is not too much to expect.

The pin-feather age, i. e., when they are about four weeks old, is the critical period in the growth of any chickens, bantams included. They need the utmost care then to tide them over the dangerous time. Generally they are not warm enough at night. Bantams can scarcely be given too warm quarters nor reared too carefully, as they are naturally more delicate and tender than larger fowls. But those who once acquire the knack of raising them are usually successful in getting a good per cent at maturity.

Scaly leg is caused by a minute parasite burrowing beneath the scales, and the way to cure the disease is to kill the parasite. This may be accomplished without much trouble by first washing feet and shanks in warm soap-suds so as to soften the scales; wipe dry and then apply with a stiff brush either strong carbolic salve or kerosene oil. The latter is most effective but has a bleaching tendency which might be objectionable in treating yellow-legged fowls.

—Fanciers' Monthly.

Working in the Manure Heap.

If the hens can have access to the manure heap, we know of nothing that will be of greater advantage to them. They secure many morsels of food that would be otherwise of no value, and they take exercise in scratching. The real secret of egg-laying in winter, as we have stated frequently, is the exercise, and for this purpose the manure heap answers admirably. It must not be overlooked, also, that the hens will perform good service in assisting to make the manure finer. The best way to prepare manure for a garden is to turn the hens on the heap.

For Weak Appetites.

A Washington lady writes the Puget Sound Poultry-Keeper that hop tea is one of the best remedies known for fowls that are weak and without appetite. Make the decoction quite strong and pour some of it down them three or four times a day; also soak some bread in the tea and leave where they can get at it. She says: "I have never lost a fowl under this treatment."

SHEEP AND WOOL.

The Development of the Wool Industry.

An essay by HON. THOMAS MCCONNELL at the Sacramento Farmers' Institute.

To trace the growth and development of the sheep industry, including wool-growing and manufacturing it into cloth, from the time Abel, the son of Adam, had a flock of sheep which is supposed to have grazed near the Garden of Eden, up to the present time, would be to give a history of civilization itself—and out of place at a Farmers' Institute.

It is recorded that when Abraham was about to offer up his son Isaac as a sacrifice, a lamb was substituted, thus proving that the innocent lamb was a satisfactory substitute for human sacrifices at that early history of man's development.

That the harmless sheep has been an important factor in feeding and clothing mankind ever since, no one will deny. The sheep is now of more value to mankind than any other domestic animal, contributing more to feeding and clothing man than all others.

The sheep of Spain were introduced into the New World by Columbus on his second voyage, in 1493. They were landed at Hispanola and Cuba, from whence they were taken by Cortez to Mexico, and by Pizarro to Peru, early in the 15th century.

From these early importations the New Mexico and Chumashino sheep of the present day have descended, and, judging from their appearance, they could not have improved much in the hands and under the management of those who had them in charge.

The history of sheep-development in the United States, so far as it interests this institute, commences about the beginning of the present century. Spain had long been famous for its fine-wooled sheep. From whence they came is uncertain; it is thought they reached Spain before the Christian era. It is certain they were treated with royal favor. By royal decree it was forbidden to export fine Merino sheep to foreign countries.

During the wars of Napoleon in Spain, in the beginning of this century, many of the best sheep of Spain were imported to America. Col. Humphreys and Consul Janis were among the first importers, beginning in 1802 and continuing until 1810. Robert R. Livingston, our Minister to France, also sent home some of these sheep about this time.

The first flock of Merinos that became celebrated for purity of blood and fineness of fleece was that of Stephen Atwood of Connecticut and were from the importation of Col. David Humphreys in 1802. They were known for a long time among sheep-men as the "Atwood Merinos." They were from the Infantedo flock of Spain. From this flock and the Paular, or as they were long known as the Ritch sheep, have descended the celebrated flocks of Addison county, Vermont.

These sheep have been greatly improved since their introduction into the United States. They now shear more than double the fleece they yielded when first brought here. This has been accomplished by intelligent and systematic breeding. No set of men ever wrought a greater change for the better than the breeders of Addison county, Vermont, among whom may be mentioned Edwin Hammond, W. R. Sawfuld, Jesse Harris, Merrill Bingham, Victor Wright, J. T. Ritch, Col. Stowell and many others. The sheep bred by these men are and should be called the "American Merino." They are undoubtedly the best wool-producing animals in the world, giving more wool and mutton from a given amount of feed than any other breed of sheep. The American Merino justly has a world-wide reputation among wool-growers wherever sheep are raised.

T. C. McConnell, a brother of mine, and myself introduced seven head of these sheep from Addison county, Vermont, in 1856. They were from the flocks of Jesse Harris and Edwin Hammond, and of the Infantedo family of Merinos. The freight by steamer and Panama railroad alone was \$85 per head, which made the cost of the sheep in Sacramento about \$200 per head. This was the first importation of the American Merino upon the Pacific Coast. They were landed in San Francisco on August 27th, 1856. This being the first shipment of sheep to California, the steamship company would not issue through bills of lading. On their arrival at Aspinwall, the Panama railroad officials wanted to charge for taking them over to Panama \$450. After much trouble, I made an appeal to Col. Totten, chief engineer and superintendent of the company, who ordered the sheep taken over for \$75, thus preventing the thieves from robbing us.

This shipment of sheep to California, and others that soon followed, wrought wonders in improving the coarse wool sheep of New Mexico and those that had been driven across the plains from the Western States. A new industry was established that has proven very successful. Wool-growing has succeeded in California beyond all expectations. It has had periods of depression, but on the whole has proven satisfactory, and I still think it has a future.

What are the obstacles? may be asked by those not engaged in the business. I reply, scab, coyotes and sheep-killing dogs, all of which can be, and should be, exterminated.

We do not raise wool enough in the United States for our own consumption, by 150,000,000 pounds. This amount must be made up by foreign importations. Every farmer should keep a small band of sheep. The sheep is a gleaner, and, if properly handled, would do much to keep the grain fields from becoming foul, and would furnish the family cheap, juicy meat at a trifling cost.

Statistics are dull but important. The wool product of the world is estimated at 2,400,000,000 pounds. The United States produces 300,000,000 pounds, or we produce about one-eighth of the whole. Australia produces 500,000,000 pounds. South America exported last year 300,

000,000 pounds, and Cape Colony and Natal about the same amount.

According to Government statistics we have over 1,000,000 men engaged in sheep-husbandry in the United States. California produces about 30,000,000 pounds of wool and has 4,500,000 sheep.

In 1840 there were east of the Mississippi 18,807,779 sheep, and west of it 503,595; a total of 19,311,374 sheep.

In 1840 there were produced east of the Mississippi 35,102,584 pounds of wool, and west of it 699,560; a total of 35,802,144 pounds.

In 1890 there were east of the Mississippi 16,988,441 sheep, and west of it 27,347,631; a total of 44,336,072 sheep.

In 1890 there were produced east of the Mississippi 85,605,617 pounds of wool, and west of it 190,394,383; a total of 276,000,000 pounds.

Comparing the number of pounds of wool produced from the sheep in 1840 with the amount produced in 1890, it will be seen that the same number of sheep produced more than double the pounds of wool in 1890 that they did in 1840. This great improvement has all been made by individual enterprise. No one knows what might be accomplished if the National Government would establish breeding farms for the improvement of live stock.

The National Government spends annually hundreds of thousands of dollars for the propagation of foreign plants and seeds, most of which are merely ornamental. This Farmers' Institute ought to petition the United States Government to establish at least three breeding farms, one of which should be upon the Pacific Coast. Where patient investigation could be carried on and the results given to the people, I have no doubt the national welfare would be greatly promoted thereby.

We have an example of what a breeding farm has accomplished in 100 years, in the now celebrated Rambouillet breeding farm established by Louis XVI, in 1786. He obtained a flock of pure Merinos from the King of Spain, selected from the best that could be had. The rams weighed from 110 to 120 pounds, and they sheared a little over eight pounds of wool per head. The ewes weighed from 75 to 90 pounds, and sheared about seven pounds. The rams now weigh from 200 to 250 pounds, and shear from 16 to 30 pounds of wool. The ewes now weigh from 120 to 150 pounds, and shear from 10 to 16 pounds.

This result has all been brought about by intelligent and painstaking work. The reputation of this flock is justly world-wide.

FLORIST AND GARDENER.

Floriculture in California.

An essay by MISS ANNA MCCONNELL at Sacramento Farmers' Institute.

In the beginning, I must tell you that my knowledge of floriculture is quite limited and principally obtained from a few years of gardening "after my own fashion;" but in that short experience I have discovered many of the pleasures and some of the ways of growing flowers. I can only give an intimation of the possibilities and difficulties attending floriculture, which is not only an art but a science, requiring years of study and experience to perfect.

Along with everything else of the 19th century, flowers are enjoying a period of development. The results of artificial hybridizing, budding, grafting and superior cultivation are exceedingly interesting. Each year new varieties of most flowers are offered in commerce, and in some the improvement is very marked.

Inferior flowers have been made to attain great beauty and variation, especially the chrysanthemum, whose rapid development from a coarse flower of one or two colors to its present great beauty, both of coloring and form, is wonderful.

All plants grown in the garden without protection are susceptible to the changes of temperature—to storm and wind—and their flowers will always fluctuate in degrees of perfection; some seasons being more propitious than others. The growth of flowers in hot-houses and glass-houses can be more accurately accomplished, as unfavorable conditions of atmosphere may be obviated.

In California, where the climate is so favorable alike for man and beast and the flowers of the field, we cannot realize the difficulties attending floriculture in more severe climates. In the eastern portion of the United States the flower gardens are made late in spring and nearly all flower-bearing plants must be "lifted" early in autumn and stored in cellars, or perish. This extra labor greatly reduces the number of beautiful flower gardens, and flowers are thus rendered, in the Eastern cities, an expensive luxury.

In the care of plants, neglect and want of knowledge are soon made apparent by the results. There are a few all-important things to observe to produce beautiful, richly-colored flowers and vigorous plants: First—The plants must be of good quality; next, they must have good, rich earth to feed upon, with a generous portion of sunshine, air and water, and kept free from all pests and disease.

There are very few plants that will thrive in poor soil, and there are very few soils which do not require fertilizing every year. The soil about plants should be kept loose and light, and to render it so a portion of sand or sediment from river beds is excellent, also thoroughly decayed straw.

Plants should not be crowded; they require fresh, pure air as much as sunshine, and if confined in a close room, not properly ventilated, will soon die.

It is a mistake to have more plants or a larger flower garden than can be properly cared for. Weak, struggling plants are no ornament, but a continual source of irritation. We love the thrifty and vigorous, and catch from healthy, growing plants an impetus to live and do. Any plant which does not compensate for the care given it should be discarded and replaced with something better. We should practice, without the least reserve, in the growing of flowers, Darwin's theory, "the survival of the fittest."

In ordering new plants, beginners may quite "lose their heads" over a fascinating catalogue, but one should not for-

get that the ordering is only the preliminary step, and each additional plant claims care and attention.

Strong wind is very injurious to plants, especially in spring, when tender foliage and buds are out. The entire crop of spring roses may be destroyed by one severe wind. When possible, a protection should be supplied. An evergreen hedge or trees, sufficient to break the force of the wind, will greatly insure the safety of the flower garden. Very hot sunshine is also detrimental to nearly all flowering plants. Some are entirely destroyed by it, as sweet peas, pansies, asters, gladiolus and other flowers which bloom in midsummer. If shade can be supplied during a few hours of the afternoon, either by planting in the shade of other plants or trees or by artificial means, it is desirable.

Transplanting should be done when the plants are in a dormant condition, when the day is cloudy and the earth not too cold—never when the wind blows, as it is very dangerous to exposed roots. After transplanting, the plant should be cut back, in proportion to the amount of root destroyed. Trimming should also be done when the plant is dormant, before the new growth of spring begins. All trees, plants and hedges should be properly trimmed when small, and given a symmetrical shape, with the main branch straight and in the center of the plant. It is too late to give a tree a fine symmetrical form after it has grown to maturity. You know, "as the twig is bent, so the tree is inclined."

In the arrangement of the flower garden, much skill and taste may be exercised, and usually one's individuality is more or less betrayed. To some extent, Nature should be allowed her way, and artificial methods so cautiously introduced as not to be too apparent. Set designs of inartistic flower beds, and too many "pairs of things," like inventions, should be avoided. While the idea of proportion and similarity should not be forgotten, a graceful irregularity thrown about it all is most effective—here and there some unique surprise, some pretty unexpected nook, some gay, imposing group of flowers.

Tall-growing plants and trees should not be grown close to the house. They confine the air and prevent thorough circulation and also obstruct the outlook. Slow-growing and low plants are in better taste near the house. About the boundary of the garden plant trees and tall plants, which serve both as protection from sun and wind and give to home an agreeable exclusiveness. In making flower beds, the center of the bed should be highest, with a gradual slope to the edges. This gives drainage and shows the plants to better advantage.

The tallest and largest plants should be in the center of the bed and others graduated according to size to the edges, where border plants belong. Generally plants of one kind look best together—a bed of roses surrounded with border of violes; another of dahlias with a border of sweet allyssum; chrysanthemums, too, are best and most easily cared for when by themselves.

Ornamental and evergreen plants make the garden showy and effective from a distance, and when but little time and water can be given they are the most desirable. Small and delicate flowering plants require constant care and much irrigation, but they in return give most beauty and pleasure.

Most flowering plants are either annuals or perennials. Annuals are grown from seed and develop and bear their flowers in from two to four months. They develop large quantities of seed, which scatter about the garden to grow another year. Annuals are very interesting to grow, but require much labor; the best varieties are sweet peas, cosmos, poppies and marigolds.

Perennials live from year to year, but many of them require resetting from the sprouts or roots. They are more hardy and few of them are injured in our climate by frosts. Among the best perennials are chrysanthemums, carnations, pansies, dianthus, geraniums and violets. The rose is the most admired of all flowers; following very closely for popular favor are the chrysanthemum, carnation, violet, pansy and sweet pea. Some of the rarest and most difficult flowers to grow are orchids, tuberous-rooted begonias and gloxinias, all of which require hot or green-houses.

CHRYSANTHEMUM GROWING.

I will give my method of growing chrysanthemums, with which flower I have had more experience and better success than with others:

Chrysanthemums must be reset from roots or sprouts each year. If this is not done the plant rapidly degenerates to small and inferior blooms. The proper time for resetting is March, April or May. One root is quite sufficient, and, if properly cared for, will develop into a large plant in November. Chrysanthemums should be planted in beds exclusively devoted to them and about two feet apart each way. The bed should be well prepared, enriched and thoroughly cultivated.

Immediately after resetting the root it should be well watered and kept growing vigorously until it has attained a healthy, strong appearance. During July and August it should not be forced but kept fresh, never allowing the leaves to wither for want of water. As soon as the buds appear in September, feed the plant well. A mulching of straw as it comes from the stable may now be put upon the chrysanthemum bed. It is of great benefit, not only protecting the roots from excessive heat and retaining the moisture about them, but supplying them with nourishment, which is very necessary at this time. As soon as the buds appear the plants must be thoroughly disbudded; not to exceed three buds should be left on one stalk, and those the terminal ones. All under buds should be withdrawn as soon as possible. The newer and larger varieties of chrysanthemums do not bear such a multitude of buds as the small and common sorts. From 10 to 15 blooms are as many as should be allowed to develop where fine specimens are desired. When color effects for the garden are desired the disbudding may be dispensed with, but for cut flowers the disbudding makes a wonderful improvement. For the largest possible bloom only one stalk and one flower are allowed to develop.

Continued on page 216.

THE HOME CIRCLE.

An Old Man's Dream.

Oh, for one hour of youthful joy!
Give back my twentieth spring!
I'd rather laugh a bright-haired boy
Than reign a gray-haired king!

Off with the wrinkled spoils of age!
Away with learning's crown!
Tear out life's wisdom-written page
And dash its trophies down!

One moment let my life-blood stream
From boyhood's fount of flame!
Give me one giddy, reeling dream
Of life all love and fame!

My listening angel heard the prayer
And, calmly smiling, said:
"If I but touch thy silvered hair,
Thy hasty wish had sped."

"But is there nothing in thy track
To bid thee fondly stay,
While the swift seasons hurry back
To find the wished-for day?"

Ah, truest soul of womankind!
Without thee what were life?
One bliss I cannot leave behind—
I'll take—my—precious—wife!

The angel took a sapphire pen
And wrote in rainbow dew:
"The man would be a boy again,
And be a husband, too!"

"And is there nothing yet unsaid
Before the change appears?
Remember, all their gifts have fled
With those dissolving years!"

Why, yes; for memory would recall
My fond paternal joys;
I could not bear to leave them all,
I'll take my—girl—and boys!

The smiling angel dropped his pen.
"Why, this will never do;
The man would be a boy again,
And be a father, too!"

And so I laughed—my laughter woke
The household with its noise—
And wrote my dream, when morning broke,
To please the gray-haired boys.

—OLIVER WENDELL HOLMES.

From the Window.

NOW, it is a long way up these
two flights of steep stairs;
and I tell you, Tom, I'm not
as young as I used to be.

I'm growing kind of stout
of late, and sometimes I am
pretty well wind-broken when I get to the
top. But the room is mighty pleasant when
you get to it; and the air is fresh and pure
up here, and there's a view from the window
that somehow I'd hate to miss.

Overlook the park? Yes, the front win-
dow does. You get a pretty glimpse of the
lake and the trees looking out between the
church spire and that red roof next it—but
that isn't the view I meant. My favorite is
from this side window here, and I'll show it
to you after a bit. I keep the shade drawn
most of the time, for I don't feel just at lib-
erty to show it to every one who comes up.
You see it's sort of private—in fact it's a
peep into my neighbor's window.

There, old fellow, don't look shocked. It's
all right. The people don't mind it a bit,
for they never draw the curtains; and some-
times they tell baby to throw kisses across
at me.

You see there are only three of them in
the family—a big, boyish papa, and a pretty
little mamma, and a baby. He goes to bed
early, baby does, and every night I sit and
watch them undress him.

First, papa takes him on his knee and
clumsily unfastens the little dress and tries
to pull it off down over baby's feet, as though
it were a pair of trousers. Then the mother
screams and laughs and tells papa that he is
wrong again, and then papa tries it the other
way and catches the frock on baby's head
somehow. Little mother shows just how it
should be done and slips the plump little
arms out of the sleeves, and then she folds
the garment and hangs it over a chair. Then
come some petticoats, and papa gets them
off over baby's feet all right, only he bumbles
a little over the safety pins which fasten
them. The shoes and stockings come off
next, and baby helps at that and kicks them
off himself, and then he squirms out of his
little knitted shirt, and sits there all pink and
sweet upon papa's knee. Papa laughs and
tosses him up, and mamma claps her hands,
and baby throws kisses over to me.

I tell you it is a sight for a lonesome
bachelor, old man.

Why! it must be about baby's bedtime
now. They might not like having a strange
spectator, so I'll fix it so that you can see
without being seen.

You sit in the shadow and I'll pull up the
shade—there!

Why! their curtains are drawn—and Tom,

come here—what's that card in baby's win-
dow? My eyes are not what they used
to be.

What's that you say? "For rent, inquire
within?" That's strange! And Tom, look
down at the door—isn't that a white crape
streamer hanging there? And see! a pale
face with wild eyes just appeared between
the curtains and a white hand reached up
and tore down the sign.

That's right, Tom, you draw the shade
down and I'll light the gas. And I say, old
man, what was that you were saying as we
came up about a vacant room next yours? I
may take a notion to move this spring, after
all. I'm not as young as I used to be, and
two long flights of stairs tell on a fellow
when he begins to grow fat.—Marie More
Marsh in Chicago Times.

Capturing Sons-in-Law.

"I did it with the frying pan, a cozy fire
and a cushioned rocking chair. There, now,
you have the whole story," confessed Mrs.
Greathead, driven into a corner. It was at
the last meeting of the sewing circle, when,
according to the *Illustrated American*, irre-
sistible pressure forced her to explain how
she had married off six daughters in quick
succession.

"I'd have every one of those girls on my
hands this minute," she began, "if I hadn't
found them husbands out of my cook-book.
Despising an old maid as I do a smoky
chimney, when my eldest girl was full grown
I hustled about right and left for some
means of marrying her. Mary Lou was
neither overly handsome nor overly spry, so
I knew better than to trust to luck. I just
set to work and figured out a plan that has
never miscarried with any one of them.

"All my life," she continued, "I have
taken right smart notice of men's ways, and
have heard big stories of the happy results
of feeding the sex. So I looked carefully
over the field and picked me out a decent,
thriving young fellow, whose habits were
good and his heart whole. You see, my
anxiety never made me forget my manners
or set traps for other folks' game. I began
by asking him, friendly like, to call, and led
the conversation around to his mother, the
way he'd been raised and what he most
cared to eat in general. I never missed a
word and after the first visit had him in
sociably for Sunday night tea. Then you
may be sure I got in some fine work and
when the second meal was over I knew the
yearnings of that man's stomach better than
he did himself.

"My calculations," added Mrs. Greathead,
"led me to believe it is best to start your
activities in the fall of the year. Spring is
no good. A man loves all womankind at
that season, his appetite is slack, and it's
hard lines to keep track of both of them.
In my opinion courtship triggers laid in
November lead as a rule to a wedding in
May. Of course, my chief dependence is
put in tempting food, but I'd advise backing
up the table with a big, comfortable rocker,
drawn facing a cheerful fire. Speak of it as
'his chair' and 'his fire,' and you won't
make any mistake. Another thing, don't be
too pressing. A steady eye and a light hand
count for more than nagging. I was always
careful not to gush, for if I had apple fritters
Tuesday I apologized for their poorness
and begged him to drop in Thursday and
let Mary Lou redeem her mother's reputa-
tion with backbone and peach Charlotte. In
the evenings I had her trained to sit in a
low sewing chair, under the big lamp, and
either darn socks or hem dusters. When
we spoke of her I trembled at the awful
blow it would be for us if she should marry
and go away.

"This kind of thing kept up right along
till about the first of February, when my
gentleman began to feel easy and snug, like
one of the family. Then came the techy
moment, for just at this point I lugged in
some silly dandy that neither I nor Mary
Lou would have looked at. But I coddled
the youngster, had him to tea the same
night as the regular, and waited to see what
would happen. Well, it always did. He
and Mary Lou would come blushing to ask
if they might have each other, and while
they made love in the parlor I studied up
my cook-book to see my way to another son-
in-law."

Neglected Children.

"I was greatly interested the other day,"
remarked an observing woman, who is very
fond of investigating all of the whys and
wherefores of life, "in noting the care and
attention bestowed on young animals by a
farmer at whose house I was visiting.
There were colts and calves and lambs,
young animals of all sorts, poultry and fancy
fowls, each of which had its own special in-
closure, its allotted hours of attention and its
carefully prepared food. Everything that

could in any way assist in bringing these
little creatures to a proper development was
given without stint. Indeed, the policy of
the owner was a somewhat experimental
one, intended to produce new and improved
results, if possible, and that without count-
ing the cost.

"We spent the entire morning examining,
discussing and admiring, as well as ques-
tioning whether this, that or the other meth-
od might be in any way improved upon. As
we returned to the house through the rear
yard, there were three or four little ones
playing with crooked sticks, old scraps of
broken china and pieces of glass. A few
stones, a cracked and battered doll, and a
maimed and disfigured hobby-horse made
up the amusements provided for these little
ones. I spoke to one of them, and the little
fellow ran and hid himself behind his larger
sister. One of the smaller children was
roaming around with one ankle so bent that
he walked almost on the side of his foot;
nearly all the little hands were rough and
chapped; two of the children had extremely
bad teeth, and one was trying to pull a
loose tooth with a string; none of them were
suitably dressed, and all showed marks of
most decided neglect.

"I was on rather too friendly terms with
the family to criticize the management of
the children; but I couldn't help wondering
how much more valuable pigs and chickens
were than the little human beings that had
fallen into this uncongenial situation. There
wasn't an animal on the place that was as
neglected as were these boys and girls, and
the farmer would not have tolerated such
specimens of their kind in the farm-yard.
Naturally they were bright and not ill-look-
ing children, but lack of proper attention
and thoughtlessness had almost spoiled
them. Years of training would be required
to bring these little minds and bodies into
anything like symmetry.

"I could but wonder whether it really
was not worth while to train children or
whether this part of the business of life was
neglected merely because there seemed to
be no ready cash in it.

"When parents learn that children are of
quite as much account as pigs and lambs,
and need just as careful looking after, the
prospects for coming generations will be in-
finitely better than they are now.—N. Y.
Ledger.

Parisian Wit.

A French woman, bantered about her be-
loved Paris, told a story at a dinner table a
few nights ago that is worth keeping.

"I should like to tell you," she said, "how
a country woman of mine saw Paris give a
rebuke twenty years ago.

"It was just after the Franco-Prussian
War, and feeling was ready to show itself
anywhere. Mme. von Konig was a young
woman who ten years before had married a
German army officer. Her heart was torn
during the struggle, and while her aid went
to her husband, her tears were shed for
Paris. At a dinner party one night some one
had the bad taste to speak of 'conquered
Paris.'

"Paris may be conquered," said Mme.
von Konig, 'but she still retains her ability
to create a beautiful thing out of nothing.'

"The next day one of the gentlemen pres-
ent sent her a single white hair, asking her
what Paris could make of that. She sent it
to a great French jeweler and told him of her
challenge.

"Presently there came back to her a de-
vice in gold and enamel. On a bed of sa-
bers stood the Prussian black eagle, hold-
ing in its mouth the single white hair. At-
tached to one end of the hair were the arms
of Alsace in delicate, tiny gold workman-
ship, at the other the arms of Lorraine.
Underneath was engrossed: 'Alsace and
Lorraine; you hold them by a hair.'—St.
Louis Republic.

Groaning Doesn't Pay.

It's a curious fact that the world hasn't the
slightest use for us when we are sad or in
trouble. Our best is all that it cares for,
and our worst it will not have under any cir-
cumstances. Unpleasant as the fact is,
there seems to be no gainsaying it, and the
only thing left to us is to accept it and make
the best of it.

We all know people whom we instinctively
shun because their entire conversation is a
recital of their misfortunes. They are de-
pressing and trying to the nervous, and, after
all, we cannot blame the world so much, for,
as individuals, we are quite as much worried
by them as is the community at large.
There are two classes of people who are com-
fortable and comforting to have about—
those who are too easy-going and indiffer-
ent to take or hold trouble, and others who
have self-control and philosophy sufficient to
keep their misfortunes to themselves.—N. Y.
Ledger.

Mr. Peters and His City Relations.

I don't know why it is, but I don't seem to get on
well
With them o' my relations that down in the city
dwell,
Except when summer's comin', or when summer's
reelly here;
Them times they sort o' treat me like as though they
held me dear,
'N through July 'nd August I most generally sees
A half a dozen o' 'em here beneath my elum trees.
But when it comes to winter, when there's nothin'
much to do,
'Nd I go down to see them in the town a week or
two,
You'd think, the way they look at me, they'd never
heard my name,
Or that I'd brought upon 'em all some everlastin'
shame.
Why, 'long about last New Year's time I happened
in one night
When they was havin' dinner, 'nd you'd thought I
was a blight.

My cousin's wife, she got as red as any healthy
beet
When I declined some oyster cakes 'nd ast for solid
meat.
Though I remember mighty well at my place last
July
She turned her back on roast cornbeef 'nd made a
meal on pie.
'Nd just because I ast a dude they had at that there
meal
If he was Mary Anne's young man, 'Maree' began
to squeal.

It ain't their hearts that's wantin'—they're affection-
ate enough—
They show that when they come to me when city
heat gets tough.
It's in the brain—and after all I ain't a bit sur-
prised.

By just one week of city life I'm nearly paralyzed,
'Nd all their little queernesses had ought to be set
down,
I think, to that unnat'ral life they lead down there
in town.

—CARLYLE SMITH.

Sensible Hints.

Don't growl About the weather,
For easier 'tis, yo'll find,
To make your mind to weather
Than weather to your mind.

Don't growl About "the sermon,"
And show your lack of wit,
For, like a boot, a sermon hurts
The closer it doth fit.

Don't growl About your neighbor,
For in your neighbor's view
His neighbor is not faultless—
That neighbor being you.

—Tid-Bits.

How to Run Fast.

In the mountainous villages of Germany
the letter-carriers are the hardest-worked
people in the country. They carry all the
mail and are compelled to go at the rate of
about five miles an hour. You know that in
running even a short distance you quickly get
"out of breath," as you say. The German
letter-carriers, to avoid this shortness of
breath, carry a quill in the mouth so that
the air cannot be so rapidly expelled from
the lungs. If boys who want to become
"sprinters," or very fast runners, will prac-
tice carrying something in the mouth when
running, they will find that they can soon
run a long time without losing breath.
They must be very careful, though, not to
swallow what they are carrying in the
mouth. And they must be such careful
runners that they will not fall. Very young
sprinters would do well to wait awhile be-
fore trying to become champions.

The Girl Who Is Liked.

The girl who doesn't lace tight.
The girl who prefers a cookery book to a
penny novelette.
The girl who is not in the least ashamed
of a healthy appetite.
The girl who doesn't think every other
pretty one "makes up horribly."
The girl who doesn't pinch her feet into
shoes a size and a half too small for her.
The girl who will sing under a trifle less
than three-quarters of an hour's persuasion.
The girl who doesn't want to stop and
stare into every other shop-window she
passes.
The girl who can purchase a packet of
pins and a yard of calico without turning
over everything in the shop.
The girl who can receive a little polite at-
tention from a man without at once jumping
to the conclusion that he is in love with her.

A New Remedy.

Old Joe Case didn't have much respect for
either doctor or medicine until a short time
ago.

Joe had just pulled through a pretty severe
attack of grip, and was persuaded, much
against his will, to take quinine as a tonic.
The country doctor, to whom Joe went for
the quinine, happened to be very busy that
day, and did not have time to put up any
capsules for him. However, he provided
him with the materials and ample direction

as to how he must fill the capsules with the quinine.

A week after this Joe presented himself at the doctor's office. His face was beaming. "Doc," he said, "I ain't never a-gwine to say agin that you can't help a feller. You've done me a power o' good."

The Doctor was slightly surprised. He asked him how much quinine he had taken. "Wall," said Joe, "I ain't took none of it yet. I've just been a takin' the capsules. Quinine may be pretty good, but them thar capsules does the business. Lemme have all you kin spare. The old women will be oneasy till she gits 'em, fur she 'lows they mought help her, too."—Detroit Free Press.

Some New Inventions.

A tilting-seat for bicycles by which the rider may adjust it at any angle by his own weight.

A stepladder which, when not in use, may be readily folded up and kept in a small box.

A combination tool containing in one small handle a tracer, tape measure and lead pencil.

An attachment for screwdrivers by which a screw may be held tight to the end of the driver until firmly fixed in the wood.

An umbrella with telescopic handle and folding frame by which the article may be carried with other things in an ordinary valise.

A combined mailing and delivery letter-box for house doors, the slot for ingoing letters being made in a neat plate, which can be unlocked by the postman, the outgoing letters then falling into his hand from the upper portion of the receptacle inside the door.

The Sound of a Sunbeam.

One of the most wonderful discoveries in science that has been made within the last year or two is the fact that a beam of light produces sound. A beam of sunlight is thrown through a lens on a glass vessel that contains lamp-black, colored silk or worsted, or other substances. A dish, having slits or openings cut in it, is made to revolve swiftly in this beam of light so as to cut it up, thus making alternate flashes of light and shadow. On putting the ear to the glass vessel, strange sounds are heard so long as the flashing beam is falling on the vessel. Recently a more wonderful discovery has been made. A beam of sunlight is caused to pass through a prism, so as to produce what is called the solar spectrum, or rainbow.

The dish is turned, and the colored light of the rainbow is made to break through it. Now place the ear to the vessel containing the silk, wool or other material. As the colored lights of the spectrum fall upon it, sounds will be given by different parts of the spectrum, and there will be silence in other parts. For instance, if the vessel contains red worsted, and the green light flashes upon it, loud sounds will be given. Only feeble sounds will be heard if the red and blue parts of the rainbow fall upon the vessel. Green silk gives sound best in a red light. Every kind of material gives more or less sound in different colors, and utters no sound in others.

Saratoga Chips.

Saratoga chips, or fried potatoes, are prepared in thin, paper-like slices and crisped, but not burned, in hot fat, says the New York Tribune. The secret of preparing them properly lies in cutting them first in the thinnest slices possible, and soaking them for at least six hours in ice-water. This last process draws the starch out of the potato, and is positively necessary to success. The famous Moon of Saratoga, who originated these "chips," is said to have soaked them in large vats of ice-water for at least twelve hours. When you are ready to fry them, drain them out of the water and use a cloth to absorb all moisture. Have a large pot of fat—at least three quarts—over the fire, heated very hot. It must be hotter for this purpose than for any other frying done by the cook, unless it be for potato croquettes. Do not attempt to fry more than a pint of the sliced potatoes at once. If more are put in they cool the fat too much to cook them properly. The kettle containing the fat should be rather deep, otherwise it is liable to boil over when the potatoes are first put in. There is at that time a violent ebullition in the fat, caused by the moisture in the potatoes. The moment this boiling ceases, in about two minutes, lift the kettle on top of the stove, where it is not so hot, and let the potatoes fry for five or six minutes longer. They should be crisp and a yellowish white, but not brown. Drain them out of the fat as soon as they are done, onto brown paper, to absorb all grease. Dredge them with salt, and serve them on a hot platter.

YOUNG HOBBS' COLUMN.

Deserting His Post.



AY, Billy, ain't you going with us?" yelled the boys, standing on tip-toe to peep into the kitchen window.

The Maverick farmhouse was on a lovely plateau of land half-way up a dreary mountain-side. And Billy sat alone by the fire, trying very hard to get interested in an old volume of "Capt. Cook's Adventures," which he had read over and over again. He jumped up at the sound of familiar voices.

"Going where?" said he, leaning out of the window.

"Down to Pixley's Woods," said John Jaycox. "We're going to have a corn and apple roast down there. There's lots of fellows coming."

"Oh, I do wish I could go," said Billy, with a sigh.

"Well, come on then," roared Herman Smith. "Only make haste."

"But I can't," said Billy. "Father and mother went to the camp-meeting to-day, and they left me to keep house."

"Did they s'pose the bears was going to carry off the house?" contemptuously inquired Herman.

"No," said Billy. "But old Mrs. Trick's house was broken into night before last when she was gone to tea at Elder Jones's. And father says it ain't safe to leave the place alone."

"Much good you would be if the thieves were to come," sneered Peter Wise.

"Well, I guess I can handle father's old musket as well as another man," said Billy with some pride.

"Do come, Billy," urged Jaycox. "We're going to have a regular good time!"

Billy looked wistfully at the other boys.

"Oh, I only wish I could," said he.

"Your folks will never know," said Jaycox, coaxingly.

"No, I don't suppose they will," assented Billy. But—

"Oh, come now," hoarsely shouted Herman Smith, "we can't stand here waiting all day. If Maverick is coming, let him come. If he ain't, let him say so. Are you ready, fellows? Now, then, one—two—three—march!"

And away went the little band of boys at a double quick!

"I might just as well go as not," said he, aloud, to the old clock ticking away behind the door. "It's just exactly as Peter Wise says—there ain't a burglar going that would take the trouble to climb the mountain road. I's all nonsense for me to stay here!"

Billy Maverick, as you can easily see, children, had never studied the story of "Casabianca." If he had been "on the burning deck," it isn't at all probable that he would have remained long enough for anybody to make a story about. And yet Billy was a very good sort of a little fellow after all.

"And I won't stay," said Billy, "so there! I'll fix up a fellow to keep house for me, and I'll run across the woods and over the broken bridge and be at Pixley's Woods just as quick as the other boys get there."

So Billy, whose resources were truly wonderful, drew the old rocking-chair up by the fire and put a bolster into it, which he first dressed up in an old coat of his father's and a battered hat. With its back well toward the window, it really did look like an old man warming his hands at the fire.

"There, old Stuff!" said Billy, as he gave it a final pat on one side and a shake on the other. "Now mind you take good care of the house."

And scrambling out of the shed window, so as not to unfasten any of the bolts and bars, he slid down the roof, dropped into a thicket of blackberry bushes at the end, and, only pausing to rub himself a little, started off at a run down the mountain-side.

He made such good speed by swinging himself recklessly across the framework of the broken bridge that he got to Pixley's Woods nearly as soon as the other boys, who went by the regular pathway. A bright blaze of dry wood and leaves had been kindled under the shelter of a huge rock, the corn, apples and sweet potatoes were put down to roast, and the boys beguiled the time by dancing break-downs, singing comic songs and telling tales and riddles.

The first lot of smoking corn had just been lifted out of the ashes when little Larry Pike came plunging down the ravine.

"Halloo, fellows!" said he, breathless with the haste he had made. "Have you heard the news?"

"News! What news?" said Herman Smith, while all the boys stopped short in

their occupations and stared hard at little Larry.

"Thieves!" said he, panting for breath. "In Maverick's house! And Jenks has gone for the constables, and Will Maxwell has trotted off on his father's horse to tell Maverick's folks at camp-meeting."

"Is—is anything stolen?" said Billy, thinking of his grandmother's silver teaspoons and the spare money his father always kept in the till of the big red chest up in the garret.

"They don't know," said Larry. "They've got the house surrounded so that no one can get out, and now they're waiting for help."

"Thunder! What fools they must be!" said Johnny Jaycox. "Why don't they go in and knock daylight into the scamps? I wouldn't wait if I were there."

"But," said Larry, wisely, "how are they to know how many robbers there may be or how well armed they are?"

But Billy Maverick broke away from the rest and ran as fast as he could toward the solitary farmhouse on the mountain plateau. Whatever became of this state of things, he should always feel that it was his fault.

Lyon Jones, a neighbor, was leaning against the farmhouse gate, hidden by a cluster of cedar bushes, as Billy came running up. He caught at the lad's arm to stay his steps.

"Don't go any farther, Bill," said he in a whisper. "Don't give the alarm until we're ready to tackle the fellows."

"Where are they?" said Billy, hoarsely. "What have they taken? How many are there?"

"We don't know yet," said Jones. "Pike saw one man through the kitchen window. He was warming himself at the fire, very much at home in your father's old rocking-chair. I suppose the rest are scattered through the house!"

"One man!" said Billy, "at the kitchen fire?"

"Yes," said Jones, "with a snuff-colored overcoat on."

Billy stood a minute staring at Lyon Jones—then he burst out laughing.

"It's old Stuff," said he, and he broke away from Jones and ran up the path as fast as he could go, calling: "Come on! come on! There are no burglars at all!"

The neighbors, issuing from their various hiding places, followed him and gathered around the door just in time to see Master Billy scramble up the shed-roof, bounce into the little window and disappear.

Presently he once more appeared at the door of the kitchen, waving both his hands above his head.

"Come in!" he called out, again exploding with laughter. "Come in and see the burglar. He won't hurt you, I'll go bail! Why, he's nothing on earth but a bolster dressed up in father's old clothes!"

And then, as the four sturdy men came somewhat sheepishly in, he showed them the outlandish imitation of humanity which he himself had devised.

By the time his father and mother returned from camp-meeting every one was in a fit of hearty laughter to think that they could possibly have mistaken "old Stuff" for one of the gang of burglars.

Mr. and Mrs. Maverick smiled too. It would have been difficult to help it. But when everybody had gone home and they were all alone, Mr. Maverick turned to his son:

"It is all an excellent joke," he conceded, "and I am heartily glad that your 'old Stuff' is the only burglar we have had about the premises. But, Billy, I would almost rather have the old silver stolen than know that my boy cannot be trusted to keep his word."

Billy hung down his yellow, curly head. "I am sorry, father," said he. "I'll never desert my post again."

And the little incident furnished all the neighborhood with gossip and amusement for at least a week.—New York and Paris Bazaar.

Rice Made Him Strong.

"While they dwarf their trees and shrubbery," says a writer, "the Japanese have made a race of giant men—a race of wrestlers. These wrestlers often weigh 200, 300 and 400 pounds. At the Imperial Hotel in Tokio, they brought their champion wrestler to my room. He was prodigious in size and as fat and fair as a baby. He was a Hercules in strength, but looked like an overgrown cherub of Correggio."

"What do you eat?" I asked.

"Rice—nothing but rice."

"Why not eat meat?"

"Meat is weakening. Beef is 70 per cent water. Rice is 80 per cent food. I ate lean beefsteak once and my strength left me. The other man ate rice and threw me down."

"My courier said: 'This wrestler is the Sullivan of Japan. No one can throw him.'"

DOMESTIC ECONOMY.

BAKED SMELTS.—Wash and dry the fish thoroughly in a cloth; cover them with fine bread crumbs and place little pieces of butter over them; season and bake for 20 minutes.

SNOW CREME.—Take one pint of cream, the whites of two eggs, two tablespoonfuls of sweet white wine, sugar to taste, and a pinch of grated lemon or orange peel. Beat the whole until stiff. Fill into glass cups or glasses.

ORANGE PUDDING.—Peel and slice six oranges and lay them in a pudding dish, sprinkle with sugar and pour over them a boiled custard, when cool, which is made of one pint of milk, the yolks of three eggs, three tablespoonfuls of sugar and one tablespoon of cornstarch. Make a meringue for top, of the three whites and two spoons of sugar. Place in the oven and lightly brown.

COFFEE CREME.—For "coffee creme" in cups take three-quarters of a pint of milk; let it come to a boil, and then add to it two ounces of ground Mocha coffee. Cover up, and put on a warm part of the stove to draw, not boil. Leave it there for about five minutes, then strain and add the yolks of five eggs beaten light beforehand, and two ounces of sufat. Beat the whole vigorously, fill into cups, and finish in the bain-marie.

WHITE CITRON CAKES.—One pound each butter, powdered white sugar and flour, with which has been mixed two teaspoonfuls baking powder, eight eggs, one-half pound almonds in fine shreds, or pounded fine; one quarter pound each of candied citron and orange peel cut into long, thin shreds; lemon or vanilla flavoring. Beat butter and sugar to a cream, add the eggs and beat; then stir in the flour and beat for 20 minutes. Mix the other ingredients in a vessel, and dust them thoroughly with flour; then add them, stirring only enough to mix them in. Bake for two hours or so in a slow oven, in heavy tin or sheet-iron pans.

Parboiling.

There are various and sundry whims about cooking, but none of them are more absurd than the idea that beans must be parboiled. One would hardly think of turning off the water from meat while it is cooking, but it might just as well be done, as in either case it takes away a great portion of the nutriment and flavor of the dish.

Beans should be carefully looked over, thoroughly washed and put to soak over night in about twice their bulk of water. Put them in the kettle soon after breakfast the next morning, add about as much water as at first, place them where they will not burn, and let them cook slowly and without stirring until about ten o'clock. Then add half a pound of salt pork thoroughly washed and cut across the rind in small dice. Place the pork on top of the beans, and let it boil for an hour or more. Then lift the meat out, turn the beans and liquor into a baking-pan, press the pork down until only the rind is out of the water and bake in a slow oven for several hours.

Many persons complain that beans are indigestible and cause dyspepsia. It is said by eminent authorities that if beans are cooked for six to eight hours no complaint of this sort can be made against them.—N. Y. Ledger.



A cream of tartar baking powder. Highest of all in leavening strength.—Latest U. S. Government Food Report. ROYAL BAKING POWDER CO., 106 Wall St., N. Y.

AGRICULTURAL NOTES.

CALIFORNIA.

Alameda.

Livermore Herald: A large quantity of wine is being shipped from here at present. Mr. Duvall is filling an order for 30,000 gallons and Mr. Paris is sending away a like amount. It goes to city firms. Mr. Chauche is getting three carloads ready for his city house. Mr. J. P. Smith has shipped ten carloads to New York since the first of January. The demand for Livermore valley wine is rapidly on the increase.

Butte.

P. R. Welsh, on his lower ranch on the Feather river, is having a large acreage of land grubbed and cleared for the purpose of sowing it to barley.

Mr. Phillips, who bought 200 acres of land from John Rafferty, near Wyandotte, has cleared considerable and is planting 15 acres of it to oranges.

Calvin Yetter is setting out 1500 more trees on the Dickinson place below Oroville. This will yet get to be one of the finest orchards in that vicinity.

N. Peterson, on the bluff above Oroville, has recently prepared eight acres of land and planted the same to young peach trees. He has now 15 acres in fruit.

Frank Hipp tells the Oroville Register that the rabbits destroyed quite a number of his fruit trees and ate the bark from a four-year-old orange tree so that the tree died.

The grain crop in Butte will be light this season, for so much rain has fallen that the land could not be plowed and seeded, says the Oroville Register. From the present outlook there will not be over half a crop this year.

Biggs Argus: Mr. Thomas Eaman, of Pentz, picked a box of oranges from a tree in his yard last week, which was forwarded to his step-son, C. A. Hiatt, manager of the Biggs and Oroville stage line. The tree from which the oranges were picked was planted some years ago by Mr. Hiatt and of course he was greatly pleased to receive the first box of fruit it has produced, especially when it has been remarked by all who have seen the yellow fruit that these oranges are the finest they have ever seen.

Biggs Argus: We took a drive through the orchards on Rio Bonito this week and were pleased to notice the splendid condition of all varieties of trees. In the Hatch & Rock orchard thousands of almond trees are in full bloom, and we notice that the apricot trees of Alexander & Hammon, Dan Streeter and others were just beginning to bloom. All kinds of fruit trees are budding and soon the orchards will be one grand section of aromatic blossoms. The fruit outlook is the most flattering for an abundant crop we have ever seen. The orchards of Rio Bonito are a great pride to this community as well as a source from which many of our people find remunerative labor.

Oroville Register: From present prices in California, the two most valuable animals on the farm are the sheep and hog. Prices for pork and mutton are higher than known for many years, lard has advanced one-half in price during the past year, bacon has jumped from four to five cents a pound and hams are luxuries. Mutton chops are no longer pushed by the butchers, and the farmer who has hogs or sheep to sell this year is in luck. Taken year after year, these two animals bring in more ready cash in proportion to the money invested than any other animal on the farm. The sheep that will not pay for herself in a year from her wool and her lambs is an exception, while the breeding sow is renowned as a money-maker the world over. The farmer who wants to succeed should keep as many sheep, hogs and hens as possible.

Glenn.

Willows Farmer: There are a great many beautiful shade and ornamental trees coming to town this year. There is a prospect of our having as beautiful garden spots here as any in the county. Let the good work go on.

Surveyor Doyle has just completed the survey of an irrigation ditch near Elk creek. It is about 12 miles long and will take out sufficient water from Stony creek to irrigate some 2000 acres of very fine land, belonging to W. T. and J. R. Troxel, W. H. Sale, J. Williams, James, John and Mrs. M. West, Dr. Baylor and others. This ditch will not cost far from \$5000 but it will add \$100,000 to the value of the property affected by it. It is understood to be the intention to organize an irrigation district under the act of March 7, 1887, known as the Wright law, and it is expected that the ditch will be completed in time for use in the spring of 1894.

Humboldt.

Robnerville Journal: Humboldt county has already appropriated \$5000 from the public funds with which to collect and display Humboldt county products at the World's Fair. It is now said that this is not enough, and at least \$2000 more will be required.

Kern.

Bakersfield Californian: C. L. Denman was recently in town, disposing of a lot of hogs. He states that he arrived in Bakersfield, two years since, with a cash capital of \$56. With this he embarked in the hog business, and has since marketed 1140, for which he has received the cash, and has \$350 worth of stock left. Hog raising pays in Kern county.

Los Angeles.

Pomona Progress: The railroad companies say they fear that they will not be able to furnish freight cars fast enough for orange shipments when they begin. It is thought that the

shipments will tie up from 1600 to 2200 freight cars a week until the season is over, and if there should be a delay in unloading the fruit, or serious accidents on the way, the number of cars in use coming to and going from California at one time may run up to 2500 or 3000.

Redlands Citigraph: The Wilshire Bros. are planting seven acres to apple trees on their Yucaipa ranch this season. This will make 52 acres in their apple orchard. The portion of the orchard now in bearing brings a fine profit, the fruit being of superior quality.

Redlands Citigraph: Hon. Ben Folsom, Consul at Sheffield, England, who was here last week, before leaving, purchased of Dr. George Wright ten acres on Hilton avenue, near A. B. Ruggles' place. The land was set to orange trees last year, and the price paid was \$5500. It is understood that Mr. Folsom will have a residence built on the property. The deal was made through his friend, F. F. Hibbert, of this city, who was Vice-Consul at the same place four years ago. Mr. Folsom is an uncle of Mrs. Grover Cleveland.

Mendocino.

Ukiah Republican-Press: J. L. Eldridge of Christine reports what he claims to be the champion prune crop for Mendocino county. His most recent crop (last year) from one-half acre (50 ten-year-old trees) was 3700 pounds of dried prunes of fine quality, and these were marketed at 7½ cents per pound, making an income amounting to \$582.76 per acre. Mr. Eldridge also has a nice young prune orchard, not yet in bearing, as well as a fine young peach orchard.

Merced.

Modesto Herald: R. E. Bangs is setting out 10 acres to prunes, apricots and olives; G. Usher is planting 5 acres to a like variety of trees, and R. C. Bailey has 20 acres of two-year-old raisin vines. These gentlemen live in the Bald Eagle ranch neighborhood.

Napa.

The Napa Register says that ex-Supervisor Smittle of Berryessa valley will set out 1000 prune trees on his Berryessa place this season. He already has one of the finest orchards in Napa county.

Orange.

Several orange buyers have been in and about Santa Ana trying to contract for the remaining orange orchards unsold.

John Hickman, a recent arrival from Dakota, has purchased the Swope place of 20 acres near Anaheim, paying \$3500 for the property.

Orange News: A species of aphid is working some injury to the growing barley in the neighborhood of McPherson. On specimens of the barley shown us on Monday, the aphids were very numerous and their depredations were marked by a withering of the upper blades of the plants. Those well posted on the habits of the aphid say that they will not work any material damage and will succumb to the first rain.

Santa Ana Blade: M. J. Bundy has sold this year's crop of oranges grown on three and a half acres of four-year-old trees, within the limits of Tustin, for \$700. Last year's crop brought in \$60. The cost of the trees, expense of planting, spraying, cultivating, irrigating, fumigating, fertilizing and incidental expenses for four years, amounted to \$611.60. This shows a profit of \$148.40 to date—that is, if the original cost of the land is not taken in.

Santa Ana Blade: The Placentia orange crop for this season is given as follows:

	Boxes.
The French Orchard	2,400
John Wagner	600
Wm. Klocke	1,500
W. M. McFadden	4,000
T. P. Hinde	300
M. Nemo	150
Thos. Strain	200
A. T. Pendleton	600
T. Staley	400
J. B. Tombes	2,000
F. B. Sandilands	200
R. H. Gilman	10,000
P. Hansen	200
Mrs. N. Hansen	300
N. Johnson	100
Col. Rohrer	1,000
W. F. Botsford	2,500
Total	26,450

Or about 88 carloads of fruit. Most of it is of the best varieties of budded fruit, and will bring into the neighborhood about \$40,000.

San Bernardino.

Riverside Press: Flocks of wild geese are winging their way northward—a sure indication of warmer weather.

The Chino beet sugar factory is being somewhat enlarged and improved in preparation for the busiest season they have ever had there.

Ontario's fourth annual citrus fair was held March 2d. It was a large and successful exhibit, there being over 100 entries. Ontario will make an extensive display at the State fair.

Chino Champion: Mr. Gird is just planting three rows of eucalyptus trees for a mile and a half along the east side of Euclid avenue, south of the C. V. R. R. turn, as a windbreak. Every street and avenue in Chino should be planted as soon as possible to some variety of street trees.

Riverside Press: A glance at the canals of the Riverside Water Company since the water has been shut off, shows that about 15 inches of sand has settled in the bottom of the canals. This sand is of good quality, and the company is using it for their work of cementing the canals.

Chino Champion: Mr. Gird has planted ten acres of canaigre, or Mexican wild dock, as an experiment in raising the root for tanning pur-

poses. With Mr. Gird's extensive stock and slaughter-house business, a tannery in which to work up the hides would be a very important auxiliary. Canaigre is said to be the best tannin plant grown, and is cheaply raised.

Riverside Press: Very fine oranges are grown at Irvington, about seven miles above San Bernardino, near Cajon Pass, 2000 feet above sea level. Miss Sara Dole, one of our high school teachers, whose home is at Irvington, gave us some samples of Navel oranges grown there that are as fine as any we ever tasted.

San Diego.

Escondido Advocate: A. M. Striplin has purchased 90 acres of land on Pamo creek, with perpetual water right. He will sow the land to alfalfa and start a dairy as soon as he can make arrangements to leave his San Pasqual property.

Escondido Advocate: A lady friend of Conductor Phillips, who arrived in Escondido a few days ago, has, we understand, purchased Captain Mitchell's place of 30 acres, located about three miles northwest of town. We also understand that the purchase price was \$2400. As the land is largely set to trees, many of them bearing, the lady has unquestionably secured a bargain.

San Joaquin.

San Joaquin county has several large irrigation projects on foot and vast areas of land will come under cultivation at an early date. The farmers are somewhat enthusiastic and are subscribing readily for water.

Santa Barbara.

William Gould, of Montecito valley, has purchased machinery of the well-known olive-grower, Elwood Cooper, of Elwood, for the purpose of manufacturing olive oil. Mr. Gould expects to contract for all the olives he can get in the Montecito valley.

Dr. F. S. Gould, who owns a fine olive orchard in the Montecito valley, is experimenting with new processes of pickling olives. He claims to have discovered a process by which olives can be pickled and prepared for the table in 24 hours. Those who have eaten the olives prepared in this way declare they can detect no difference between them and those pickled for three months in the old way.

Solano.

Suisun Republican: Mr. S. H. Fountain, near Dixon, the other day sold a number of hogs that averaged 510 pounds apiece in weight. The average price received was \$33.15 per hog. They are Solano county hogs.

Sonoma.

E. W. Davis, of Bennett valley, is going to increase his output of French prunes.

Petaluma Courier: John R. Denman and John R. Doss have climaxed all late importations of cattle stock. On Friday they received from Huntsville, Ala., two pretty, four-months old bull-calves of thoroughbred Jersey stock. Mr. Doss says that these creatures are worth their weight in silver. They were kept in the American stables Friday, and a constant audience viewed the prize animals.

Farmer: The taste for the old-time sport of coon-hunting still lingers with many of the residents here, and last Monday night a party of hunters, with half a dozen dogs, sallied forth, and among the willows in the bottom land below town, soon were in full pursuit of their prey. Two large coons were finally treed, and after some delay in securing a volunteer to wade through the ponds to the game, the animals were killed and brought home in triumph.

Continued on next page.

FOR \$19.00

We can send you one of our

SPECIALTY SINGLE BUGGY HARNESS,

Which is the result of years of figuring to make the best harness ever known for the money. It is made from oak stock, hand stitched and finished by skillful mechanics, handsome full nickel or Davis hard rubber trimmings.

Just the Harness for an Elegant Turnout.

They sell ere for \$25.00, and harness not as good is often sold for \$35.00 in retail shops. If harness is not as represented, money will be refunded.

Liebold Harness Co.

110 McAllister St., San Francisco.

Collar and Hames, instead of Breast Collar, \$2.00 extra.

Please state if you want single strap Harness, or folded style Harness with traces double throughout



Horse Owners! Try

GOMBAULT'S

Caustic

Balsam

A Safe Speedy and Positive Cure

The Safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes all Bunches or Blomishes from Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING. Impossible to produce scar or bluish. Every bottle sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars. THE LAWRENCE-WILLIAMS CO., Cleveland, O.



PROMPT, GOOD WORK.

RHEUMATISM.

Mr. Willet F. Cook, Canajoharie, N. Y., writes: "Awoke one morning with excruciating pains in my shoulder. Tried various remedies for sudden pains without effect; went to my office; the pain became insufferable; went home at 11 o'clock and used ST. JACOBS OIL; effect magical, pain ceased, and at 1 o'clock went to work; cure permanent."

NEURALGIA.



My wife suffered with such intense neuralgic pains in the face, she thought she would die. She bathed her face and head with ST. JACOBS OIL, and it cured her in four hours.

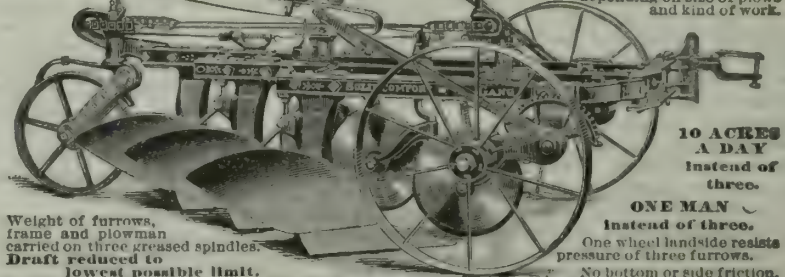
CARL SCHEIBE.

SOLID COMFORT THE "WONDER ON WHEELS"

TONGUELESS, Self Guiding.

FOUR OR SIX HORSES,

depending on size of plows and kind of work.



ECONOMIST PLOW CO., So. Bend, Ind., or Stanton, Thomson & Co., Sacramento. Special prices and time for trial given on first orders from points where we have no agents.

Agricultural Notes.

Continued from preceding page.

Index-Tribune: W. A. McCauley, who recently purchased the Ewell ranch, is sparing neither time nor money in making many needed improvements on the place. He has added to his orchard nearly 1000 fruit trees, consisting of French prunes, early Crawford peaches, Bartlett pears, and a choice variety of apricots. A small Tokay vineyard has also been set out.

Farmer: Our representative reports almond, peach, plum and acacia trees in full bloom at the south end of the county. The prettiest sight was the young lambs of Fount Cook and others. The slopes of the hills along the Washoe road seemed literally covered with the gamboling beauties, belonging to the philanthropist, Harrison Meacham, Esq. It would seem that he had been blessed by a yield of more than a hundred fold. Farmers busy, prospects good.

Sonoma Tribune: Horticulturists around Healdsburg have gone into orange-growing quite extensively, and a few years hence may see this belt very thoroughly developed. There have been, so far this year, about 1000 orange trees planted out in the environments of this city, and at the close of the spring the number will undoubtedly be much larger. Mr. J. Flack, a leading nurseryman, says that thus far, orange-growing in this section has met with as much success as in Los Angeles county, and he earnestly believes that it will be as important an industry in Sonoma county as wine production is now. Near Fitch mountain, Mr. White has an orange orchard of 300 trees and they are all in enormous bearing. J. W. Harmon, who lives just south of Healdsburg, has a tree with 600 oranges upon it, bending the limbs by their weight to the ground.

Sutter.

The Supervisors of Sutter county, says the **Chico Enterprise**, have placed a bounty of \$7.50 on every coyote scalp taken in that county. With the \$5 additional offered by the State, it should make coyote hunting a remunerative business in that county. These animals are numerous and destructive on the sheep-ranges in the Buttes.

Tulare.

The Hanford Raisin and Fruit Packing Company has declared a dividend of 60 per cent, payable immediately.

Hanford Journal: Teams from the Lucerne vineyard were engaged last Friday and Saturday in hauling many loads of raisins into this city. Ten cars, constituting a small train, were filled with boxed and sacked goods from the largest vineyard in the world. The weight represented was 100 tons of one of California's most delicious products. The entire shipment was billed to New York.

Hanford Journal: Joseph Spier, the pioneer nurseryman of this county, was in Hanford last Friday. With a force of ten men he had just finished pruning some 60,000 fruit trees—peach, apricot, pear and prune—at his nursery on P. Van Valer's ranch, on Kings river, which he has named the Wilhelmiana nursery. All these trees will be placed on the market in Hanford next winter. Mr. Spier took his pruning crew from here to Visalia to work on his orchard there.

Grangeville Cor. Visalia Delta: Harlock Bros. have got 18 acres of vines that were 18 months old last September, or rather at the time the grapes were picked, from which they made six tons of raisins (both first and second crops). They sold the grapes through the Griffin & Skelly Company for a trifle over 4½ cents per pound, so the gross returns were a little over \$30 per acre, or \$550 in all for the 18 acres in 18 months.

Hanford Journal: A rabbit drive took place near Mosquito creek, nine miles southeast of Hanford, last Sunday. The drivers spread over some two miles of territory about 10 A. M., and commenced to drive to the pen. The latter was too small and the wings got knocked down, and thus many rabbits escaped. It is estimated that some 2000 of the long-eared pests were killed. Several thousand more would have been killed if a party from Hanford, including Messrs. Wiener, Price, Sickles and others, had not got lost and corralled about that number several miles from the pen.

Ventura.

The trunk of a rosebush or tree at Ventura, Cal., is three feet in circumference at the ground. The first branch, which juts out at a height of about four feet from the ground, is eight inches in diameter, or about two feet in circumference. It was planted in 1876 from a slip obtained at the Centennial Exhibition, and, although several wagon-loads of limbs are annually pruned off, it now covers an area of nearly 2000 square feet. It is predicted that by the time it is 25 years old it will have outstripped the gigantic rose tree at Cologne, which is known to be more than 300 years old, and is less than four feet in circumference.

NEVADA.

Reno Gazette: A car containing 12 tons of butter from the Carson Creamery was shipped on to day's East-bound train, consigned to W. W. Shervin, Elgin, Ill. Nevada butter has already acquired an excellent reputation in California, where it sells readily at advanced prices over the local productions, and with reasonable transportation rates, it would soon establish itself in a similar position in the East.

OREGON.

At Eugene, a farmer disposed of some butter at a store. It was discovered afterward that the rolls had been made with extra care; for

one-half inch on the outside it was very fine butter and the remainder so rancid as hardly to be fit for soap grease.

The orchards of Oregon, says the **Eugene Register**, are worth looking after. The State has 36 nurseries covering about 1576 acres and containing about 9,000,000 young trees, and orchardists have upward of 100,000 acres of growing trees. One-half of this acreage is in prunes, one-fourth in apples, one-tenth in pears and the remainder in various kinds of fruits.

WASHINGTON.

Walla Walla Union-Journal: A **Union-Journal** representative interviewed a large number of farmers Thursday regarding the prospects of the crops for the year, and they all gave a favorable reply. The amount of grain sown in the fall was about 25 per cent greater than that in 1891, and with the great amount of snow and rain, the ground is in splendid condition. In every section of the country excepting Eureka Flat the frost is out of the ground and the farmers are making preparations to commence plowing. In the Flat section there is considerable frost in the ground, and plowing there will be retarded somewhat. The prospects for a good yield are better this season than they have been for several years past.

State Fruit Inspector Jessee announces that fruit pests were not destroyed by the recent cold weather, and warns orchardists to prepare to make active war against the nuisances.

To show how little of the tillable land of the Inland Empire of Washington State is now under cultivation, it may be stated that, while the present annual output is 25,000,000 bushels of grain, estimates place the possible output at 260,000,000 bushels.

The 1893 Catalogue of the Cox Seed and Plant Company.

This artistically illustrated catalogue is characteristic of the house by which it is issued, being fully up to date in all respects, embracing in its columns everything for the present year that will entertain and instruct those who are interested in horticulture, floriculture or vegetable gardening. Particular attention is called to its list of roses, including, as it does, several new varieties among old and leading favorites. Its special offers in this line are extremely liberal, and will prove unusually attractive to the lovers of these beautiful flowers. The healthy condition of the company's business has obliged it to add several greenhouses to its already extensive plant on the Glen Echo tract near Piedmont avenue, Oakland, thus enabling it to supply a very complete line of flowering plants, shrubs and ornamental trees. The high reputation among buyers now enjoyed by this company has been won by its vigilant care in allowing none but vigorous, well-rooted plants and healthy seed of pure strains to leave its nurseries. Prompt and equal attention is given to all orders, whether small or large.

This catalogue, which is an education in plant growth, will be sent free to all upon application to the Cox Seed and Plant Company, San Francisco.

Handsome Circulars.

The advertisement of the Walter A. Wood mowers will be found in another column. These machines have been used here for many years, and are as well known as the firms representing them, who will be glad to mail handsome descriptive circulars to all inquirers.

Are You Going East?

Take the Santa Fe route. You will find it to your interest to call on or address the undersigned before purchasing tickets. No other line crossing the continent can offer you a trip combining equal comfort and pleasure. The only line running Pullman palace and tourist sleeping cars through to Chicago on the same train every day without change. Personally conducted excursions through to Boston leave every Tuesday. W. A. BISSELL, 650 Market street, Chronicle Building, San Francisco.

\$500,000

TO LOAN IN ANY AMOUNT AT THE VERY LOWEST MARKET rate of interest on approved security in Farming Lands. A. SCHULLER, Room 8, 420 California street, San Francisco.

GERMEA
The Monarch of
Breakfast Foods
THE JOHN T. CUTTING CO. SOLE AGENTS

LAND FOR SALE

Choice Fruit Land Cheap near Saratoga, Santa Clara county in lots to suit.

\$3000—20-Acre Tract, partially improved, near Fresno City.

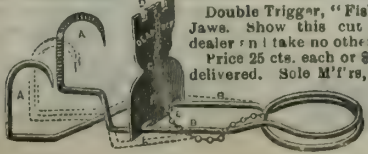
JOHN F. BYXBEE,

No. 42 Market St., San Francisco.

"DEAD LOCK" GOPHER TRAP.

Simple, Effective.

Double Trigger, "Fish Hook" Jaws. Show this cut to your dealer in take no other trap. Price 25 cts. each or \$3.00 doz. delivered. Sole Mfrs, Ira F. White & Son, Pomona, Cal.



THE LATEST STYLE PULVERIZER! THE PACIFIC SPADER!

Operated by one small Boy. No Man required.

PACIFIC SPADER
REVERSIBLE.

Spader throwing Soil from the Center.

The Pacific Spader and Vineyard cultivator does more work in one stroke than a Disc Harrow in ten. Sizes, 5½ to 12 feet.

TRUMAN, HOOKER & CO.,
San Francisco and Fresno.

SIZES:

No. 5D—5½-foot Spader.....	16-inch Blades
No. 8D—7 " " " " " " " "	16 " "
No. 10D—8 " " " " " " " "	20 " "
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No. 18D—8 " " " " " " " "	20 " "
No. 20D—10 " " " " " " " "	20 " "
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AN OLD STYLE PULVERIZER.

Especially adapted to pulverizing "bottoms"—one man and a small boy can operate it.

Salinas, Feb. 22, 1893.

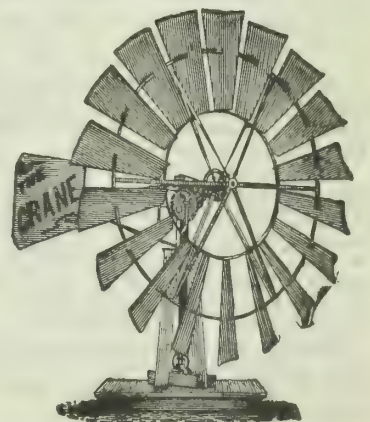
Messrs. Truman, Hooker & Co.,
San Francisco, Cal.

Gentlemen:—I have laid aside my plows and substituted the 10-foot Pacific Spader. It is the best implement I have ever seen for pulverizing the ground and destroying the foul stuff. It works like a charm in adobe and I can heartily recommend it above any other implement. An implement of this kind is what I have wanted for years.

Yours truly,

Chas. Graves.

WHEN IN WANT OF A MILL BUY THE BEST!

It Will Cost You
No More Than
Other Makes."The
Crane"

Was Awarded the Premium at State Fair Sacramento, OVER ALL OTHERS.
WE MAKE THEM BOTH PAINTED AND GALVANIZED.

8½ and 12-FOOT DIAMETER.

Please note that an 8½-foot mill has 6½ feet more wind surface than an 8-foot m

EVERY MILL GUARANTEED. We will replace all parts broken by storms that do not wreck buildings.

Any Mill that does not work satisfactory may be returned to us and we will pay the freight both ways.

THE CRANE COMPANY,

405 & 407 Market Street,

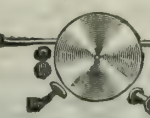
San Francisco, Cal.



Ball Bearings
make light draft
and don't wear out.



Double Levers
adjust each gang,
independently. The
best for hillside or
level.

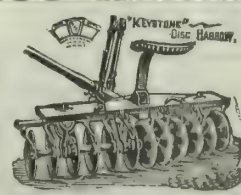


Square Shaft
square hole discs
square hole spools
one piece, square
hole washers. No
loosening or turning
on the shaft.



Scrapers
adjusted by drivers
foot and rigid or not
as you wish.

"KEYSTONE" DISC HARROW



Pulverizes fall plowing, spring plowing,
stubble, breaking.
Useful spring, summer, fall. Often saves all
plowing. Turns under manure, grain broad-
casted, etc. Made 4-6-7-8 feet wide. Send
for free book "THE REASON WHY."

KEYSTONE MFG. CO.,
STERLING, ILL.
ST. LOUIS, KANSAS CITY,
COUNCIL BLUFFS, COLUMBUS, O.
(Mention this paper.)

DON'T GO TO SCHOOL

To Learn Book-Keeping
When you can learn it AT HOME without a
Teacher within 100 hours. Send for particulars.
H. K. STARKWEATHER CO., 230 Sansome St., S.F.

Floriculture in California.

Continued from page 211.

If plants grow tall in the spring and become unmanageable they may be cut back, but it should be to within six inches of the ground, so that it will not have to be repeated, as every "cutting back" reduces the size of the coming flowers. The first top cut off will readily take root in spring and upon it will be the finest bloom. This may be cultivated as a specimen bloom and the root remaining as a bush plant. At each plant should be a good strong stake, to which it should be securely tied with soft twine.

There is no plant that gives more pleasure or recompense than the fine new chrysanthemums. In spring the little plants grow vigorously and develop beautiful rich foliage of great variety. In autumn when all else is parched and dying the chrysanthemums suddenly burst forth with all of their royal colors and multiplied forms, brightening and beautifying the flower garden as never before. There is no flower that retains its beauty so long as a cut flower as chrysanthemums.

Roses require much pruning, as the blooms come from the new growth, and, like the chrysanthemum, if too many buds are left to develop the flowers will be correspondingly small.

Roses must have generous fertilizing. The reason why many do not bloom is because they are starved. They should not be planted under or near large trees or strong-growing plants, as they exhaust the soil and leave the rose enfeebled.

Some choice roses, which are not thoroughly vigorous, may be budded upon the roots of healthy roses, and the result is very satisfactory. For this purpose the wild rose is excellent.

There is no occupation or amusement more worthy of cultivation than flowers. It is well known how much they enhance the beauty and pleasure of home. Even the humblest cottage, with a beautiful flower garden, may be made far more attractive than a fine house devoid of one. As a recreation, floriculture is most conducive to health and contentment, and far more deserving of attention than many less laborious recreations. To woman, who necessarily passes most of her time indoors, an hour or two in the flower garden each morning is exceedingly beneficial, bringing her good nature and good health.

The growing of flowers is refining and healthful for the mind, showing many ways for care and thought, and though there may be drudgery attending, that same drudgery develops our patience, promptness and attention. Flowers are a gift from nature, pleading for our care, and, in return, compensating with their loveliness. In the economy of nature, it is no trifling part that they perform, for nothing more delicately betrays and aids the lover's cause than flowers.

ON A BIG SCALE.—The timber used in the construction of the Chicago exhibition buildings is estimated to exceed 75,000,000 feet, which represents the wood from ten square miles of forest. All the buildings are covered with a composition of plaster, cement and hemp, and the amount of this work is equal to covering the wall of a four-story building 15 miles in length. The electric lighting will require 5000 arc and 93,000 incandescent lamps, which is about ten times as much electric lighting as the Paris Exposition was provided with.

Our Agents.

J. C. HOAG—San Francisco.
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FROM 1846 to 1860 the total number of patents granted was 26,234, an average of 1874 a year for the period. Last year the Patent Office granted 21,427 patents to American citizens, nearly as many as were granted in the whole period from 1846 to 1860.

NURSERY STOCK.

A Very Fine GENERAL NURSERY STOCK.
SPECIALTIES:

SEEDLESS SULTANA and other rooted vines.

ALMONDS, June Buds of the leading varieties.

WHITE ADRIATIC FIG TREES at very low figures.

A VERY LARGE STOCK OF FIRST-CLASS SEEDLESS SULTANA CUTTINGS.

Correspondence solicited. Send for Catalogue.

LONG BROS. & CO.,

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Seeds, Plants, Etc.

J. P. SWEENEY & CO.

ESTABLISHED 1862.

WHOLESALE AND RETAIL

Seed Merchants.

Warehouse, 409 and 411 Davis St.

—ALL KINDS OF—

FARM AND GARDEN SEEDS,

ALFALFA,

Red and White Clover, Alsike Clover, Esparciet or Sainfoin Clover,

Timothy and Orchard Grass, Assorted Rye Grass, Red Top Grass, Kentucky Blue Grass, Mesquite Grass,

ASSORTED MILLET SEED,

Onion Sets and Top Onions, Mangle and Sugar Beets, and Carrots for Cattle Feed. Also, All kinds of

FRUIT AND ORNAMENTAL, AND CALIFORNIA FOREST TREE SEEDS.

ALL OF THE BEST QUALITY!

Write for Prices.

PEPPER'S NURSERIES.

(ESTABLISHED IN 1858.)

—A large stock of—

Bartlett Pear Trees and French Prunes.

On Myrobalan Stocks, at Low Rates.

Also, a general assortment of Apple, Pear, Peach, Nectarine, Plum, Cherry, Quince, etc., grown in sandy loam, without irrigation, which gives a fine proportion of roots. I offer no trees but what are grown in my own grounds and known to be true to label and free from scale bugs. Address: W. H. PEPPER, Petaluma, Cal.

Owing to age and poor health, I will sell my place and business at a bargain. Place consists of 250 acres of land, good buildings, 50 acres in orchard, and a large Nursery Stock, together with horses, wagons and implements, complete, for carrying on the business. A good opportunity for enterprising men with capital to step into a good-paying business. For further particulars address, as above.

Palm and Citrus Nursery

AT MONTECITO.

OLIVES, LEMONS, ORANGES

And all Citrus Trees in variety.

And especially PALMS AND TROPICAL FRUIT AND ORNAMENTAL TREES, best adapted to California and its subtropical sections.

A large stock of CHERIMOYA (Custard Apple) and ALLIGATOR PEARS.

The JAVA PLUM (Eugenia Jambolana), a handsome fruit-bearing tree from Java, mailed free for 30c.

Send for Descriptive Catalogue. Address:

KINTON STEVENS,

Santa Barbara.....California.

SOUTHERN CAL. NURSERIES,

PASADENA, CAL.

TO TREE PLANTERS AND NURSERYMEN.

I am prepared to furnish citrus stock from One and Two-Year-Old Seedling, Sweet and Sour Orange; also Pomelo (or Grape Fruit) seedling stock to two-year old Orange and Lemon buds on four-year-old roots.

All grades and prices. All intending planters and dealers or nurserymen should write and get the lowest prices in Southern California or on this Coast.

Address C. B. SEWITT.

BLUE GUMS,

MONTEREY CYPRESS,

For sale in lots to suit. Write for prices delivered on wharf in San Francisco. For large orders we have special inducements. Address

W. A. T. STRATTON, Petaluma, Cal.

WANTED—5000 OR MORE

PRUNE AND PEACH TREES

AT BARGAIN PRICE.

ADDRESS IMMEDIATELY, STATING PRICE AND condition of trees.

A. A. HIBBARD, Delano, Cal.

CALIFORNIA NURSERY CO.

TREES

FRUIT AND ORNAMENTAL.

GRAPES.

WINE, RAISIN and TABLE.

New American Grape, "The Pierce."

Olives, Oranges, Lemons and Figs.

New California Orange, "The Joppe."

Shade Trees, Evergreens, Shrubs, Roses, Climbing Plants, Etc.

Send for our New Catalogue.

CALIFORNIA NURSERY CO., NILES, ALAMEDA CO.

JOHN ROCK, Manager.

(CATALOGUES MAILED FREE.)

New Roses.

New Chrysanthemums.

Our Descriptive Catalogue contains valuable information about GARDEN, FARM and FLOWER SEEDS, PLANTS, SHRUBS and FLOWERING BULBS, AUSTRALIAN and PACIFIC COAST TREE SEEDS.

Fruit Trees,

CALIFORNIA GROWN VEGETABLE and FLOWER SEEDS.

Cox Seed & Plant Co.

San Francisco, Cal.

FRUIT TREES!

ALMONDS! I. X. L., COMMERCIAL AND NE PLUS ULTRA.

EARLY CRAWFORD, FOSTER PEACHES!

MUIR AND ORANGE OLING

FRENCH PRUNES on Myrobalan, Peach and Almond Roots.

BARTLETT PEARS, Apricots, Cherries, Olives, Walnuts, Etc.

Correspondence Respectfully Solicited.

TRUMBULL & BEEBE,

GROWERS OF FRUIT AND ORNAMENTAL TREES, VEGETABLE, FLOWER and FARM SEEDS,

419-421 SANSOME STREET, SAN FRANCISCO, CAL.

1893. **GREGORY'S SEED CATALOGUE** 1893.

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Giving to customers cash discounts on orders. We (p. 3) catalogue that best of all bush beans, the Warren, and that best of all early peas, the Excelsior. No other Seed Catalogue, of America or Europe, contains so great a variety of several of the standard vegetables, and, in addition, are many choice varieties peculiarly our own. Though greatly enlarged in both the vegetable and flower seed departments, we send our catalogue FREE to all. The three warrants still hold good, and our customers may rely upon it, that the well-earned reputation of our seed for freshness and purity will continue to be guarded as a most precious part of our capital. J. J. H. GREGORY & SON, Marblehead, Mass.

ALMOND TREES.

California Paper-Shell, Nonpareil, Ne Plus Ultra and I. X. L.

A pamphlet on Almonds mailed free of charge on application. A large supply of the GOLDEN PEACH and FRENCH PRUNE. All kinds of leading fruit trees for sale. No charges made for baling trees. Address

PERCY W. TREAT.

Davisville Nurseries, Davisville, Cal.

INSPECTOR'S CERTIFICATE FURNISHED WITH ALL MY TREES.

PROTECT YOUR TREES

— WITH —

Gilman's Tule Tree Protector.

Cheapest, Best and Only One to Protect Trees and Vines from Frost, Sunburn, Rabbits, Squirrels, Borers and Other Tree Pests.

For Testimonials from Parties who are using them send for Descriptive Circulars.

B. F. GILMAN, Sole M'r of Patent Tule Covers,

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Seeds, Plants, Etc.

100,000 EXTRA FINE
BARTLETT PEAR TREES.Apple, Pear, Plum, Cherry, Peach, Apricot,
Nectarine, Quince, Grape Vines
and Small Fruits.

500,000 FRUIT TREES!

Orange, Lemon, Lime, Olive, Japan Persim-
mon, and all kinds of Nut-Bearing
Trees Shade and Ornamental
Trees, Shrubs, Etc.IMPORTED FRUIT TREE SEEDLINGS
Ask for Prices.

James T. Bogue, Marysville, Cal.

SANTA ROSA NURSERIES.

R. W. BELL.

Santa Rosa, - - Cal.

AN IMMENSE STOCK OF

BARTLETTS & FRENCH PRUNES

ON PEACH, VERY CHEAP.

Freight paid on 500 or over of above surplus stock.

A fine lot of PRUNES on Myrobolan and
Almond.Muir Orange Cling and other PEACHES.
ALMONDS, APPLES, ETC.

All first class and raised without irrigation.

New price list free on application. Correspondence
solicited.

IMPERIAL PEACH.

The Earliest Yellow Freestone Known.

CURL LEAF PROOF.

TWO WEEKS EARLIER THAN FOSTER
OR EARLY CRAWFORD.The Best Peach Known for Early Ship-
ment East.Reasonable prices to dealers and canvassers. For
particulars apply toW. W. SMITH, Vacaville,
A. T. FOSTER, Dixon,
Or, I. H. THOMAS & SON, Visalia.

PACIFIC NURSERIES,

ESTABLISHED 1869.

A Large and Extra Choice Stock of
Fruit, Shade and Evergreen Trees
and Flowering Shrubs.ALSO
The Largest and Best Stock of Camellias,
Azaleas and Rhododendrons, consist-
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Fruit, Shade and Ornamental Trees of all Varieties.

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The New Yellow Freestone Peach.

FIRST AND BEST OF EARLY YELLOW PEACHES.

RIPENS IMMEDIATELY AFTER THE ALEXANDER (White Cling), which is the earliest
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Fruit is round, of medium size, VERY HIGHLY COLORED, flesh firm and sweet.

THIS PEACH HAS BEEN SUCCESSFULLY SHIPPED EAST FOR FIVE YEARS and

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A limited number of yearling trees for sale this season. Apply early before stock is exhausted.

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GRAPE VINES.

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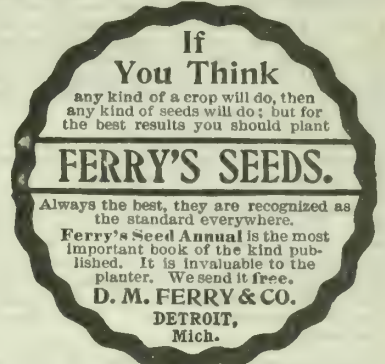
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Trees, Pinesapples, Bamboos,
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Plants safely shipped every-
where. Send stamp for new
and full catalogue which tells
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Also a very Large and Complete Stock of SHADE AND
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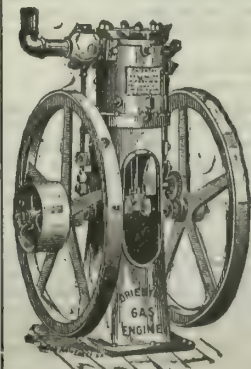
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pumping purposes, as
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gine is what you need.

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tion, 55c and 65c a pound. Smokers \$1 each. Globe
vials, \$1 each, etc. WM. STYAN & SON, San Mateo, Cal.

PATRONS OF HUSBANDRY.

From the Worthy Master.

If you intend to make a success of the poultry business you must attend to it very intelligently, from 6 A. M. to 6 P. M., seven days in the week. Then, there is money in poultry; otherwise, there is little pay in the "chicken rancho."

When two persons disagree there is sometimes a cause for it. They had better get together and, in a sensible way, discuss the matter and then agree not to longer disagree.

If you don't attend the next session of the State Grange at Petaluma, Sonoma county, California, you will miss an important event. The Grangers of Petaluma, Two Rock, Sebastopol, Glen Ellen and Santa Rosa have made up their minds to make all who attend awfully happy. They know how to do it. Then, too, the Petaluma citizens are on deck, and they know how to run a ship, even a ship of State. But that is not all; the three newspapers published in Petaluma are hurrying for the Grangers, and that, too, means a great deal. Pack your grip for Petaluma.

We must have more Grange news published. If one-half the items of prosperity and progress sent to the Master were published in the RURAL, you would all know the Order is neither dead nor sleeping. Send plenty, pointed notes to the RURAL and thus help the Order and relieve the Master of so much. Won't you try, fellow master, lecturer, secretary, or whatever your title of office or honor? Send some news notes.

Congress has quit, and the State Legislature has ceased to draw a per diem. Are the people easier, and what great good has been accomplished?

Is it possible that laws can be made only by lawyers? The percentage of lawyers in all legislative bodies is unusually large. In proportion to the people represented, it is out of all proportion. In proportion to the number of lawyers in the land, it is unwholesomely large. Whose is the fault, and why? Can a remedy be found? If so, when, and by whom?

The sad news of the death of Bro. X. X. Charters, the master of Virginia State Grange and one of the members of the executive committee of the National Grange, is just received. During four years past, all of which time an intimate acquaintance has existed, I have found our deceased brother to be a zealous Patron, ever active for the good of the Order, obliging to all, never over-forward, yet never lagging in anything that he thought would strengthen the Grange. His work on earth is done. His places will be filled by another. But in memory every member of the National Grange will have a place for X. X. Charters. To the family our heartfelt sympathy is extended. May the tears they shed in grief help to keep green in the minds of the members of the Order the name and good works of our lamented Brother X. X. Charters of Virginia.

Hurrah for gardening and flower planting! But don't make the mistake of planting inferior seeds or unhealthy slips! Get the very best you can find. Last year the writer, in order to more fully test the value of potato seed, planted rows of potatoes alongside; the one was seeded with little potatoes; the other with large, healthy potatoes. Each row was planted the same hour, in the same soil, and during the entire season each had like care and labor bestowed upon it. In the fall, when the potatoes were harvested, the result was more than surprising. The difference in yield, in beauty and potato quality was too marked for even the most careless or obtuse to fail to observe. From this date on we plant no more small potatoes. Secure the very best seed you can get. It will pay in the long run. Even a good cabbage head will hardly develop from a measly cabbage plant. Nor do you expect to get perfect animals from imperfect parents. Look well to the seed time, if you expect to reap abundantly at harvest. "He that goeth forth with labor bearing precious seeds in time," is sure of a golden harvest. Santa Rosa, March 6th, 1893.

The Possibilities of the Grange.

TO THE EDITOR:—I am requested to write upon the possibilities of the Grange.

What are the possibilities of the acorn? What are the possibilities of the block of marble before the sculptor? Of the clay in the hands of the potter? What are the possibilities of the infant in its mother's arm? What are the possibilities of "the little red schoolhouse"? What the possibilities of the baby Moses floating among the bullrushes of the Nile? What the possibilities of the coming of the child at Bethlehem? Of the sermon on the mount? Of the missionary in the wilds of Africa? What the possibilities when at Concord bridge

"The embattled farmers stood
And fired the shot heard 'round the world?"

Of the death at the stake, on the scaffold or the field of battle of martyrs for freedom, who, in all the centuries of the world's history and progress, with Arnold Winkelreid proclaimed—"Make way for Liberty." What the possibilities of the voyage of Columbus as he sailed with his little fleet from Palos? Of the new world he looked upon 400 years ago?

Measure the height and breadth and depth of all of these other possibilities and you have the possibilities of the Grange. All that they contain of growth, beauty, art, education, religion pure and undefiled, freedom, progress and "Peace on earth, good-will toward men" are among the possibilities of the Grange.

It is the advocate, promotor and conservator of all the good that these other possibilities have brought to make our world brighter and bet'er. In its life of 27 years, enough has been accomplished to base a "forecast" of its future.

Wherever and whenever the ideal of its founders has been kept in view, and whenever its work has been upon the lines of its "Declaration of Purposes," which are all for good and never for evil—there will be found shadowed forth its possibilities and, let us hope, its probabilities. Whatever it has

wrought in the way of a better agriculture, more social life, brighter and happier homes, higher education of head and heart, the better manhood and womanhood, in dispensing charity, planting the flowers of good works, in developing a better citizenship, a purer ballot, in securing more equitable laws, in protecting the weak and restraining the strong—are but as the first footprints of Columbus on the shores of the New World compared with its future development and possibilities.

How far will the possibilities of the Grange be realized? Just as far as have all the other possibilities before spoken of, if the same means to the ends, works to faith, care, vigilance and fidelity, are ever and forever used. If the acorn falls on stony ground it has no depth of root, the oak is dwarfed and never becomes the giant of the forest, defying the storms of centuries. If the sculptor is careless, the perfect angel never steps from his marble block. The painter who only dreams will never see his living canvas make his name immortal. The vase of the potter may be ruined in the firing. Mother must watch the little feet, or baby will never grow to be good and great. The little red schoolhouse can never develop statesmen if its seats are unoccupied and its children are truants. The baby Moses must be guarded carefully from the cruel edict of Pharaoh to destroy every male child. The babe in the manger, who became the Light of the world, must be carried away by his parents, who flee unto Egypt to escape the wrath of Herod, who ordered all babes under a year to be slain. The first shot fired for liberty did not bring victory. Signing the Declaration, and the old bell ringing forth, "Proclaim liberty to all the earth and to the inhabitants thereof," must needs be followed by long years of war and suffering. The trials and tests of Valley Forge and Trenton, and of even a Benedict Arnold, must be endured before the possibilities of that first shot could be realized. Aye, more, for "in those days false prophets will arise. Men will desperately use you." Madam Roland said as she ascended the scaffold: "Oh, liberty, liberty, what crimes are committed in thy name!" Pilgrim must avoid the slough of despond, doubting, castle, gi-ni despair, the enchanted ground, the flatterer, the net of the spoiler, and fear not the lions in the way. Columbus must have a brave heart, must trim his sails to the storm, must avoid rocks and shoals, must quell mutiny.

"Labor omnia vincit." Perseverance, faith, work until the end. Eternal vigilance is the price of liberty, and, combined with faith and work, of all success. These have brought out of all possibilities their success. The acorn grows to be the oak; the marble becomes the statue; the canvas the life-like reality; the vase a thing of beauty and a joy forever; the infant a statesman; the schoolboy noted among men; Moses leads Israel out of the land of bondage; in Judea the Child grew and waxed strong, and the world is saved; Yorktown places the seal upon victory, and the hopes of the earth for freedom are lighted; four centuries of labor and faith have developed a continent, and this year with all our wealth and civilization we honor Columbus.

These other possibilities have been realized. Shall it be so with the possibilities of the Grange? With this inspiration, with all it can do before us, who will wish to be other than a brave soldier, loyal and true; a cheerful worker, helping to develop its possibilities year by year, aiding in bringing about the new heaven and the new earth; in making our home in the Grange, our home on the farm and our home in our country, in the words of one of the founders of our Order, "An earthly heaven to go to heaven in."

The Grange has stood the test of time for 27 years. It prospers because it is founded upon the eternal principles of truth and justice.

Every farmer and his family should become members of the Grange, for their own good and for the good they can do in helping to develop some of its great possibilities. Fraternally,

MORTIMER WHITEHEAD.

A Grange Feast.

TO THE EDITOR:—On Saturday last Yuba City Grange conferred the Third and Fourth degrees on a class of 18 and celebrated the usual Harvest Feast or Flora's Festival.

After four weeks of sunshine, the moist south wind began to grow stronger the night before, and by daylight, in spite of the predictions to the contrary, it began to rain and kept it up all day at intervals. No great amount of water fell, yet at times it would rain quite hard. The sun and north wind had crusted the soil in the grain fields, therefore the rain was welcome. Yet many thought it might have come a day earlier or later and avoided the festivities of the day. Nevertheless, it failed to dampen the ardor of the Grangers, and they made their appearance in large numbers promptly on time, their lunch-baskets crammed full of good things; to be found only on the farm.

These were distributed in the banquet-hall by a committee that did itself great credit for taste and efficiency.

The assembled hosts were called to order by W. M., P. L. Bunce, and, after the usual routine business, the degrees were conferred in an impressive manner, after which a procession was formed and all marched to the banquet hall, where an hour was devoted to feasting and sociability around tables loaded to overflowing with the best from the kitchens, the orange groves, the floral gardens and the orchards—all the product of the well-cultivated farms of the vicinity.

In due time all returned to the Grange hall, where more routine work was transacted, interspersed with a well-executed literary program. This consisted of vocal and instrumental music, recitations and essays, and impromptu remarks for the good of the Order and mankind.

These exercises were participated in by a well-drilled choir, and by Bros. Bunce, Kells, Walton, Harter, Hardy, Fisher, Frisbie, Schilling, Green, Ohleyer and others, and by Sisters Fisher, Wilkinson, Heddon, Littlejohn, Tucker, Jones and Brophy. These exercises were surpassing in interest and amusement and held the large audience to a late hour, when all turned homeward full of good cheer over the day's doings. It must not be forgotten that a goodly number were present from North Butte Grange to assist in celebrating the event. Fraternally,

Yuba City, March 6, 1893.

The Secretary's Column.

By A. T. DWYER, Secretary, State Grange of California.

State Grange Officers for 1891-1893.

MASTER.....E. W. DAVIS, Yulupa
OVERSEER.....A. P. ROACHE, Watsonville
LECTURER.....J. D. HUFFMAN, Lodi
STEWARDS.....W. W. GREER, Sacramento
ASST STEWARD.....E. C. SHOEMAKER, Visalia
CHAPLAIN.....S. GOODENOUGH, Oakland
TREASURER.....I. C. STEELE, Pescadero
SEC Y.....A. T. DEWEY, 220 Market St., S. F.
GATE-KEEPER.....GEO. OHLEYER Jr., Yuba City
CERES.....MRS. DEE D. HULL, Sacramento
POMONA.....MISS NETTIE BROUSE, Merced
FLORA.....MISS ETTA CORNELL, Rontier Sta'n
LADY ASST STEW'D.....MISS S. E. WOOD, Danville
EXECUTIVE COMMITTEE.—CYRUS JONES, San Jose; GEO. P. LOUCKS, Pacheco; B. F. WALTON, Yuba City.

Pomona Granges.

SACRAMENTO COUNTY (No. 2)—Last Saturday March, June, August and November at 1 P. M., in Grangers' Hall, Sacramento; M., Lewis Schelmyer, Florin, Sac Co; Sec., A. A. Krull, 1717 O St., Sacramento.

SAN JOAQUIN COUNTY (No. 3)—Last Thursday February, May, August, third Thursday November, at Lodi Hall, Lodi, at 10 A. M., R. Pirley, Lodi; Sec., J. D. Huffman, Lodi.

SONOMA COUNTY (No. 1)—Third Wednesday October, January, April, July, at 10 A. M., in Grangers' Hall, Santa Rosa. M., A. P. Martin, Petaluma; Sec., Mrs. Mary E. Saxton, Santa Rosa.

Subordinate Granges.

ALHAMBRA (No. 230)—First and third Saturdays at 2 P. M. in Grange Hall, Martinez. M., Harry C. Raap, Martinez; Sec., Mrs. M. B. Lande, Martinez.

AMERICAN RIVER (No. 172)—Second and fourth Saturdays, at American River Grange Hall, from November 1st to February 1st, in the evening; from February 1st to November 1st at 2 P. M., M., A. A. Harris, Rontier; Sec., Etta Cornell, Rontier.

ANTELOPE (No. 100)—Second and fourth Saturdays in month at 11 A. M.—2d Sat. at Union Hall, Maxwell, and 4th Sat. at schoolhouse at Sites. M., H. A. Logan; Sec., P. Peterson, Sites.

ARROYO GRANDE (No. 74)—First and third Saturdays at Arroyo Grande. M., Geo. Steele, Edna; Sec., Mrs. Anna Shinn, Arroyo Grande.

BENNETT VALLEY (No. 16)—First and third Saturdays at 2 P. M., John Burnham, Santa Rosa; Sec., W. S. Whitaker, Santa Rosa.

CALIFORNIA (No. 297)—M., E. F. Mugler, Athol; Sec., Paul Numann, Athol.

CARPINTERIA (No. 51)—Every other Thursday at 1:30 P. M., M., O. N. Cadwell; Sec., H. A. Stinson, Carpinteria.

CRESTON (No. 239)—Creston, San Luis Obispo Co. M., J. V. Webster; Sec., R. C. Waterberry, Creston.

DANVILLE (No. 85)—First and third Saturdays at 2 P. M., M., F. B. More; Sec., Miss Myra More, San Ramon.

DIXON (No. 19)—Fourth Saturday of each month, Dixon, Solano Co. M., Jos. Klue, Dixon; Sec., B. M. Rockwell, Dixon.

EDEN (No. 166)—Second and fourth Saturdays at 2 P. M. in Odd Fellows' Hall, Hayward. M., H. V. Monson, Hayward; Sec., Josie Sherai, Hayward.

ELK GROVE (No. 86)—First and third Saturdays in I. O. O. F. Hall, M., Louis Schelmyer, Elk Grove; Sec., Geo. S. Williamson, Elk Grove.

ENTERPRISE (No. 129)—First and third Saturdays, M., N. G. Wilson, Florin; Sec., Minnie Toomey, Walsh's Station.

EUREKA (No. 283)—Fourth Saturday at 10 A. M., Odd F. Halls, Auburn. M., J. W. Robinson; Sec., E. B. Beecher, Auburn.

FLORIN (No. 130)—Second and fourth Saturdays, 2 P. M., M., Mittie Casey; Sec., John Rose, Florin.

GLEN ELLEN (No. 239)—First and third Saturdays at 2 P. M., M., C. W. H. Brusing; Sec., Mrs. M. A. Miner, Glen Ellen.

GRASS VALLEY (No. 258)—Every Saturday at 7:30 P. M., M., Alexander Henderson; Sec., O. L. Twitchell, Grass Valley.

GRIMES (No. 293)—M., H. D. Strother; Sec., J. H. Baudon, Grand Island, Cal.

HOLLISTER (No. 11)—Second and fourth Saturdays at Hollister. M., Gustav Brown; Sec., Mrs. B. B. Mansfield, Hollister.

INDEPENDENT (No. 302)—M., W. S. Elliot; Sec., A. T. Davis, Linden, Cal.

LOCKEFORD (No. 181)—M., J. M. White, Lockeford; Sec., Mrs. S. L. Locke, Lockeford.

LODI (No. 92)—First and third Wednesdays at 2 P. M. in Lodi Hall. M., Alida Allison, Stockton; Sec., Miss Florence Huffman, Lodi.

MADERA (No. 300)—M., F. J. Quant; Sec., B. W. Chubb, Madera, Cal.

MAGNOLIA (No. 261)—Second Saturday at 10 A. M., Magnolia Grange Hall, one mile north of Bear River, Nevada county. M., Jackson Cunningham, Grass Valley; Sec., C. D. Bilderback, Colfax.

MARCH (No. 280)—Second Saturday at 2 P. M. at Pennington. M., K. K. Stevenson, West Butte; Sec., James Myers, West Butte, Sutter Co.

MERCED (No. 7)—First and third Saturdays at 10 A. M. in Pyman Castle Hall. M., A. Bickford, Merced; Sec., Miss L. Archibald, Merced.

MILLVILLE (No. 221)—Millville, Shasta Co. M., J. S. Eddington; Sec., O. P. Dunham, Millville.

NEW HOPE (No. 301)—M., W. E. Journey, Sec., Geo. Connor, New Hope, Cal.

NORTH BUTTE (No. 225)—Second and last Saturdays at 1 P. M. at Union Hall, Live Oak. M., D. Fisher, Live Oak, Sutter Co.; Sec., Mrs. Ella Hedger, Live Oak, Sutter Co.

PESCADERO (No. 32)—First and third Saturdays at Good Templars' Hall, 2 P. M., I. C. Steele, Pescadero; Sec., Mrs. Anna M. Piper, Pescadero.

PETALUMA (No. 23)—Second and fourth Saturdays at 1:30 P. M., M., C. L. Grover; Sec., D. G. Heald, Petaluma, Cal.

PILOT HILL (No. 1)—Saturday on or preceding each full moon at 7:30 P. M., M., C. S. Rogers, Cool, El Dorado Co.; Sec., A. J. Bayley, Pilot Hill.

PLUMAS (No. 245)—Saturday succeeding full moon at 1 P. M., M., A. Heriot; Sec., Miss Hattie Hinds, Beckwith.

POTTER VALLEY (No. 15)—First and third Saturdays at 2 P. M., M., Wm. Eddle, Potter Valley; Sec., W. V. Kilbourn, Potter Valley.

ROSEVILLE (No. 161)—First and third Saturdays, M., E. C. Bedell, Roseville; Sec., S. S. Gladney, Antelope, Sacramento Co.

SACRAMENTO (No. 12)—Second and fourth Saturdays at 1:30 P. M. at Grangers' Hall. M., E. Greer, Sacramento; Sec., Elmer G. McMullen, Box 509, Sacramento.

SAN ANTONIO (No. 236)—John, Monterey Co. M., W. S. Karl, Jolon; Sec., Mrs. S. S. Paulsen, Jolon.

SAN JOSE (No. 10)—Every Saturday at 10:30 A. M. at Grand Army Hall, First St., San Jose. M., Philo Hersey; Sec., Mrs. M. J. Worthen, San Jose.

SAN LUCAS (No. 234)—Meets at San Lucas every two weeks. M., B. Wood; Sec., Miss Kate Doherty, San Lucas.

SANTA CRUZ (No. 68)—M., G. C. Wardwell; Sec., B. Pilkington, Santa Cruz.

SANTA ROSA (No. 17)—Second and fourth Saturdays at 1:30 P. M., M., Chas. Gamble; Sec., Mrs. Glenn Murdoch, Santa Rosa.

SEBASTOPOL (No. 45)—First and third Saturdays of each month. M., Jas. Moran; Sec., Martin Litchfield, Sebastopol.

SELMA (No. 291)—Selma, Fresno Co. M., Prof. G. D. Hinds; Sec., J. J. Roadhouse, Selma.

SOUTH SUTTER (No. 237)—Fourth Saturday. M., John W. Jones, Pleasant Grove; Sec., May Donaldson, Pleasant Grove.

STOCKTON (No. 70)—Every Saturday at 1 P. M., M., Merion T. Nye; Sec., N. T. Root, Stockton.

TEMESCAL (No. 35)—First Saturday at 7:30 P. M. in Old Fellows' Hall, corner Eleventh and Franklin Sts., Oakland, and third Saturday at 2 P. M. at same place. M., Walter Renwick, East Oakland; Sec., Mrs. Nellie G. Babcock, North Temescal.

TULARE (No. 198)—First and third Saturdays at 2 P. M. at Goldman's Hall, Tulare. M., John Tuohy; Sec., Mrs. Bartha Ingham, Tulare.

TWO ROCK (No. 152)—First and third Thursdays at 1:30 P. M., M., J. R. Denman; Sec., G. W. Gaston, Petaluma.

VACA VALLEY (No. 298)—M., Mrs. E. E. Ashley; Sec., Mrs. Gertrude Montgomery, Vacaville.

VALLEY (No. 279)—Second and fourth Saturdays at 1:30 P. M. in Odd Fellows' Hall, Pacheco. M., E. W. Williams, Clayton; Sec., Annie Loucks, Pacheco.

WASHINGTON (No. 228)—First and third Saturdays. M., Nelson Dill; Sec., Sam C. Waters, Clement.

WATERLOO (No. 295)—M., L. A. Gramore, Stockton; Sec., C. A. Merrill, Stockton.

WATSONVILLE (No. 124)—First and third Saturdays at 1 P. M., M., Mrs. E. Z. Roache; Sec., Mrs. J. J. Cromarty, Watsonville, Cal.

WEST SAN JOAQUIN (No. 3)—First and third Wednesdays at 1 P. M., M., Simeon Higgins, Tracy; Sec., W. von Suter, Tracy.

WHEATLAND (No. 290)—M., J. Steinman; Sec., L. Hamilton, Wheatland.

WOODBIDGE (No. 81)—First and third Tuesdays at 2 P. M. in Grangers' Hall. M., H. M. Woods; Sec., H. O. Shattuck, Lodi.

YUBA CITY (No. 65)—First Saturday at Masonic Hall, Yuba City. M., P. L. Bunce; Sec., Nellie Brophy, Yuba City.

* Those marked * have not reported officers for 1893.


STATE GRANGE FINANCIAL STATEMENT.—Receipts during February of General Fund, \$64.40; disbursements \$218.90; balance on hand and in the treasury, \$542.93. Receipts of Lecturer's Fund, \$13.35; disbursements \$18.50; balance, \$194.03. Total balance in both funds \$252.96.

NEW DEPUTIES.—Bro. Geo. Ohleyer's deputyship embraces Shasta, Butte, Yuba and Tehama counties; P. L. Bunce's Sutter, and Will P. Crane's Mendocino county.

OUR ABSENCE for a week in Tulare has curtailed this department. The report of an interesting meeting of Tulare Grange may be expected in our next issue.

WORTHY MASTER DAVIS expects to be with San Jose Grange about the first of April.

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Cheaper than any
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Every One
Guaranteed.
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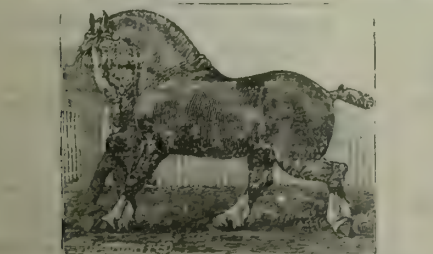
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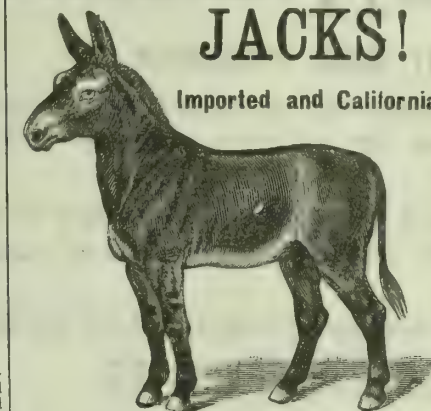
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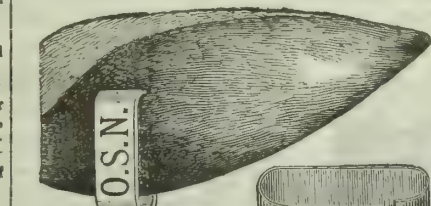
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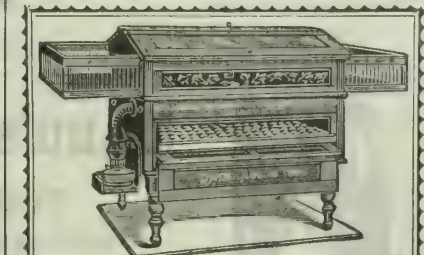
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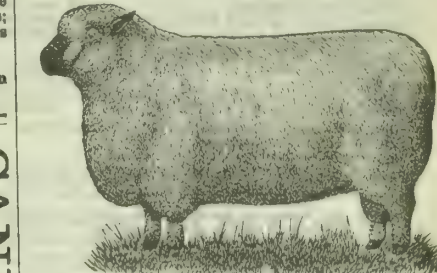
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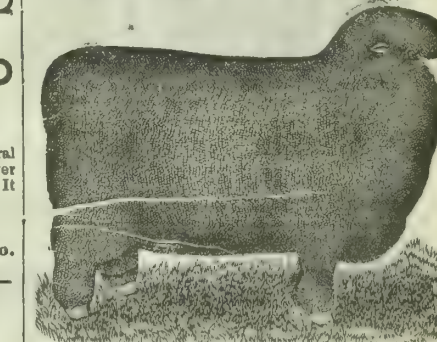
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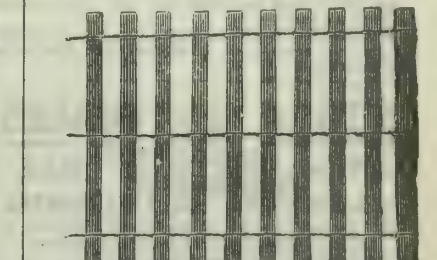
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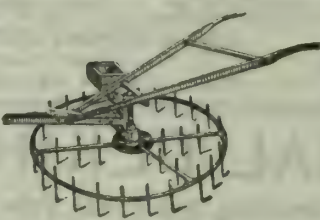
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THE JACKSON VINEYARD HARROW was designed especially for vineyards and orchards, where very thorough and careful work is required. It was introduced to the orchardists in 1881, and perfected during that season. It is made of gas-pipe, bent round like a wheel, and made perfectly smooth on the outer rim, and presents no sharp corners to the trees or vines to injure them as it revolves. It is provided with handles, so the operator can hold it to or from the row. Every farmer should have one for his garden, and to level any uneven land, or fill up dead furrows. Every vineyardist or orchard owner should have a sufficient number to go over the whole ground in a short time. When the surface is just in proper condition, one day's work is worth a week's out of season. The Jackson Rotary Harrow is a perfect pulverizer, leveler, clod-crusher and weed-killer. It leaves weeds on top of the ground—thoroughly shaken—to die.

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HAS NO EQUAL

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FOR TREE WASH!

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One pound to 5 gallons of water.

Thousands of Orchardists testify to its value, using it in preference to all other preparations. Where the Red Seal is applied it kills the insects and at the same time forms a coating through which others cannot penetrate. When used in the above proportions, it is a

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Put up in SIFTING-TOP CANS, so that any quantity may be used and the balance preserved uninjured.

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S. F. MARKET REPORT

Market Review.

SAN FRANCISCO, March 8, 1893.

The situation in the local grain and produce markets for the week may be summed up in a few words: Wheat is stagnant and very weak. Citrus fruits are plentiful and sell at low figures. Dried fruits are very firm, with upward tendency. Cheese products are not so high, except for fancy creamery. Eggs are plentiful and cheap. Poultry is high. Fancy prices for butter are no longer obtainable. Pork products are a little below high-water mark, but the demand is better. Wool is dull. There is nothing doing in hops.

Cereals.

Here is the situation in wheat: Visible stocks are enormous and show only slight increases from week to week. Crop prospects appear to be good everywhere, though in the United States and Europe it is too early to secure reliable information. The necessary lack of definite knowledge on this subject is a factor in depressing the market, and will doubtless continue to be until it is definitely known whether the yield for 1893 is to be large or small. We know that the East Indian crop has not been heavy, and exports will probably not be so large as usual. In the Argentine Republic—another large exporter—however, it is said there will be 750,000 tons more available for export than ever before. The Australian crop is reported to be good, though not phenomenal.

Much was expected in the New York and Western speculative markets if the anti-option bill was defeated, and, pending action on the measure, prices were borne downward several cents. Following the defeat of the bill, quotations in Chicago advanced about three cents, in face of the fact that quotations in Liverpool were continually declining; and it thus seemed to be proven that the anti-option agitation had had a repressive effect, and that the market had itself demonstrated that it would be in healthier and better condition if unfettered by such restrictive laws. The gain, however, was only temporary, and appears now to have been caused by relief from the pressure of anti-option agitation. The market has since declined in sympathy with natural conditions and quotations at Liverpool. Speculation and an untrammelled speculative spirit have not been able to maintain prices.

On March 10th there is due from the government statistician, Mr. Dodge, a statement of the amount of wheat in the United States in farmers' hands, and it may be that the findings of the statistician will have an important effect upon the markets. That is to say, the statement may affect present conditions if it is found that the farmers' stocks are smaller than are now anticipated. Expectation is that Mr. Dodge will report on hands supplies unprecedentedly large, and, because of this impression, the effect of his report has been to a considerable extent already discounted. If, however, it is learned that farmers' holdings are not enormous, it may confidently be expected that considerable relief will be experienced, and a better tone must prevail. Not much confidence is now felt, however, that the government report will be, in a great degree, encouraging, and, as said before, this lack of confidence has already influenced the markets.

It is worth while to quote here from the weekly market report of Norton & Whittington, Chicago grain-men. These gentlemen say:

"Reports of the condition of the growing crop are growing more unfavorable and numerous. They all agree that, near as can be told at this date, the late-sown wheat has been seriously damaged, while the early-sown does not look at all promising. These reports are making the b-ars more cautious in their operations and strengthening the confidence of the bulls, who are likely to become aggressive unless the outlook changes. The Government report, due on the 10th instant, will give an estimate of the quantity back on farmers' hands, and according to the method of computation followed in previous years, this amount should not exceed 90,000,000 bushels, which would be bullish. For the immediate future, we advise operating on the long side, unless the market advances to 80c or over, in which case we would sell short."

The report also contains a criticism of Mr. Dodge, the statistician, and seems to anticipate that he will compute farmers' stocks to exceed 90,000,000 bushels. In that case—unless the excess is beyond all reasonable expectation—the conclusion would be that conditions and prices will remain about as they are. If Mr. Dodge's computation is 90,000,000 or less, then an advance is to be expected.

It will not be wise to place much reliance on expectations that there is to be a shortage in this year's yield. Reports about the condition of the coming crop are necessarily imperfect. No satisfactory conclusion can be drawn. We hope, however, next week to be able, from Mr. Dodge's report, to make more definite statements about general market conditions and prospects.

Government reports are that the annual production of wheat in the United States, and the average price received on farms by producers, for a series of years were as follows:

Years.	Wheat, bushels.	Price, per bushel.
1887	456,329,000	68.10
1888	415,868,000	92.6
1889	490,560,000	68.8
1890	399,262,000	83.8
1891	611,780,000	83.9
1892	515,949,000	63.2

It is easy to see from these figures what effect the enormous overproduction of 1891 had upon prices.

Other Grains.

Transactions in barley have for some time been confined to small lots. The tone of the market is improved, however, and reduction of stocks, now anticipated (through export), ought to improve prices. Demand for brewing is very good.

There is some improvement in white and yellow corn. Prices for large are better than a week ago. Offerings, however, are rather free—quite enough to meet all present demands.

Choice milling oats have been in somewhat light supply, though the market generally is slow.

Dried Fruits.

A local authority says: "Owing to the limited amount of dried fruit now left in first hands, trade

is necessarily light, and many orders from the East have been turned down during the past week. As noted a week ago, the raisin market has continued to advance until two-crown loose in bags at 3½c and three-crown at 4½c are somewhat in the nature of bargains. Shipments during the past two weeks have taken nearly all available stock, and there are but few left to go forward.

"The local market on peaches has been a little quiet at the recent advance, while there have been no heavy offerings, trade in this article being rather light.

"Dried grapes are being held firm in sympathy with the recent advance in raisins, though values show no appreciable advance. There have been a great many inquiries and few orders received for prunes, which have still further reduced available stocks. This article is now held at full figures, with extreme prices for the large sizes."

Fresh Fruits.

Arrivals of oranges are heavy, and it is impracticable to give quotations that can be fully relied on. The range is from 75 cents to \$3, the former for very poor, the latter for fancy Navel. The average for seedlings is \$1.25 to \$1.50, while good Navels bring \$2.25 to \$3. But they do not sell easily at any figure.

Stocks coming in are somewhat inferior, some being touched with frost. Mexican limes which have recently ranged high, are lower under new imports from Acapulco. The quality is not good. Apples are somewhat lower for average grades though choice reds sell as high as \$1.75 and are in good demand. Sales of fine Spitzenbergs are reported at \$2.50, but the offerings of this variety are very few. Cheap apples are plentiful. Pears are still on hand, but they are out of season and find no demand.

Poultry.

An advance has taken place all along the line of poultry quotations. Light supplies are the reason; and the cause of light supplies is that the laying season has begun and the killing season ended. Probably not until next summer will there be a heavy renewal of supplies, and it is reasonable to expect that the average range of quotations meantime will be high. This statement is subject to modifications, because large importations of poultry come from the East and causes a drop in quotations. These imports, however, will naturally be lighter than in the past. The close game season having begun, there are only a few varieties in the market. Hare yesterday sold at \$1 per dozen. The numerous rabbit drives now taking place throughout the State, have had the effect of making the supplies plentiful.

Eggs, Cheese and Butter.

Eggs are very low and the quality very good. Imports from the East have practically ceased, inasmuch as California is now well able to supply itself and Eastern producers, under lower prices, cannot well pay freight charges and compete. 17 cents per dozen was the prevailing figure to-day for ranch.

New cheese is rather slow, though fine old sells well. Fancy grades of butter move off well—they always do—while others are dull.

Provisions.

Pork products are not quite so high, but conditions are not at all changed, and no break may be expected. Prices got so high that the demand fell off heavily, and dealers were compelled to yield a little. The local war among commission-men also had its effect. The Chicago *Breeders' Gazette* of March 1st gives the following as the condition there:

"The extreme weakness pervading the hog market when we last wrote did not give way to a healthier condition until yesterday. Then there was an abrupt change, the market bounding up 10c to 20c. Not 50,000 good merchantable hogs arrived during the entire six days, and the bulk of them went to shippers. There were thousands of little pigs weighing from 80 to 130 lbs., and only here and there a load that averaged more than 270 lbs. There was a further advance of 10c to 15c to-day, therefore present prices are only 10c to 15c lower than those ruling one week ago. The fresh receipts were bought up quick at \$7.60 to \$8.15 for poor to choice light, \$7.85 to \$8.25 for mixed and medium, and \$8.10 to \$8.40 for common to prime heavy." The *Gazette* says of sheep: "The receipts of sheep, though much less than for the previous two weeks, were larger than is usual to the season, about 47,000 head arriving. However, there did not appear to be too many, for prices have grown stronger, closing 15c to 25c higher than they opened. The consumption of mutton is unprecedentedly large, as is evidenced by the fact that within the last four weeks no less than 219,000 head have been unloaded on the Chicago market without subjecting prices to any serious decline. The last month's receipts are greater than for any previous February, and lack only 8000 head of equaling the greatest number ever recorded for a month. In quality the offerings continue good, consisting, as they largely do, of fed Westerns. To day's market was active and strong, ruling a shade higher than yesterday, at \$3.50 to \$4.40 for poor to choice sheep, and at \$4.50 to \$6.35 for lambs."

Vegetables.

Potatoes are firm, sweets having advanced materially. Salinas are entirely out of the market. River Reds, which have for some time betrayed weakness, are in better tone and quotations have advanced. There are small receipts of new potatoes, but it will be several weeks before they begin to come in with freedom.

The bean market is very strong under heavy orders from the East for all varieties of white beans. Shipments this year to the East have been far in excess of those of any former season, and stocks are being reduced to a pretty small amount. Limas are very strong, and it is believed stocks will be entirely cleaned up before the beginning of a new season.

Asparagus and rhubarb are cheaper. No cucumbers or tomatoes have come in for several days.

Onions are steady, though prices are lower than a week since.

Choice peas are firm, and mushrooms are scarce.

Miscellaneous.

The crop of honey for 1892 was exceedingly small in this State as well as in the East, and an active demand for all kinds has taken everything in sight. Prices have ruled higher than in any previous season for several years past and there is little left to supply the local demand. The weather thus far has been extremely favorable for the coming crop, as the frequent and copious rains have assured plenty

of blossoms, unless something unforeseen happens. The introduction of California honey through the East, especially of extracted, has been so general that dealers anticipate no trouble in disposing of the large output now promised at good prices.

The wool market is in abeyance, waiting for the spring clip. It is about ready to begin in Kern county.

Soft-shell almonds and walnuts are scarce and bring more than quotations.

There has been a good shipping demand for tall-oil of late.

Mutton is firm, while beef, which comes in freely, is easy. A carload of spring lamb arrived yesterday. Hogs are a little easier, though prices are very satisfactory.

Nothing is to be noted in hops.

Hay is weak.

Crop Prospects for January.

The special agent of the United States Agricultural Department reports the following as European crop conditions and prospects in January:

Great Britain.—The weather during January has been favorable to winter grain. In most parts severe weather has prevailed. In the northern parts and in Scotland the fields have been protected by snow and no serious damage has occurred. Milder weather prevails now and an increased yield per acre is predicted. The favorable reports from the other grain-producing countries have kept prices steady, and there is nothing to indicate any material advance; in fact, the tendency is toward lower prices, notwithstanding the frost blockade throughout northern and central Europe. The severe weather has destroyed the field root crop, chiefly turnips, upon which the farmers depend largely for the subsistence of their flocks and herds, and this has produced a stronger demand for oats and maize for feeding. It is estimated here that the American surplus of wheat is 16,000,000 bushels above former estimates, and that the Australasian surplus will add 16,000,000 bushels more of the crop of 1892. The low prices heretofore prevailing are believed to have checked sales, and the surplus therefore is considered unusually large.

France.—According to the report of the Minister of Agriculture, the area sown with wheat is about equal to that of last year. The condition up to December 15, outside the areas partially injured by the fall floods, left little to desire. On the whole the outlook is better than at the end of December. The condition of winter crops is regarded as satisfactory.

Germany.—The snowfall has been quite general, and the conditions are regarded as very favorable to a full yield. The plants are reported to be in excellent condition and no complaints of injury are heard.

Austria-Hungary.—Conditions are generally favorable.

Italy.—The variability of the weather has not been entirely favorable. The milder weather now gives an assurance of an average yield, and no serious complaints are made.

Denmark.—The conditions here are not less favorable than elsewhere throughout northern Europe. A full average crop may be expected.

Russia.—Except in the extreme southern parts the snow fall has been most favorable to the autumn sowings and little damage has occurred. The plentiful rainfall and ample covering afforded by the snow have operated to improve the prospect, and few complaints of injury are made. The success of the 1893 crop is considered assured.

India.—The latest official reports indicate that in the northwest provinces and Oudh and in Punjab the area sown is five per cent above that of last year. In the Punjab the area is put at 6,512,700 acres, which is not up to the average of the last five years. In the Central Provinces the area sown is larger than usual. The conditions are generally good, but final results depend upon the winter rains. In the Central Provinces the prospects are reported as exceedingly good. The reports from Calcutta, by the Madras Board of Revenue, indicate that the harvest in the southern districts has only yielded small return.

New South Wales.—The area under wheat this year is estimated at 509,760 acres, or 86,495 acres more than last year, the product being 7,176,000 bushels or 3,212,232 bushels more than last year. It is therefore estimated that this colony will require to import 1,250,000 bushels in 1893 against 3,312,000 bushels imported last year.

Produce Receipts.

Receipts of produce from all sources at this port for 7 days ending March 8, 1893, were as follows:

Flour, gr. sks.	102,737	Wool, bbls.	212
Wheat, cts.	357,551	Hay, ton	2,303
Barley, "	57,334	Straw, "	1.5
Rye, "	"	Wine, gals	390,60
Oats, "	3,533	Brandy, "	7,850
Corn, "	5,273	Raisins, bxs	1,950
Butter, "	1,094	Honey, cs	"
Cheese, cts.	749	Peanuts, sks	"
do bxs.	"	Walnuts, "	"
Eggs, doz.	68,02	Almonds, "	50
Beans, sks.	2,505	Mustard, "	1
Potatoes, sks.	24,303	Flaxseed, "	"
Onions, "	3,161	Popcorn, "	"
Brass, sks.	17,63	Broom corn, bbls.	392
Black wheat, "	"	Leather, rolls	327
Midlings, "	5,767	Tal oil, cts.	3,125
Screenings, "	"	Hides	1,373
Chicory, bbls	"	Pelts	"
Hops, bbls.	"	"	"

Markets by Telegraph.

Coast Products and Prices.

New York, March 5.—The past week was as dull as any of the winter. Local distributors are well supplied with most coast table goods and the country roads are so blocked by snow that outside replenishments are difficult to supply. There is, however, little wavering of price even with this condition, and no one fears a collapse.

An incident occurred this week which makes California's orchards seem nearer. A small consignment of ripe peaches in good order arrived here from the Cape of Good Hope. They were four weeks in passage and came via England.

Canned Fruits.—Fancy California fruit is named with some firmness, but the general average quality offering is large, and as buyers have come to regard the market as off, it is likely that when trading regains strength some of the less popular and old-crop brands will have to give concessions to start them.

Prunes.—Buyers would have to pay full late figures with forles and fillies at 13c to 13½c in boxes.

Peaches.—Prices are well maintained. Common, sacks, 12½c; prime, 13½c; fancy, 14½c.

Raisins.—There is little whole-sale movement, but the consumptive trade is favorably steady. Both California and Valencian are in few hands and few more of the latter are to arrive. The foreign will be

pushed out faster than the Pacifics, as they do not possess the carrying merit of domestic in hot weather. All prices remain firm; two-crown bags, 4½c; three-crown, 5½c; boxed Chesters sold at last advance to \$2.25 layers steady, at \$1.60 to \$1.70; so are loose, at \$1.20 to \$1.40.

Articots.—Indicate an early inquiry and are held at 15c to 17½c strong.

Wool.—Business at New York continues light in domestic, with a good demand in foreign carpet.

The Boston market reports fully supported prices, with trade rather restricted by hard hauling of supplies to mills. Some of the small factories have shut down temporarily from this cause which has also kept many buyers from attendance.

Sales at New York, 390,000 pounds domestic, including 25,000 California spring, at 16c; 80,000 pounds fall at 15c to 18c, and 532,000 pounds foreign.

Sales at Boston, 2,345,000 pounds domestic, including 105,000 spring California, at 14c to 20c; 25,000 fall at 16c.

Lima Beans.—Recent free deliveries have not depressing effect upon sellers, \$2.20 per bushel being the general rate for all decent to prime spot lots of fair size.

Hops.—Though last prices are unchanged the light sales indicate a weak feeling, especially in the State markets. Spring brings a need of realizing in the interior, besides foreign letters confirm recent cables as to the prolonged dullness abroad and buyers take advantage of the situation. In the hop districts here 19½c has been accepted for prime lots and some of our best spot Pacifics have sold at 22½c. Exports for the week, 414 bales.

Visible Grain Supply.

New York, March 6.—The visible supply of grain is as follows: Wheat, 79,097,000 bushels, a decrease of 467,000; corn, 15,287,000 bushels, an increase of 193,000; oats, 5,159,000 bushels, a decrease of 297,000; rye, 919,000 bushels, an increase of 4,000; barley, 1,719,000 bushels, a decrease of 133,000.

Grain Futures.

Liverpool.

The following are the closing prices paid for wheat options per cwt. for the past week:

	Mar.	April.	May.	June.	July.
Thursday	58 7/8d	58 3/4d	58 9/8d	58 1/4d	58 1/8d
Friday	58 7/8d	58 3/4d	58 9/8d	58 1/4d	58 1/8d
Saturday	58 7/8d	58 3/4d	58 9/8d	58 1/4d	58 1/8d
Monday	58 7/8d	58 3/4d	58 9/8d	58 1/4d	58 1/8d
Tuesday	58 7/8d	58 3/4d	58 9/8d	58 1/4d	58 1/8d

The following are the prices for California cargoes for off coast, nearly due and prompt shipments for the past week:

	O. C.	P. S.	N. D.	Market for P. S.
Thursday	30 0/4d	30 5/8d	3 s d	Weak
Friday	30 0/4d	30 5/8d	30 0/4d	Weak
Saturday	30 0/4d	30 5/8d	30 0/4d	Weak
Monday	29 9/4d	3 s d	30 0/4d	Weak
Tuesday	29 9/4d	30 0/4d	30 0/4d	Weak

To-day's cablegram is as follows:
Liverpool, March 8.—Wheat. Quiet but steady. California spot lots, 6s 1d; off coast, 29s 6d to 29s 9d; just shipped, 30s 3d; nearly due 29s 9d; cargo off coast, quiet; on passage, very quiet; Mark Lane wheat, slow; French country market, inactive.

Eastern Markets.

The following shows the closing prices per bushel of wheat for the past week at

New York.

	Day.	March.	May.	July.
Thursday	77 1/2	80 1/2	81 1/2	81 1/2
Friday	77 1/2	80 1/2	81 1/2	81 1/2
Saturday	77 1/2	80 1/2	81 1/2	81 1/2
Monday	77 1/2	80 1/2	81 1/2	81 1/2
Tuesday	77 1/2	80 1/2	81 1/2	81 1/2

The following is to-day's telegram—per bushel:
NEW YORK, March 8.—Wheat—78½c for May, and 80½c for July.

Chicago.

	Day.	March.	May.	July.
Thursday	74 1/2	77 1/2	78 1/2	78 1/2
Friday	74 1/2	77 1/2	78 1/2	78 1/2
Saturday	74 1/2	77 1/2	78 1/2	78 1/2
Monday	74 1/2	77 1/2	78 1/2	78 1/2
Tuesday	74 1/2	77 1/2	78 1/2	78 1/2

The following is to-day's telegram—per bushel:
CHICAGO, March 8.—Wheat 76½c for May, and 78½c for July.

San Francisco.

WHEAT.

	March.	May.
Thursday, highest	131 23/4	129 1/2
" lowest	128 1/2	128 1/2
Friday, highest	128 1/2	128 1/2
" lowest	127 1/2	127 1/2
Saturday, highest	127 1/2	127 1/2
" lowest	127 1/2	127 1/2
Monday, highest	127 1/2	127 1/2
" lowest	127 1/2	127 1/2
Tuesday, highest	127 1/2	127 1/2
" lowest	127 1/2	127 1/2

*Buyer's option.

The following are to-day's recorded sales on Call:
Milling 1 formal—Wheat—May, 1200 tons, \$1.26½ @ cts.
Regular Session, May, 200 tons, \$1.26½; 300, \$1.26½; 50, \$1.26½. December, 200 tons, \$1.32½ @ cts. Afternoon Session—May, 100 tons, \$1.2½; 400, \$1.2½. December, 100 tons, \$1.32½ @ cts.

BARLEY.

	March.	May.
Thursday, highest	84 1/2	85 1/2
" lowest	84 1/2	84 1/2
Friday, highest	84 1/2	84 1/2
" lowest	84 1/2	84 1/2
Saturday, highest	84 1/2	84 1/2
" lowest	84 1/2	84 1/2
Monday, highest	84 1/2	84 1/2
" lowest	84 1/2	84 1/2
Tuesday, highest	84 1/2	84 1/2
" lowest	84 1/2	84 1/2

*Sample market—choice brewing.
Barley 1st run—N. sales. Regular Session—May, 100 tons, 8½c; 100, 8½c. 8-11er 1893, new, 300 tons, 8½c @ cts. Afternoon Session—May, 100 tons, 8½c @ cts.

Fruits and Vegetables.

Choice selected, in good packages, fetch an advance on the quotations, while very poor grades sell less than the lower quotations.

		MARCH 8 1893.				
James, Mex.	5 00	@ 6 00	Okr. dry, lb.	15	@	15
Do Cal.	5 00	@ 6 00	Parsnips, cts.	1 00	@ 1 25	
Lemons, box	2 50	@ 3 50	Peppers, dry, lb.	5	@ 7	
Do Sicily choice ..	5 00	@ 5 50	Turnips, cts.	15	@ 70	
Apples.	35	@ 65	Carb.abbage, 100 lbs	80	@ 90	
Do Good.	75	@ 1 25	Garlic, lb.	3	@ 1 1/2	
Do Extra choice 1	51	@ 1 75	Marfat Squash,			
Pears.	25	@ 1 00	" ton.	10	@ 12 00	
Do Winter Nells ..	1 00	@ 1 50	Onionflower.	50	@ 60	
Persimmo s.	50	@ 1 00	Celery	50	@ 60	
Oranges, pr bx ..	2 50	@ 3 00	Mushrooms, lb			
Navels, River do ..	2 50	@ 3 00	" Common.	10	@ 15	
Do Butte Co., ..	2 00	@ 2 50	Do. Ruton.	20	@ 30	
Sealy, River do ..	1 25	@ 1 50	Tomatoes, box.	15	@ 18	
Do Butte Co., ..	1 25	@ 1 50	String Beans.	15	@ 18	
Do Butte Co., ..	1 25	@ 1 50	Rhubarb.	8	@ 10	
Extra choice fruit		for special	Green Peas.	4	@ 6	
purposes s-ills at an advance			Asparagus.	10	@ 15	
on outis le quotations			Cucumbers, doz 1	01	@ 1 50	
Beets, sk.	-	@ 60	New Potatoes.	2	@ 3	
Carrots, ak.	40	@ 50				

General Produce.

Extra choice in good packages fetch an advance on top quotations, while very poor grades sell less than the lower quotations. MARCH 8, 1893.

BEANS AND PEAS.		SONORA.....HOPS.	
Bayo, chl.	2 50 @ 2 60	1892, fair.	18 @ —
Buster.	2 75 @ 3 00	Good.	18 @ —
Pea.	2 75 @ 2 80	Choice.	19 @ —
Red.	2 75 @ 3 00	FLOUR.	
Small White.	2 50 @ 2 60	Extra, city mills.	3 90 @ —
Large White.	2 65 @ 2 85	Do country mls.	3 90 @ —
Lima.	3 00 @ 3 10	Superfine.	2 50 @ 3 00
Fl'd Peas, blk eye	1 10 @ 1 65	NUTS—JOBBER.	
Do green.	2 00 @ 2 25	Walnuts, hard	6 @ 8
Split.	4 50 @ 5 50	shell, Cal. B.	8 @ 12
BUTTER.		Do soft shell.	10 @ 12
Cal. poor to	15 @ —	Do paper-shell.	12 @ 13
Do fair, B.	20 @ 21	Paper shell.	13 @ 15
Do g'd to choice	22 @ 23	Almonds, fashl.	7 @ 8
Do Gilted.	23 @ —	Brazil.	10 @ —
Do Creamery.	24 @ —	Pecans, small.	8 @ 10
Do do Gilted.	24 @ —	Do large.	14 @ 16
East-rn, lad e.	15 @ —	Peanuts.	34 @ 4
Cal. Pickled.	16 @ —	Filberts.	10 @ 12
Cal. Keg.	15 @ —	Hickory.	7 @ 8
East-rn Cr amly	19 @ 20	Chestnuts.	9 @ 10
CHEESE.		ONIONS.	
Cal. choice	12 1/2 @ 12	Silverskin.	1 50 @ 2 00
cream.	10 @ 12	POTATOES.	
Do fair to good.	13 @ 14	River Reds.	80 @ —
Do Gilted.	13 1/2 @ —	Early Rose, chl.	1 00 @ 1 10
Do Skim.	5 @ 6 1/2	Peerless.	80 @ 90
Young America.	12 @ 13	Do do Oregon.	1 15 @ 1 25
EGGS.		Sweet.	1 50 @ 1 75
Cal. "as is," doz	10 @ —	Extra choice sell for more	money
Do candled.	17 @ —	POULTRY.	
Do choice.	17 @ —	Hens, doz.	7 00 @ 8 00
Do fresh laid.	17 @ —	Roosters, old.	6 50 @ 7 00
Do do old white	16 @ —	Do young.	7 00 @ 9 00
Do selected.	16 @ —	Broilers, small.	4 50 @ 5 00
Outside prices for selected	large eggs and inside prices	Do large.	5 00 @ 5 50
for mixed sizes—small eggs	are hard to sell.	Fryers.	6 50 @ 7 10
FEED.		Ducks.	7 00 @ 7 50
Bran, ton.	13 50 @ 14 00	Do large.	8 00 @ 9 00
Feedmeal.	25 00 @ 26 00	Geese, pair.	2 25 @ 2 50
Gr'd Barley.	19 00 @ 19 50	Turkeys, goblr.	17 @ 20
Middlings.	19 00 @ 20 00	Turkeys, hens.	17 @ 20
Oil Cake Meal.	— @ 35 00	Do dressed.	20 @ 23
HAY.		All kinds of poultry, if poor	or small, sell at less than
Compressed.	6 50 @ 9 50	quoted; if large and in good	condition, they sell for more
Wheat, per ton.	7 00 @ 12 00	than quoted.	
Do choice.	7 00 @ 12 00	PROVISIONS.	
Wheat and oats.	7 00 @ 10 00	Manhattan Egg	Food (Red Ball
Wild Oats.	7 00 @ 9 00	Cultivated do.	Brand) in 100-
Barley.	6 00 @ 8 50	Alfalfa.	8 00 @ 10 50
Alfalfa.	8 00 @ 10 50	Do dressed.	7 00 @ 9 50
Clover.	7 00 @ 9 50	Straw, bale.	35 @ 50
Straw, bale.	35 @ 50	GRAIN, ETC.	
Barley, feed, chl.	75 @ 80	Do good.	8 1/4 @ —
Do good.	8 1/4 @ —	Do choice.	8 1/4 @ —
Do brewing.	90 @ 95	Do do choice.	92 1/2 @ —
Do do choice.	92 1/2 @ —	Do do Gilted.	94 @ —
Do do Gilted.	94 @ —	Do Chevalier.	89 1/2 @ 90
Do do Gilted.	1 15 @ —	Buckwheat.	1 75 @ 2 00
Corn, white.	1 05 @ 1 07 1/2	Yellow, large.	1 05 @ 1 07 1/2
Do small.	1 05 @ 1 07 1/2	Oats, milling.	1 40 @ 1 50
Feed, choice.	1 3 1/2 @ —	Do good.	1 35 @ —
Do good.	1 35 @ —	Do fair.	1 30 @ —
Do fair.	1 30 @ —	Do common.	1 25 @ —
Do common.	1 25 @ —	Surprise.	1 45 @ —
Black feed.	1 25 @ 1 12 1/2	Gray, milled.	1 25 @ 1 30
Gray, milled.	1 25 @ 1 30	Rye.	1 10 @ 1 13
Wheat, milling	1 32 1/2 @ —	Gilted.	1 27 @ 1 30
Gilted.	1 27 @ 1 30	Good to choice.	1 25 @ 1 27 1/2
Do fair to good.	1 25 @ 1 27 1/2	Shipping, choice.	1 22 @ —
Shipping, choice.	1 22 @ —	Do good.	1 20 @ —
Do good.	1 20 @ —	Do fair.	1 20 @ —
Do fair.	1 20 @ —	Common.	1 17 @ —
Common.	1 17 @ —		

A General Round Up.

In the farming districts of California where the depredations of squirrels and gophers are so universal, and where the individual and aggregate losses thereby caused, foot up such enormous amounts, it becomes the duty of every man or woman engaged in agricultural pursuits, to exert every means within their reach to destroy the evil. This is a duty that they owe no less to their neighbors than to themselves. When it is known that the means for destroying the pests is at hand and easily obtained, the problem is at once simplified, and as the mating season of these rodents is at hand, prompt and active measures by those who have been their victims in past seasons will no doubt be the order of the day.

Then for a general massacre, the farmer who is wise with experience or advice, will ask his grocer for "Wakelee's Squirrel and Gopher Exterminator." And he will take no other. In case the dealer should not have the genuine article in stock and should attempt to push an inferior preparation upon him, the man who is determined to kill will at once order "Exterminator" from headquarters, (Wakelee & Co., San Francisco.) The cost, 50c per one-pound can, or \$5.50 per dozen, is practically about the price of the imitations, and will cut little or no figure in the business when the results accruing are taken into consideration. To give a better idea of the nature and application of the Wakelee Exterminator, as well as to quell the doubts of those who are not at present acquainted with its merits, the following testimonials are submitted:

[From John T. Ward, Esq., Napa.]

MESSRS. WAKELEE & Co. Gentlemen:—We have given your Squirrel Exterminator a fair trial, and are perfectly satisfied with its workings. It is a dead shot; 15 kernels at each squirrel-hole will kill almost every squirrel, and after filling up the holes few are found re-opened.

We poisoned one field which was badly infested; to secure the scalps we placed the poison two feet from the holes. In almost every instance it killed before the squirrel could get back to the hole. In the field we found blackbirds and meadow larks dead from its effects, and dogs and cats which ate the dead squirrels were also killed. So completely was the field rid of the vermin, that the grain stood thick about the stumps and trees, where always before the squirrels had destroyed the seed.

I can recommend your Exterminator to all who are troubled with squirrels. It does all you claim for it, and is the most effective poison I ever used.

Perhaps the best recommendation I can give it is, that after one season's trial I am so well satisfied with it that I shall use it in larger quantities this season.

Very truly yours,

JOHN T. WARD.

[From the Squirrel Inspector, San Lorenzo District, Alameda County.]

MESSRS. WAKELEE & Co. Gentlemen:—I have used your Squirrel Exterminator in this district, and find that it fully comes up to its recommendation, and the most efficient poison yet used by me.

GEORGE HYDE,

Squirrel Inspector San Lorenzo School District.

During the past year I have sold many hundred cans of WAKELEE'S Squirrel Poison to our farmers and Squirrel Inspectors in the vicinity of Antioch. To my knowledge many experiments have been tried systematically with the poison by them, and all pronounce it to be the most economical as well as the most destructive poison now in use.

WM. ODEN.

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NOTICE.

THE ANNUAL MEETING OF THE STOCKHOLDERS of the Grangers' Business Association, a corporation, for the election of a Board of Directors, and for the transaction of such other business as may properly come before it, will be held at No. 108 Davis street, San Francisco, at 10 o'clock A. M. WEDNESDAY, April 12, 1893.

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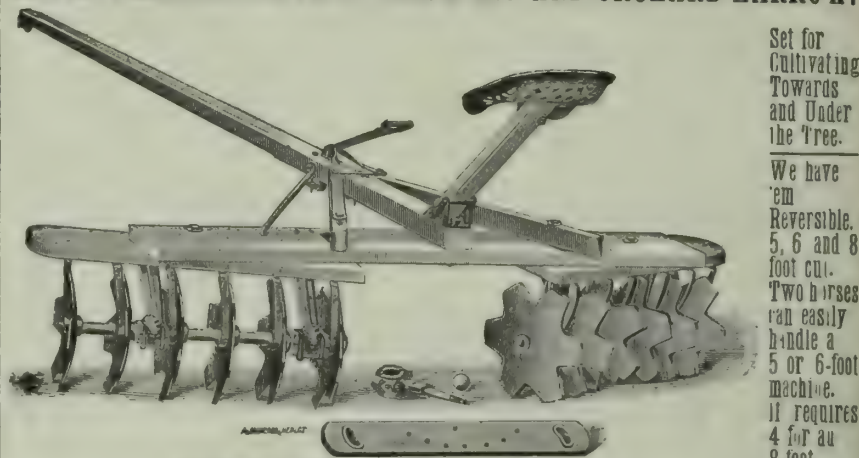
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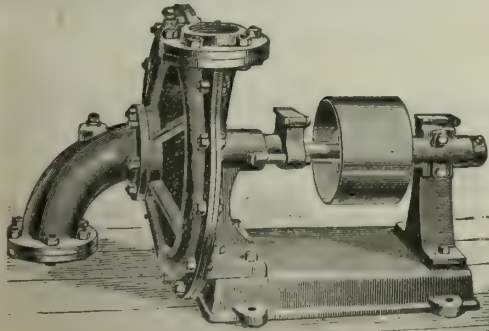
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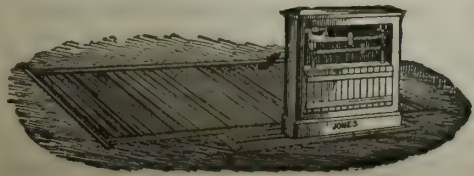
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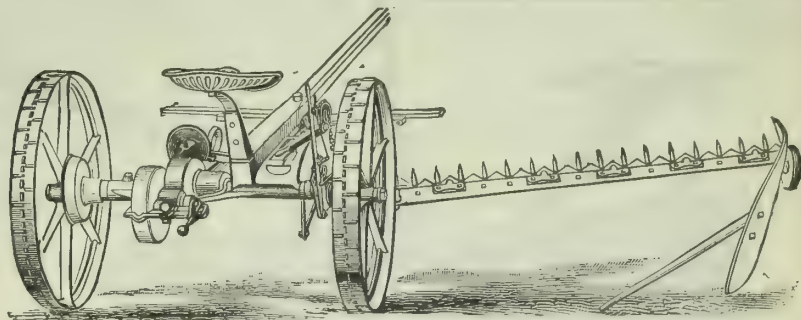
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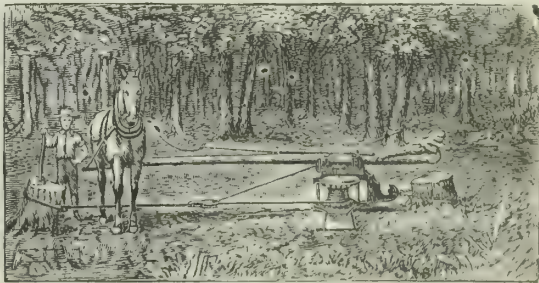
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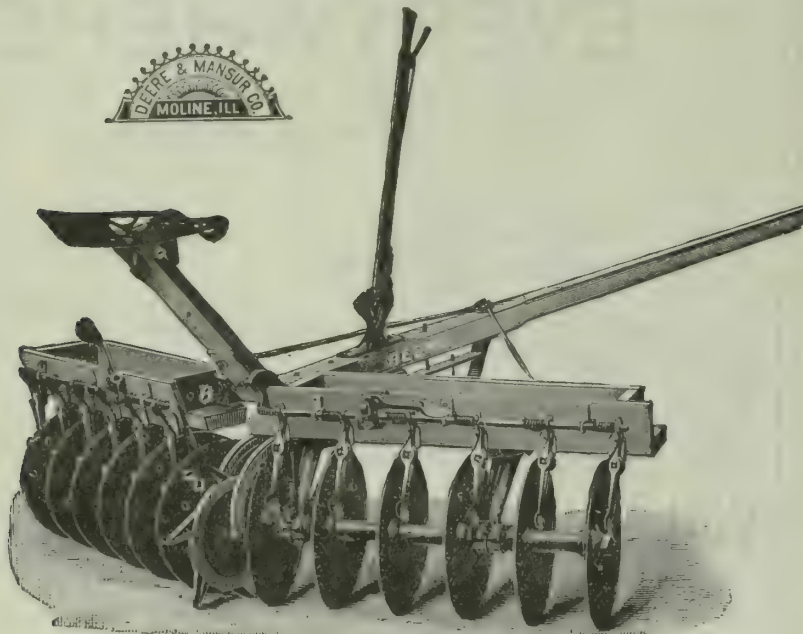


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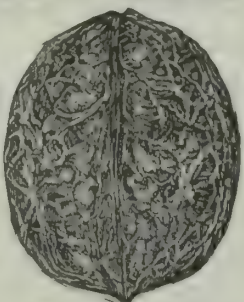
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Vol. XLV. No. 11.

SAN FRANCISCO, SATURDAY, MARCH 18, 1893.

THE DEWEY PUBLISHING CO.
Office, 220 Market St.

The Wool Outlook.

The beginning of the spring wool clip is at hand, and shearing has actually begun in parts of the State. Threatening and stormy weather, however, has delayed a general movement among growers, and it is not probable that the click of the shears will be heard in all parts of sheep-growing California until about April 1st. In 1892, at this time, early consignments of wool were at hand in this city, and the shipping movement had fairly begun. A few scattered lots have already arrived, but they are not likely to become frequent or numerous until next month.

Wool prospects are satisfactory, both as to market and volume of product. It is likely that the California clip will be larger this year than last, and there are excellent reasons for confidence in the prevalence of fair prices. The opening of the wool season is particularly auspicious. Not a single bale of unsold wool is to be found in this market at this time. Producers can therefore rely on an active demand at the beginning, with no trouble in disposing of consignments. Of course it cannot be stated with absolute safety that these satisfactory conditions will remain during the entire season. Much depends upon developments. But there are at present no ominous clouds in the woolen sky—so to speak—and we may hope for and reasonably expect fair weather during the season.

The reasons for this expectation are founded in the following: The world's supply is not large. The manufacturing demand in the United States is heavier than ever before. There is no reason to anticipate abnormal production by any country in the world. No change in the tariff is likely to be made this year. Transcontinental freight rates are lower this year than last. The quality and quantity of the California product are good.

The United States consumes more wool now than at any time in its history. Whether its manufactories may continue to be so active, thrifty and prosperous under a decreased tariff is an open question; but the conviction is growing that the present administration will find it impossible soon to make important changes in the tariff laws. It will, we think, proceed cautiously and conservatively, and no modification is at all likely to be made that will at once disastrously affect the market and the producer. Indeed, in the present condition of Government finances, it seems probable that high tariffs must be maintained indefinitely in order to secure revenues sufficient for the running expenses of the Government. Just at the present time there is no practical difference between "tariff for protection" and "tariff for revenue only." For these reasons, and for the further very good reason that Congress has adjourned, and tariff legislation is impossible until next year—barring the possibility of an extra session—we may rest assured that there will be no early tariff agitation affecting wool.

Wool freights from California to Boston were reduced January 1st. It is not too much to expect that freight tariffs will not be elevated again so long as the railroads are compelled to compete for through traffic with water carriers. The establishment of a new line of freight steamships from San Francisco to New York via Panama seems to give assurance of continued competition, and of a

cheapening of rates that will benefit all California shippers.

ORGANIZATION PAYS. It would be very hard to convince the stockholders of the San Jose West Side Fruit Growers' Association otherwise. According to a report published on another page, the Association has this year divided \$87 50 per green ton on all prunes dried by it, and for peaches and prunes "a sum" (so says the report) "somewhat more per green ton than selected fruits of the same kinds brought when sold in other ways." The success of the San Jose Association has been attained by

The New Secretary of Agriculture

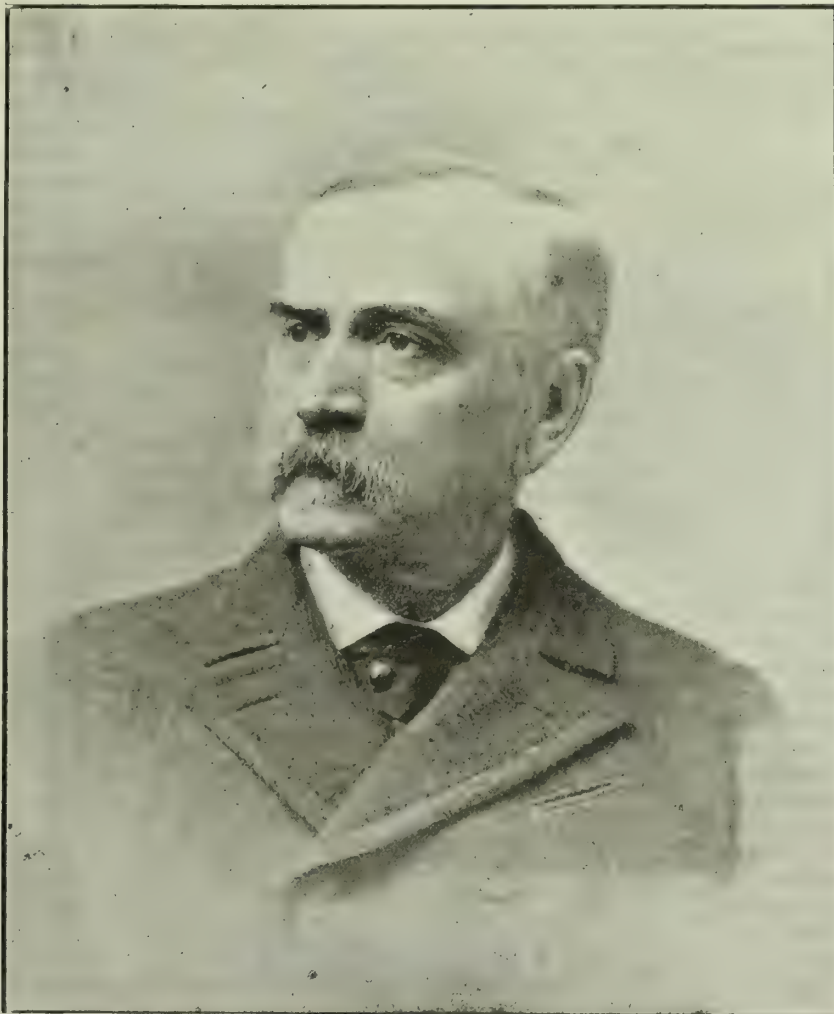
We gave our readers last week a glimpse at the face of our new Secretary of Agriculture as one of the Cabinet group surrounding the new President. As Mr. Morton is our own special property as agriculturists, we desire to draw a little nearer to him to discover what manner of man he is and has been. The *Breeders' Gazette* of last week has a portrait of Mr. Morton, which we re engrave, and from its characterization of him we draw such statements as seem to us of widest interest.

J. Sterling Morton was born in Adams, Jefferson county, N. Y., April 22, 1832. His father, Julius Dewin Morton, a native of St. Albane, Vt., was a man of marked ability and sound business judgment. Removing with his parents to Michigan at an early age, Mr. Morton attended school at Monroe, subsequently at the State University at Ann Arbor, and finally at Union College, N. Y., from which he received his diploma in 1854. Oct. 30, 1854, he was married to Caroline Joy French of Detroit, with whom he had attended school from childhood and to whom he had been engaged from the age of sixteen. On the same day, accompanied by his wife, he started for Nebraska. Arriving at Bellevue early in November, he remained there for some months and then removed to Nebraska City, where he enlisted in newspaper work, and soon after entered public life, filling various important positions in the then new State of Nebraska, and has ever since been prominent in its public affairs. Mr. Morton has lived for thirty-eight years upon his farm at Nebraska City, giving it his personal attention. He is a tree enthusiast, and as the originator of Arbor Day—a day now set apart by proclamation in many States for planting trees—his reputation is more than national.

Mr. Morton has always manifested a strong taste for horticulture, and has given much attention to it along with his general farming operations. He was one of the first to introduce improved live stock into the territory, and has always been a breeder and feeder of cattle and hogs. He early secured a Morgan stallion from Michigan and later a well-bred roadster from Indiana, and great improvement was wrought by the introduction of these sires.

In 1858 he brought some Devons from New York with which to raise oxen for the freighting trade on the plains. Several years ago he established a herd of Jerseys. He early introduced the Suffolk hogs from the herd of "Long John" Wentworth, and for nearly forty years he marketed on the average fifty to seventy-five swine a year. He has also engaged considerably in steer-feeding, especially on his tenant farms, and recently the cereal mills at his home, in which he is interested with his son, sent to the Chicago market 1000 head of sheep fattened on the by-products of the mills. They now have a number of grade Angus steers in the feeding pens.

It thus appears that Mr. Morton has been for years in close personal touch with agriculture, horticulture and live-stock husbandry. He represented his State at the Paris Exposition and was one of Nebraska's commissioners at the Centennial. His whole life-work has been a training for the duties of the office which he now assumes.



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active and intelligent co-operation of leading growers. There are no discordant elements. The stock sells at par and is in demand. The San Jose growers have pursued their ends in a quiet and unobtrusive manner, but persistently, judiciously, and unitedly. They deserved success, and they have secured it. May others profit by their admirable example.

THE short-weight butter bill has become a law, and there is now a fair prospect that the consumer who buys a two-pound roll of butter will get thirty-two ounces in every roll—what he pays for. The new law will be hurtful only to dishonest traders. It will benefit the producer. Let it be enforced.

OWING to inclement weather last Saturday the Livermore stock and stallion show was postponed until to-day (March 18th). If the day is good, a fine exhibition is assured.

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ANY subscriber sending an inquiry on any subject to the RURAL PRESS, with a postage stamp, will receive a reply, either through the columns of the paper or by personal letter. The answer will be given as promptly as practicable.

ALFRED HOLMAN.....General Manager

San Francisco, March 18, 1893.

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The Week.

Those who asked for a heavy winter to make up for the trifling of the elements for the last two years are getting all they desired and more. It is proving to be very heavy. Considerable areas of valley grain have been soaked to its death. It is altogether likely, too, that we shall have some "sour sap" work to record presently, and others will pursue the drain-tile makers as some did three years ago. There has already been some harm done to almonds and possibly to apricots by the heavy rain and sporadic hail storms during blooming time.

The South has had its touch of beauty this spring, as the North did a few years back, and the tourist has been more charmed by snow mantles on bearing orchard trees than the owners have been. Fortunately, however, so far as reported, the snow has been a "warm snow," and ruinous freezing has not followed.

The continued cool weather has kept back the grass, and, in spite of the abundant moisture, feed has not yet come forward generously. This will come, however, for the sun will soon show his triumph over northerly winds.

The year's experience is not exceptional. The bitter goes with the sweet, and a year of storms usually is a year of low temperature. The ills of the present will be forgotten in the prolonged spring verdure and the generous fruition of the summer.

The Department of Agriculture.

The installation of a third incumbent of the Secretaryship of Agriculture, whose personality we are pleased to present upon another page of this issue, makes it pertinent to comment briefly upon the important branch of our general government which is entrusted to his hands. Two Secretaries of Agriculture preceded him, though it is but four years since the office was created, and one of the secretaries served a full term of four years. Herein is an agricultural riddle which posterity may puzzle over. For, be it known, that the law which created the secretaryship

was approved by President Cleveland on March 2, 1889, and Mr. Morton took office March 6, 1893, with two names ahead of his as having held the office. The explanation, of course, is that Col. N. J. Colman of Missouri having done much for the elevation of the Department of Agriculture to distinct standing in the President's Cabinet, bore the mantle of the secretaryship upon his shoulders for a day, and then threw it to Jere Rusk, who served during the whole of President Harrison's term. Thus Colonel Colman, who was in some sense the Moses who led the Department of Agriculture out from the obscurity of a bureau of the Department of the Interior into the fulness of Cabinet recognition, really fared better than the Moses of old, because he did really go a day's journey into the promised land.

The growth and development of our Department of Agriculture is indeed a very interesting phase of our industrial history. As early as 1837 the United States Patent Office began the publication of agricultural information and a few years later divided its annual reports into two parts: one mechanical, the other agricultural. This arrangement continued until 1862 when a separate bureau was created for agriculture in the Department of the Interior and a Commissioner of Agriculture appointed. This status continued until 1889, when agriculture was recognized as a department of the government, equal in rank with others and its head threw his legs with others under the presidential mahogany at the White House. It seems a short story and yet no department of the government developed so slowly, nor overcame such prejudices. In fact as one looks back over the recollections of the half century it seems surprising not that it advanced so slowly, but that it survived at all. We believe there was no high thought of its scope and influence at its conception and we are sure that in its youth no future was foreseen for it. Such being the case it became a mere beast of burden for Congressmen to ride into the good graces of their rural constituents and it became a poor beast at best for its back was nearly broken by the burden it was ordained to carry. And it was poetic justice that this was so because its publications were so stale and ill adapted and its seeds so low in germanating power that the farmers whose favor was sought cast its books into paper mills until fire was called upon to reduce the accumulations, and its seeds even the birds of the air found indigestible. As a natural result the department fell into disrepute, its officers became the butts of ridicule and their declarations food for scorn. Worse than this they were the slaves of commanding congressmen and the prey of stale seed swindlers. Nor was this wonderful for too many incumbents were seated in recognition of political services rather than for knowledge of the work to be prosecuted. The body public jibed and railed at the Department of Agriculture; the agricultural population disowned it and disclaimed its work.

But slowly the tide of higher agricultural intelligence was spreading over the country and self-assertion among agriculturists was gaining force. The agricultural press, the agricultural colleges, the agricultural associations were allies advancing on parallel lines, and extending their flanks toward each other. Pressure was exerted upon executives and upon Congress. Better commissioners were named, and they threw off the congressional yoke. Better assistants were chosen and they began original and valuable work. Slowly but surely the Department of Agriculture arose in public respect and won the support of agriculturists. These new elements of strength finally lifted the Department out of its traditions, away from its reputation, until it now stands on an equality with other great governmental departments, its scientific work in good repute, its practical efforts welcomed and applauded.

Credit for the elevation of the Department of Agriculture to a secretaryship in the Cabinet is primarily due to the long and persistent work of the National Grange. At least for twelve years before the law of March 2, 1889, was passed did this Order strive for it. It was looked upon as a point of much significance in every way. The political and social recognition was regarded as important perhaps as the industrial stimulus and protection. The result has unquestionably demonstrated the sagacity of this anticipation. It has made our Government more thoroughly representative. It is the experiment in public affairs of the wonderful advancement of agriculture in public esteem and individual perception as a congeries of arts whose success is the reward of intelligence, of acumen and business capability. It is the national declaration that the American farmer is not a muddill.

But while we credit the Grange with carrying this issue to its successful end in the public mind and in the halls of Congress, it must not be forgotten that it could never have succeeded had not the Department of Agriculture during its later years, made wonderful strides in its own regeneration. No amount of outside influence could have made the Department of Agriculture of twenty years ago a Cabinet branch of the Government. For this reason we

credit Norman J. Colman of Missouri with being a Moses to this movement. Even before his time Loring had taken honorable steps in the same direction and Le Duc was better than his predecessors. It was then a gradual upward tendency which Colman caught up and pushed forward until fit for the portfolio which but once he closed his hand upon.

The history of the department under Rusk is too fresh in the minds of our readers to need discussion. We may say, however, that his administration was a notable success. Beginning with a high calling which Congress had provided but an empty purse, he has secured liberal allowance of funds and a corps of workers in the different lines of agricultural research, who stand high in their several lines in the estimation not alone of this country but of the world. Service has been rendered to the agricultural industries which was hardly dreamed of by the most far-seeing. It is to the promotion of such work thus faithfully pursued that Mr. Secretary Morton now dedicates his many talents. We are glad that so important a trust falls to so good a man.

At a meeting of the recently organized Southern California Breeders' Trotting Association, S. A. Brown, of Kalamazoo, Mich., made the following sound remark: "It has come down to a question of individuality with the practical breeders of the nation. The blood of the horse is but a secondary consideration after all, and the great demand being accurate form, sound feet and limbs, as well as pure gait and good temper." Mr. Brown's statement is cadable of wide application. It is true not only of the horse but of all varieties of useful stock. Individual care and local conditions are all important in development. Blood is a fine thing, but it is not the be-all and end-all of stock-breeding. Blood must be well used like any other strong force.

A STRONG FIGHT was made in the late Legislature against appropriations for the State Fair and the various district agricultural fairs. The claim was set up that the latter are nothing but racing and gambling meetings and contribute much to demoralization and increased police expenses of the various counties. The usual appropriations, however, were allowed to stand, the legislators seeming to think it did no harm to talk severely about the fairs, but it might do harm to vote the same way.

Government Crop Report.

WASHINGTON, March 10.—It is estimated that the proportion of wheat on hand is 26.2 per cent of the last crop, the smallest in ten years. The quantity on hand aggregates 135,000,000 bushels,—36,000,000 bushels less than last March and 23,000,000 less than the remnant of the very small crop of 1890.

A very large proportion is found in States that do not spare a bushel for commercial distribution. There are only 34,000,000 in the principal spring wheat States, more than half of which is required for seed in the spring. Of winter wheat, only the States of Kansas and California have any considerable surplus available for commercial distribution.

It is shown that if the present estimates are correct, which cannot be possibly assured, that the crops of 1891 and 1892 were under the estimates by two or three per cent, which would be a very close margin on the safe side. Very little old wheat is reported on hand. The average weight of the measured crop per bushel, calculated from returns of millers and State agents and correspondents, is 57.5 pounds, reducing the estimated produce to 494,000,000 commercial bushels.

The crop report for March of the Department of Agriculture relates to the distribution of corn and wheat and stocks remaining on farms. It is not a census of individual holdings of growers, but based on county estimates of the percentage of last year's product remaining, made by the Board of Correspondents in each county, and also by an independent board reporting to the State agent. All grain, including any surplus of previous years, is included. These separate results are scrutinized, obvious errors and inconsistencies circulated, distance harmonized and ultimate statements tabulated by States, to show both percentages and aggregate quantities.

THE Colton southern fair doubtless opened up Thursday night "in a blaze of glory"—to use a hackneyed expression. The southern counties generally manifested great interest in the exhibition and contributed generously to its success. The Colton pavilion, just erected, is said to be the largest and finest structure, for the purpose, ever erected in California. It is an ornamental structure as well as a very useful one, and will supply the needs of San Bernardino county, and adjoining counties, for years to come. State Fairs, District Fairs, political conventions of all parties, and all sorts of assemblages can pull themselves together under its wide-extended roof, and along its extensive halls and find accommodation to the full degree of solid comfort. It is announced that all trains going through Colton will stop long enough to give passengers an opportunity to take in the fair.

THE Los Angeles orange pyramid at the World's Fair will be a noticeable feature. It will be 60 feet high, and the bright color of the fruit will help to make it conspicuous. C. M. Wells, superintendent of the Department of Horticulture of the State exhibit, invites a large display of citrus and other fruit, and says that ample space has been provided for the purpose.

From an Independent Standpoint.

In its issue of last Saturday evening the *Sacramento Bee* contained a series of articles rudely reflecting upon the Legislature. The session, it was declared, had been a grossly corrupt one; the State had been outraged by its enactments, and the city of Sacramento had been shamed by the licentious debaucheries of its members. The *Bee's* "artist" furnished a pictorial illustration of a midnight orgie in which legislators were associated with lewd women, and the headline writer, in a masterpiece of journalistic vulgarity, "thanked God that the session was almost over." The publication made a "hit"—more of a hit than the editor expected. The Legislature was indignant and one of its members (Seymour, of San Bernardino), in a rage of resentment, offered a resolution in the Senate proposing an amendment to the Constitution removing the seat of the State Government to San Jose. The members seemed to think it was a good joke on Senator Hart, of Sacramento, and, amid shouts of laughter, the resolution was carried by 27 votes to 3. Thus endorsed it was hurried off to the Assembly; the laugh grew louder and the joke was looked upon as irresistible. Although it was 11 o'clock at night a vote was taken in the Assembly, resulting in the adoption of the resolution by a vote of 43 to 6. The news soon ran through the streets and Sacramento got such a shaking-up as it has not had for many a day. The wires carried the news to San Jose and created intense excitement. In both cities the streets were thronged with excited citizens all day Sunday talking the matter over, and on Sunday evening mass meetings were held. Sacramento passed resolutions condemning the articles in the *Bee*, denouncing the paper and urging citizens to withdraw patronage from it, assuring the Legislature of its most esteemed consideration and begging that the unfriendly resolution be rescinded. San Jose pledged herself to donate ten acres of land for a capitol site and to give a cash bonus of \$1,000,000. Both cities appointed delegations of leading citizens to attend upon the Legislature and urge the local cause. All Monday forenoon the fight was hot and heavy, the San Joseans urging their interest with utmost vigor and eloquence and the Sacramentans pleading with all their might. In each House the resolution was called up on Monday afternoon upon motion to reconsider, and in each the vote for San Jose was larger than before. That settled it; the thing is past undoing and the people will be called upon to decide at the next election whether they will have the capital at Sacramento or San Jose.

Thus far the most forcible argument presented against removal is that it would involve the abandonment of the Capitol, which, with its grounds, has cost the State something like five millions of dollars. This, it is urged, would practically be thrown away by removal to another city. On the other hand, it is urged that the bonus offered by San Jose will provide a building of modern construction and really better suited to the uses of the State Government. The San Jose advocates claim that the Sacramento property can be put to profitable use as an asylum or as a home for other State institutions. In the end, opinion is likely to be very largely dominated by considerations of local convenience, and in this relation it is an important fact that San Jose is south and Sacramento north of what is called the center of population. An east-and-west line dividing the State into districts of equal population would pass through San Mateo county, leaving San Francisco and Oakland in the northern half. The San Jose people assume that practically all of the southern counties will vote for San Jose, and that, upon considerations of local convenience, San Francisco and Oakland will also give a large majority for their city. They admit that at the present time San Jose is aside from the through lines of travel, but point to railroad construction now in progress, which, within two years, will connect Fresno with the north and south coast line, and extend the last-named line to Los Angeles. They place strong reliance upon their unquestioned advantage of climate and expect further favor from the prejudice popularly felt against Sacramento on account of the corporation interest and influence centered there.

On the other hand, Sacramento has the advantage of possession and nobody will expect to see the move effected without large cost to the State, even if San Jose holds to her million-dollar pledge; and already there are questionings as to the ability of San Jose to put up this large sum. Furthermore, the advantage of association and sentiment is with Sacramento. Citizens generally dislike a change of this kind, unless there is good reason for it; and the spirit of resentment in which the Legislature adopted the resolution will work widely in favor of Sacramento. There will no doubt develop a thousand considerations, not now in view, on each side of the question, and the public may safely rely upon the competing cities to

hunt them up and put them before the voters before the time comes for rendering judgment at the polls.

The Legislature has by formal resolution asked the general government to turn over Goat island to the State for public uses, upon terms reserving its usefulness as a point of public defense. The project back of this request is to connect Goat island with the Oakland side of the bay by a mole, surround it with wharves, girdle it with a belt-line of railway and make it a terminal ground, subject to use upon equal terms by any number of railways seeking an outlet upon San Francisco bay. It is practically impossible as matters now stand, for a competing line of railroad to get suitable terminal grounds in or near this city, and it is believed that the Goat island project, carried into practical effect, would act as a powerful aid toward giving California what all of its citizens want, namely, another system of railroads. Some years ago the Southern Pacific Company made an effort to buy Goat island from the Government with the idea of using it as a terminal ground, and its success would have given that road for all time an immense advantage over every other. The new project is totally different, in that it proposes to give the Southern Pacific no privilege which will not be shared upon equal terms by other roads which may choose to come this way. Of course it would be necessary to surround the grant, if the Government chooses to make it, with absolute safeguards against its monopolization by any one railroad company or any combination of companies.

The Government does not readily give up properties of this kind, but we see no reason why it should wish to retain Goat island. It makes practically no use of it at the present time, and the only service to which it could ever put it, namely, that of harbor defense, would not be in any way affected by the plan of making it a terminal ground. The central and higher parts of the island could be reserved and fortified just as if no use were made of the shore line. This is a matter in which the interests of the city and the country are identical, and they ought to bring their united influence to bear in carrying the project into effect.

The long contest between the Southern Pacific Co. and the people over the matter of the former's unpaid back taxes was settled in the closing hours of the legislative session by a sort of compromise. It was practically a surrender on the part of the railroad people, consented to under a realizing sense that public opinion was against them, and that while they might compromise the matter this session, no compromise would be allowed two years from now. The adjustment finally arranged and incorporated in what is called the "Seawall Re-assessment Bill," allows re-assessment of the railroad taxes by the State Board of Equalization for the whole period of delinquency but retains the rate of taxation as it originally stood. It is assumed that the Board of Equalization, which is not unfriendly to the railroad company, will lower the old assessments to correspond with the present valuation of railroad property, which, as everybody knows, is very much less than the valuation for former years. This re-assessing process will no doubt cut a big slice from the delinquency (which now amounts to about two and one-half millions), but the settlement was perhaps the best that could have been made without continuing a contest which is a source of infinite annoyance and the fruitful parent of political and legislative corruption. Our faith in this settlement, as being a reasonable one, is, in large measure, based upon the fact that it was consented to by Hon. Thos. McConnell of Elk Grove, who has stood as the champion of the people in this matter during the whole session. The approval of Mr. McConnell will, we imagine, be an assurance to the bulk of our readers, as it is to us, that the settlement made was the best possible under all the circumstances.

Of course, the railroad may, if it wishes, appeal to the courts as against this settlement, but it is believed that it will see the wisdom of paying up and getting the matter hushed up.

It is perhaps worth while to refresh the memory of our readers, by a hasty review of this whole matter. The "new Constitution" of 1879 made an exception from the rules governing the assessment of property in the several counties, by providing that the valuation of railroad property be assessed by the State Board of Equalization. To this exception the railroad people objected on three counts, namely: (1) that it was in violation of the 14th amendment to the Federal Constitution which declares that there shall be no discrimination in the assessment and taxation of property; (2) that while deduction for indebtedness was allowed to ordinary taxpayers, no such privilege was allowed to the railroads; and (3) that the assessments as imposed by the Board of Equalization were excessive.

For the years between 1879 and 1885 the railroad paid—to quote the words of its chief attorney—"as it was minded," or about sixty per cent [of the total assessment. In the

years of 1885, 1886 and 1887 it refused to pay anything and has, in fact, never paid one cent of the assessment for that period. Since then it has practically accepted the principle of the Constitution by paying like any other property holder; but it has never paid the back taxes, the total arrearage being about two and a half millions of dollars. Their proposition has been to compromise by paying for 1885, 1886 and 1887, under a re-assessment by the Board of Equalization—a plan which it has been assumed would allow them to get off for about one and one-half millions. This scheme of settlement has been bitterly fought on the theory that the railroad ought to pay its taxes like any other taxpayer, and that it would be grossly unfair to allow it to get off with paying only three-fifths of its dues while ordinary property-holders paid in full. The "Seawall Bill" disposes of the matter by conceding the claim for re-assessment, but requires that the whole period of the delinquency shall be reviewed and that the failure to pay for the years previous to 1885 shall not be made a pretext for not paying now.

There is something in the claim of the railroad company that it is not fair to assess ordinary property by one method and railroad property by another. But in a certain measure, injustice is inevitable in any possible method of assessment, under a system which (like ours) looks at railroad property in a wrong view. The true value of a railroad property is its capacity to earn money, and it should therefore be taxed, not upon the cost of its roadbed, but as a facility and in proportion to its revenues. A railroad running through a valley where there are no grades to overcome may be cheaply built, while another which crosses mountains costs more, not only to contract but to maintain. Now, it is manifestly unjust to charge the valley road, whose grades are light and whose earnings are heavy, less taxes than the mountain road whose grades are heavy and whose earnings are light. The basis of railroad taxation, we repeat, should be not the worth of its roadbed but the amount of its revenues.

The new administration has put the brakes hard down upon the Hawaiian project and proposes to go slow and take a good, sober second thought before coming to a final judgment. The treaty of annexation arranged by Secretary Foster and the Hawaiian envoys, and submitted to the Senate by President Harrison in the closing days of his administration, has been withdrawn by President Cleveland. A commission composed of Representative Blount of Tennessee (late Chairman of the House Committee on Foreign Affairs), Gen. Schofield of the army and Admiral Brown of the Navy has been appointed to visit Hawaii, look into the situation thoroughly, inquire into the motives and methods of the recent revolution and ascertain the views of the Hawaiian people with reference to annexation. This commission will leave San Francisco within the next ten days. In the meantime, it is assumed that the protectorate established by Minister Stevens will not be disturbed. Thus, the end of the matter is far ahead.

It is declared by persons who claim to know President Cleveland's mind (he has made no public utterance with reference to the matter), that he is personally opposed to annexing the Islands unless a clear majority of its inhabitants, both native and foreign, are favorable to it. This puts the whole project in new shape and gives the friends of the deposed queen new hope that she may be restored.

As a matter of fact, the slow way is much the better way, since the considerations involved are of the most momentous character. We cannot afford, as a nation, to play any sort of grab game in connection with the Hawaiian Islands; and we ought carefully to study the question in all its bearings before committing ourselves. As the *RURAL* said when the project was first proposed, to annex these Islands, which lie 2000 miles to the southwest of us in mid-ocean, would be a departure from American precedent and a violation of the counsels of the founders of the Republic who warned future generations against a policy which would extend the dominion of the Republic beyond the limits of the continent. It would involve the taking into our body social of a half-civilized, alien element out of which we could not safely make citizens and which our system, as it is now arranged, provides no means of taking care of as subjects. It would create in a small way a new political problem akin to the negro problem in the South and the Indian problem in the West. To annex the Hawaiian Islands would at once put upon us the business of defending them, and that would require a large increase in our naval establishment, the construction of an ocean cable connecting the Islands with the continent and the maintenance at all times of an expensive naval force in mid-Pacific. We should have to encounter the jealousy of the leading European nations, especially of Great Britain. Considerations so important are, indeed, worth careful study, and our Government owes it not only

to this time but to all future generations of Americans, to look well before it leaps.

In his inaugural address, President Cleveland said:

One mode of the misappropriation of public funds is avoided when appointments to office, instead of being made the rewards of partisan activity, are awarded to those whose efficiency promises a fair return of work for the compensation paid them. To secure the fitness and competency of appointees to office, and to remove from political action the demoralizing madness for spoils, civil service reform has found a place in our public policy and laws. The benefits already gained through this instrumentality, and the further usefulness it promises, entitle it to the hearty support and encouragement of all who desire to see our public service well performed, or who hope for the elevation of political sentiment and the purification of political methods.

And it really looks as if he were going to stand by it. The hordes of office-seekers now at the national capital are getting small comfort. The President told Senator White of this State, on Friday of last week, that he intended to move very slowly, and that he did not intend to appoint any of the old office-holders under his first administration. This statement is reaffirmed by Representative Bretz of Indiana, who makes the following report of an interview with the President. Said Mr. Bretz to Cleveland:

"Mr. President, I have just one question to ask you. Is it true, as has been stated in the newspapers, that you will, as a rule, refuse to re-appoint men who held office under your previous administration?"

"It is," replied Mr. Cleveland with laconic brevity.

"Does that rule apply to postmasters?" asked the Indiana Congressman.

"It does," said Mr. Cleveland sharply.

"And to anything else?" asked Mr. Bretz, thus multiplying his one question into three.

"To everything," replied the President.

"Good day, Mr. President."

"Good day, Mr. Bretz."

From this and similar expressions by Mr. Cleveland and by members of his Cabinet, a Washington correspondent has made up the following rules which will govern all appointments to the public service under this administration:

First—Incumbents will be retained in office until their commissions expire or until there is a voluntary resignation. When there is no commission fixing the tenure the efficient incumbent will be permitted to serve four years from the time of appointment.

Second—No one who has held office under the former Cleveland administration will be again appointed to office, exceptions being railway mail clerks and postoffice inspectors.

Third—No appointment will be made in States having Spring State elections until after such elections.

Fourth—All Postmasters must divorce themselves from private business except in instances where the fourth-class pay is so small that Postmasters will not give their undivided time to the postoffice.

Fifth—Appointments will not be made upon the magnitude of petitions or indorsements alone, but character, appearance and evident fitness of the applicant for the place must also be considered.

Sixth—As appointments are of an executive and not of a political character, recommendations by primary elections will not prevail.

Seventh—No exception will be made to rule 2 in favor of applicants who were removed from office by the last administration before they had served their full term of four years, no matter how brief their service may have been.

Rule 1 does not apply to foreign missions, to the higher grades of consuls and to assistant secretaries and chiefs of bureaus. It is intended, however, to cover that vast class of patronage included in the Postoffice, Internal Revenue and customs service. Rule 2 is flexible and will be made to cover appointees under the first Cleveland administration who are still in possession outside of classified service.

This, of course, is hard on the office-hunters, but it is in the line of civil service reform and it will, we believe, suit the people generally who have less interest in who gets the offices than in having the business of the Government properly looked after at the lowest reasonable cost. For one, the RURAL sincerely hopes that the President will stick to the rules.

The result of a municipal election held in Oakland on Monday of this week illustrates the growth of independent political sentiment as applied to local affairs. There were four candidates for Mayor—one ring Republican, one ring Democrat, one all-round crank (of the Dr. O'Donnell type) and one Non-partisan. The latter was elected by a plurality of nearly seven hundred. Nor was this all. The general Non-partisan ticket city was elected almost to a man, and the Oakland City Government, for the first time in many years, finds itself in clean and capable hands. The principle which has thus triumphed in Oakland—that of putting the city and county affairs in the hands of clean men without respect to party politics—ought to be applied in every city and in every county in California—and in every other State, for that matter.

Treatment for Follicular Mange.

TO THE EDITOR:—Will you kindly inform me how to treat my little terrier (female), aged two years, as, I confess, I am somewhat puzzled? She has a scabby breaking-out over the head, neck and back of the ears, from which matter exudes. The rest of her body is all right. She is very fond of getting off into the woods, hunting on her own

account, and it has occurred to me that possibly dogs, like human beings, may be affected by poison oak. I may add that I have been giving her sulphur sprinkled on her food. Yours truly,

Alma, Santa Clara Co.

S. D. YONGE.

REPLY BY DR. BUZARD.

The dog is suffering from follicular mange. Treatment—Acid acetic and spirits of turpentine, of each two drachms; oil of tar, half an ounce; mercurial ointment, one ounce; sulphur, eight ounces; whale oil, ten ounces. The whole to be well mixed and rubbed on the affected parts for five minutes. Wash off in 48 hours with soap and warm water, and when the skin is dry apply to the surface whale oil, and the following day, without washing, repeat as before the ointment dressing. Allow a week to elapse before another dressing of the same, if necessary, is applied.

405 Broderick St., S. F.

A. E. BUZARD,
Vet. Surgeon.

The Stanford Meeting.

TO THE EDITOR:—I don't think we fruit-growers are quite as grateful as we ought to be to men like Professor Comstock, who patiently and laboriously investigate the habits of insects, that we may benefit thereby.

Here in California we've had the wire worms chewing our potatoes for years, burrowing in them in every direction, till an Early Rose potato fit to cook is not to be found in San Francisco market. Only a few days ago two or three commission merchants insisted to me that the worm holes were made by grass roots, and not by worms at all. Remarkable roots, surely, to bore into a growing potato, and then pull themselves out when the potato was ripe and dug!

With these wire worms, Prof. Comstock has been experimenting; had a regular menagerie of wire worms under glass, so that he could take observations when he wanted; tried various ways of exterminating them. Salt at the rate of eight tons to the acre killed the worms and the crop. Four tons killed the grass and not the worms. The professor is very cautious in giving a decided opinion, and this was his verdict as regards the use of medium dressings of salt: "I won't say it's no use, but it does not kill the worms and does not drive them into the ground." Summer-fallow was tried to no purpose. The worms lived in ground where not a weed or plant was allowed to grow. Only one method destroyed the worms, and that was a thorough stirring up of the soil in the fall. That settled it. No worm survived in soil so treated. Fall plowing, then, is the remedy for wire worms. These worms are the larvae of the click beetle (*Elateridae*), and no one yet knows where it lays its eggs, though we all know how destructive the worm is to seeds and plants. My son once took 80 from a single cabbage plant. The knowledge of this simple means of destroying them should be worth millions to the farmer.

The history of a long series of experiments on the pear psylla, a most destructive insect, was also given. Kerosene emulsion just after leaves open kills this.

Prof. Comstock eulogized California as being one of the quickest States to apply entomological knowledge, but remarked that we made no provision for obtaining it. The discouragement incident to the damage done by insects was not without use; it had taught us something of resistant stocks, and possibly was tending to develop a resistant stock of fruit-growers, the fittest of whom would survive this pestering by endless pests.

Another lecture was mainly devoted to a life-history of scale insects. In this the professor spoke of the various species of plant lice or aphids (aphididae), all of whom obtain their sustenance by a suction tube inserted into the tissues on which they feed. One remarkable feature of these insects was the apparatus for the secretion of honey dew discharged by two abdominal tubes. This honey dew is much appreciated by ants, who constitute themselves guardians of the aphids, and not only fight their foes, but sometimes actually build sheds over them, collect and preserve their eggs and carry the young to good pasturage. A little brown ant is entirely responsible for the ravages of the corn-root aphid, wintering it on various weeds and assisting its migration from weeds to corn.

The females of plant lice give birth to living young, but sometimes an egg-laying generation appears, usually before a cold winter or, perhaps, in this State, before the dry season. In two years, 62 generations of this insect have been known to develop without any males appearing. When the containing plant becomes overcrowded, a winged form is evolved, and the professor considered this one of the most marvelous things in nature that, after many wingless generations, a winged brood should appear when emigration was desirable. The woolly aphid came in for a share of attention in regard to its dimorphism, or double form—one as seen above ground and one below. That living above ground is comparatively harmless. It is that found on the roots that saps the tree's life, and no adequate remedy is yet found to check its inroads. Bisulphide of carbon is probably the best application yet tried, but any tree badly infested is best dug out and replaced by some tree of another species.

But Prof. Comstock does not like always to talk of injurious insects. The fruit-grower has many friends among the insect tribes—insects predaceous and parasitic; but these predaceous insects may destroy friends as well as foes. Some, like *Vedalia cardinalis*, eat prejudicial sorts only. With these is classed the whole race of ladybirds or ladybugs, which are neither birds nor bugs, but beetles. (A collection of Australian varieties was here exhibited.) It is the larvae of these that do the feeding, preying on a variety of plant lice and scale insects. It is quite important to distinguish between these ladybugs and the diabroticas which eat vegetable tissues.

Another class beneficial to the farmer is the aphid lion, a lace-winged fly. These have the peculiar habit of laying their eggs at the end of a stalk to prevent the newly-hatched larvae acting as cannibals and eating their fellows yet unhatched.

Little idea is usually entertained of the debt owed to parasitic insects, among which Ichneumon flies were next enumerated. No insect manages so to exclude itself as to escape these flies. One is provided with an auger ovipositor that will penetrate the burrow of a grub in the heart of a tree and there lay eggs that will eat into that grub till he quits chewing the tree. Some of these parasites penetrate with their ovipositors the skin of a caterpillar and lay their eggs under the skin; others glue their eggs to the skin, and the young eat their way into the caterpillar's vitals. Chalcids flies are smaller and destroy scale insects.

Insecticides come in for a share of attention. They are of two classes. The first kills by internal poisoning; the second by external contact. In the first class the arsenites have superseded all others. In the use of these there are two things to consider, the efficiency of the poison; its effect on the plant.

White arsenic is powerful and cheap, but too caustic on plants. Paris green is better as being in great degree insoluble. Paris green is better than London purple. It is less scorching and more constant in composition, London purple being merely a waste by-product of aniline dyes.

Of the second class of insecticides, kerosene emulsion seems chiefly favored East, while resin wash seems to meet the wants of California orchardists. The professor suggested the use of a "catch-basin" of prepared cloth to catch the drippings from large trees. He also thought that mixing lime with the arsenical washes tended to diminish their causticity. He also thought the printer's-ink band for canker-worms not profitable. Spraying the fresh leaves with Paris green would be more effectual.

On Friday Professor Comstock gave his hour to Professor Kellogg of Kansas who gave a most interesting account of the chinch-bug war now progressing in that State. In 1865 Dr. Scheimer found numbers of chinch bugs dead in a field in Illinois. Following in the

line of Pasteur's investigations it was found by Forbes in 1882 that chinch bugs succumbed before the attacks of a fungus and a bacterium. Both these can be cultivated artificially, and at the proper season chinch bugs inoculated with one or other of these destructive agencies. These are then distributed to any farmer whose fields are infested with chinch bugs. He turns them loose where the bugs are thick, and the disease is conveyed to the whole chinch-bug army. Last year 3000 lots of infected bugs were distributed, and in about 2000 instances with great success. In Illinois and Minnesota like experiments were successful.

EDW. BERWICK.

Carmel, March 13, 1893.

Gleanings.

MONROVIA, in Los Angeles county, wants a cannery.

"A FIVE-DOLLAR MARE bred to a ten-dollar horse will bring a seven-and-a-half-dollar colt sure," wisely remarks the Santa Cruz *Sentinel*.

A SPECTER JACKRABBIT has been seen in Sierra valley. He has been shot at over a thousand times and never hit. That's what the newspapers say.

A CHICKEN-THIEF at Stockton, surprised while pursuing his dark-of-the-moon vocation, ran away and left a sack containing three chickens he had stolen elsewhere.

It is unauthoritatively announced that railroad fares from California points to the World's Fair at Chicago will be \$72.50 for round trip tickets of the first class and \$52.50 for second class.

THE funny newspapers are having a lot of sport with the name of Hoke Smith, the new Secretary of the Interior. Well, it's better to be a joked smith than a jawsmith, anyway. You're all right, Hokey.

A FARMER living along the North Pacific Coast Railroad has secured judgment against the railway company in \$5025 for setting fire to his grain-field and burning his house, horse and wagons. He sued for \$12,000.

LADIES in Alameda—that is, some ladies—now ride astride in bifurcated skirts. There is one consoling reflection about threatening fashions: No woman can sport the crinoline and bifurcated skirts at one and the same time.

WARNER HOIT of Missouri, a third-class clerk in the Pension office, has been dismissed for having stated to members of Congress that pensions were being given for baldness. However suspicious it may look, this is not one of Bill Nye's jokes.

THE Southern California Breeders' Trotting Association has been organized, with the following officers: President, Hon. L. J. Rose; vice-president, Hon. R. Gird; secretary, Edward Smith; treasurer, W. Stimson. Its purpose is explained by its title.

"STUTTERING SAM" CLARK, who was reported as having perished in a haystack fire at Four Corners, declares that the report is wholly untrue. Sam is very positive about it, and, in lack of testimony to the contrary, we shall accept his statement as truth.

THE Porterville *Enterprise*, which runs "Ici on parle Français" at the head of its editorial columns, comes to hand this week printed partly in German. When called to account for the apparent inconsistency, the editor may truly reply that he speaks French all right, but he writes German.

"A MAN nowadays who shoots another for a deer should be taken out by an indignant public and hung for an ass," says an exchange. Why abuse the meek, lowly and altogether peaceable mule in that manner, friend? Hang the shooter for his own sake. Just so he's hung.

THOSE who have good hop roots for sale are finding no difficulty in disposing of them. Indeed, the demand is so active and the supply so short that hopmen consider them safer under lock and key than in the field. If this be an insinuation that they are likely to be feloniously abstracted from the field—why, make the most of it.

AN ARTICLE is going the rounds, beginning "as a rule the rural editor gets about a thousand kicks to one care." In the first place, if this statement be true, the rural editor must be a sorry kind of creature if he stays in the business when he has the great American privilege of engaging in some more satisfactory occupation—like breaking stone on public roads, for instance. In the second place the statement is not true.

THE following directors have been elected by the Solano Agricultural and Speed Association: Joseph Wilson, V. V. Harrier, Thomas Smith, J. C. Anthony, B. F. Rush, John Thoreson, Frank Blanco, E. N. Smith and John Wilson. The directors elected John Wilson, Pres.; Thos. Smith, Vice-Pres.; J. R. Whitaker, Sec.; R. S. Knight, Treas. An offer of \$65 per acre and \$2500 for improvements was made to Dr. Trull for the land which the association desires to purchase for racing and fair purposes.

A MOVEMENT is on foot to remove the must-condenser from Geyser-ville to Healdsburg. The reason Baron Von Schilling, the manager, advances for changing its location is that the altitude of the ground, in its present location, is but 2½ feet above the bed of the Russian river. It was once a branch of the stream, consequently when the water is high in the winter time the premises are inundated, the sewers become troublesome, and all the waste water of the neighborhood flows into the well, rendering it useless for must condensing.

THE following figures show the enormous amount of cabbages shipped from this State every year to eastern points:

Year.	Tons.	Pounds.
1887	9,236	18,472,000
1888	6,473	12,946,000
1889	3,727	7,454,000
1890	3,727	7,454,000
1891	8,461	16,922,000
1892	7,674	15,348,000
Total	39,298	78,596,000

THE Sebastopol (Sonoma county) Packing Company last season paid out \$38,000 for fruit and \$18,000 for white labor. The following directors have been chosen for the ensuing year: P. H. Atkinson, H. S. Barnes, M. Litchfield, J. H. P. Morris, Ira Miller, F. W. Seaby and C. Wightman. Mr. Miller and Mr. Seaby are new directors, and take the places of President Holloway and C. A. Perry. The directors elected the following officers: P. H. Atkinson, president; J. H. P. Morris, vice-president; Bank of Sebastopol, treasurer; F. W. Seaby, secretary and superintendent. The first year's run was satisfactory, but it is expected that the experience gained will assist in making the present season even more profitable. Most of the stockholders are fruit-growers, and they have found that it pays to provide a home market for their products.

THE increase of orchard acreage in Lucerne valley this year is very large. Peaches, apricots and prunes have been the favorites. The Hanford *Sentinel* gives the following partial plants for the season: W. J. Newport, 1000 peach trees, 800 apricots, 900 prunes; C. Latham, 200 peaches and 1000 prunes; A. V. Taylor, 200 pears, 2000 peaches, 1700 each of apricots and prunes; Mrs. E. Trewbitt, 600 peaches, 300 apricot trees; B. F. Thornton, 600 peaches, 200 apricots, 200 prunes; W. W. Bloyd, 1600 peaches, 400 apricots, 300 prunes; J. M. Lrft and has planted 400 more peaches and a lot of almond trees; Armona Orchard & Vineyard Co., 1800 peaches, 1600 apricots and 700 almonds; A. Leon, 350 peaches, 250 apricots; G. W. Fallet of Lemoore, 2500 peaches, 500 prunes; P. McCarthy of Lakeside is planting 255 each of peaches and apricots and 500 prunes; A. J. Roberts is putting out 1000 pears on the Solano Ranch, and P. McRae is planting 1000 pear trees on the McRae vineyard; John Wyruk is putting out 500 apricot trees; the Banner Vineyard is planting 11,000 Sultana vines; the Del Monte Vineyard 2500, and W. S. Porter 2000 of the same.

THE DAIRY.

Short-Weight Butter.

The Legislature has practically passed a bill making it a misdemeanor to sell short-weight rolls of butter. The measure narrowly escaped disaster in the Senate, the argument being advanced that a farmer might become a criminal through the melting of an ounce from each roll while en route to market on a sultry day. It was pointed out, however, that the shortage, to be criminal, must be within the knowledge of the retailer; so the bill was ordered to engrossment. It is a deplorable fact that the practices which this measure is designed to prevent are engaged in by dealers, and that a good deal of short-weight butter is offered for sale in the San Francisco and other markets. When butter sells at retail for 70 and 80 cents a roll, the buyer feels that he has been grossly abused and cheated if he does not get full weight. The tendency is to throw discredit on the entire business, and honest butter-makers, who are the great majority, suffer with dishonest dealers. Except in cases of some makers and creameries that turn out brands of approved quality, the buying public is able to make little or no distinction between the various makes, and places all butter-makers and dealers in the same category, so far as this particular practice is concerned. If a few deceive, they think all are deceivers.

Dealers, not makers, are largely responsible for these discreditable methods. Butter is bought by weight and sold by the roll, so that the manufacturer gets exactly what he is supposed to get; and all the profits of stunted butter go to the dealer. It is a fact that creameries, dairymen and other makers are expected and even required to manufacture "two-pound" rolls weighing less than two pounds, or they may have difficulty in disposing of their product. It may happen, and we think does happen, that a 50-roll box will not weigh more than 90 pounds. The maker therefore sells 90 pounds of butter at, say, 25 cents per pound, receiving \$22.50. The salesman sells 50 rolls at 70 cents per roll, receiving \$35. He should get \$31.50 (85 cents per pound). He therefore has a legitimate profit of \$9; illegitimate, \$3.50, or \$12.50 in all. It is time this kind of business is stopped. We hope the new law will be enforced.

Criticism of Our Dairymen.

A recent correspondent of *Hoard's Dairyman* writes: "Recently, when traveling through Humboldt county, Cal., selling the separators, I found a creamery that a 'disinterested' individual had put up for \$12,000, and to help it along had kindly taken \$6000 in stock. Well, he did pretty well; for he made a profit of \$2000 beside his stock. In other words, the creamery cost him just \$4000. The establishment, very naturally, is not running now, but I do not believe the people there know what is the matter, for the man is still in the same community, and is putting up a \$2000 creamery for \$7000."

"The dairymen there seem to think the trouble is with the system. They don't know what is the matter. In Marin county, the same State, are two creameries, and one of them the owners boast cost them \$25,000 in cash. If I can't build a better creamery for \$5000 I'll eat it, though I never built a creamery in my life and have no desire to go into the business. The people don't know anything about prices. If you tell them what they ought to be, they think you are talking of inferior goods."

"Here in Illinois a man can get his separator bowl balanced for \$4 and freight, and if he goes where he should to have it done, it is balanced correctly. In California, if you charge less than \$25 you are no good. Don't you think that would be a good missionary field?"

Why Creameries Fail.

At a Farmers' Institute, in Mexico, Missouri, a Mr. D. Morse stated very clearly some of the reasons why one creamery fails and others succeed, says *Hoard's Dairyman*. The most prolific cause of failures is found in a deficient and inconstant supply of milk. It requires a certain amount of milk per day to pay the running expenses of a creamery. A large plant and a heavy pay-roll will require more than a small plant and a small salary list. When the daily supply of milk is not sufficient to meet the daily expenses, there is a daily loss which must finally end in financial disaster. On the other hand, the more milk handled beyond the amount necessary to pay running expenses, the greater the profits.

The moral is too obvious to require special statement. No creamery should be started without reasonable assurance that it will receive the milk from 300 cows for 365 days in each year.

The machinery and fixtures for such a creamery, commonly called the "outfit," can be purchased at from \$1200 to \$1500, and one may spend from \$800 to \$2000 for a building. Oftentimes a second-hand separator and boiler and engine, nearly as good as new, may be had and the inside figures given above materially reduced; but you might as well expect to float a modern ironclad man-of-war in a goose pond as to run a creamery or cheese factory without cows. Make more of the milk supply.

Where Dairying Pays.

Mrs. D. B. North, who returned from a trip to Fortuna, in Humboldt county, was greatly pleased with that locality. Snow occasionally falls there, but only at intervals of two or three years, says the *Oroville Register*. There is rarely any frost or cold to damage fruit, but this is not the great industry there, for the people pay more attention to dairying than to any other pursuit. Creameries have sent many land-owners into the dairying business, for they find that it pays regularly and better than almost any other pursuit. Fine fruit of nearly all kinds is grown, but each man who owns land appears to be devoting his time and attention

to cows and butter-making. Land is as high as \$400 an acre for dairying purposes, and it appears to us that good land for grazing in Butte county will pay well for dairying purposes, when men in Humboldt can pay \$400 an acre and still make money.

A Good Record.

James Sutherland is the owner of a \$108 cow, five years old, of the Holstein and Jersey breed. He bought her some months ago and she is now fresh. From six milkings, made in three days, Mrs. Sutherland churned six pounds of extra-good butter. Has any one a better record to bring forward? asks the *Hanford Sentinel*.

POULTRY YARD.

A Word More About Mating.

Mate the fowls for hardiness. A weak fowl is invariably, from a practical standpoint, an unprofitable fowl. The food it consumes goes largely to sustaining the fowl in its unequal conflict for life. Little strength is left over for production or reproduction. It cannot, like its strong competitors, meet the difficulties of existence even handed. It is out of relation with its environment, abnormal in its condition, and hence life is sustained only by greater effort than is required by the strong fowl. It often succumbs in this struggle, but if it lingers long, still holding on to the thread of life, and succeeds in leaving any descendants, it leaves only weak ones, whose survival is doubtful in fact, and more doubtful in desirability.

Mate for easiness of keep. There are always some fowls that can be kept in good condition upon less grain than is required to keep others in a like condition. The digestion, or disposition, or both are more perfect. The food eaten does more for the eater. Such fowls are more likely to beget fowls that can be kept cheaply than the kinds more expensive to feed. Where many are kept, the small savings of each, added together, will make a not inconsiderable sum; and such fowls are usually in better health and therefore better fitted to be productive than those which eat much with comparatively little good unto themselves.

Mate for disposition. Breeders of Pit Games do this, only they call it courage. Now, disposition makes a deal of difference in the comfort of caring for a flock of fowls, and it is not without influence on the profits to be derived therefrom. A wild, scary lot of hens will break windows in the hen-house, scale fences about their runs, smash eggs placed under them, trample upon and kill their chickens, create heat and bad blood in the owner's veins, and generally do lots of mischief. This wildness will be transmitted to their descendants and will be intensified in the young by the training of the parents; whereas a kind, gentle, courageous disposition will save all this trouble, loss and vexation.—*Silas Bevan in Poultry Monthly*.

Helpful Poultry Hints.

Straw is almost indispensable in the poultry yard. Its uses are legion.

A quantity of straw in the breeding yard will keep the hens busy, and exercise is necessary for the production of fertile eggs.

If hens are compelled to work diligently in straw for about half of each day, it will be the means of keeping their legs bright and clean and thus prevent "scaly leg" from getting a start in the yards.

Feed your poultry on raw onions, chopped fine, mixed with other food, about once every other day; it is better than a dozen cures for as many different diseases.

One of the best disinfectants is made by putting an ounce of potash permanganate in a pint of cold water; for use, one ounce of this fluid should be used to half a pint of water.

If Brahmas and Cochins were obliged to forage for a share of their living they would get enough exercise to counteract the tendency to obesity and broodiness, and keep them in good laying condition.

There is great danger of your breeding hens becoming too fat; if they are, you will get no fertile eggs, or they will only produce weak, puny chicks. Keep them hungry and busy at work all day hunting their feed.

Do you work by a system? This is one of the roads by which one arrives at success. Begin at once. Lord Chesterfield gave good advice when he said: "Lay down a method for everything and stick to it invariably."

The farmer's flock of poultry should be composed of choice specimens only, the very best of the season's raising. Why should we save the best wheat, corn and potatoes for seed, and not select the best fowls for breeding?

Plucking fowls is a tedious process; if there are any who want to operate without the aid of the scalding process let them do so, and when they are tired of that let them try the following improved method: Dip the fowls in cold water and let them drip; then apply finely-pulverized rosin to the feathers, using a dredging-box for convenience; then scald in the usual way. The rosin sticks the feathers together so that the pin-feathers come out with the others, saving much trouble. Apply about half a teaspoonful of rosin to a fowl; use the common, crude article; it is cheap stuff, and its cost is made up ten times over by the labor saved.—*Poultry Monthly*.

Cures for Diseased Fowl.

A sure cure for roup is to give your fowls three parts sweet oil and one part kerosene, once a day.—*B. W. Breighner, Clinton, Ill.*

The following remedy will remove scaly legs: First, wash the legs thoroughly with carbolic acid soap and warm water, and then apply a mixture of sulphur and lard for

three or four days. Next, rub kerosene on with a soft rag. The parasites will be destroyed and the trouble disappear. *R. G. Belcke, Peoria, Ill.*

Can I kill lice with boiling soap-suds, spraying it in?—*J. C. K., Three Rivers, Mich.* The boiling soap-suds will clean them out effectually, if used plentifully.

How can I destroy lice on hens that already have them? "Subscriber." Dust well with insect powder, also rub a few drops of lard well on the heads and necks.

My chickens have a cheesy substance on bill and tongue, eyes swelled, and odor very strong.—*P. L. C., Hillsboro, Mo.* It is roup. Put a teaspoonful of chlorate potash in each quart of the drinking water.

Homoeopathic pellets of belladonna are an excellent remedy for apoplexy in poultry, while the remedy rhus tox is excellent for the difficulty of springhalt.—*Mrs. M. L. Paschall, Benning, North Dakota.*

Water should be given to young chicks in a manner to permit only of the beaks entering the drinking vessel. Dampness is fatal to chicks. If a chick becomes wet, in any manner whatever, it will die unless it is immediately dried, and even then, if it recovers, it will have received a check in growth that will always be noticeable compared with others.

I had 15 hens and 1 rooster. All had canker of the mouth and throat, some of them so badly that they could not eat. I put them all in a house by themselves and I began to doctor them. I used chloride of potash and alum, equal parts, containing one-half water, and swabbed their mouths and throats with the mixture. I only lost one, and it was nearly dead when I began doctoring them. My hens were choice Brown Leghorns, and I could not afford to let them die.—*Eugene Peet, Chillicothe, Mo.*

—*Poultry-Keeper.*

THE GARDEN.

Do Seeds Die When They Germinate?

TO THE EDITOR:—In your issue of January 28, Dr. A. S. Hudson, writing from Stockton scouts the idea of grain dying when it germinates. To make his meaning clear I copy from his letter:

I was surprised to note, a year or two ago, that a prominent California scientist approvingly quoted the absurd doctrine that "the seed must die" before it can sprout and grow. Whoever will stop and analyze the question will see the impossibility of such a state of matters occurring. For a seed to die would be the end of it, so far as its being is concerned. To die means to decompose, to disintegrate, and the elements thereof to return to air, earth and water from whence they came. To die is to rot and become offensive to smell.

On the other hand, the germinating seed does not die, nor rot, nor disintegrate, nor become offensive to smell. It only softens to become sufficiently fluid or liquid to be absorbed, and the elements thereof rearrange themselves in the form of roots and stem. At an early time in this growth, if the roots and stem be weighed, says Dr. Draper, it will be found their weight will be the same as that of the original seed, minus the water absorbed.

He admits, it will be noticed, that when a seed ceases to exist it is dead. He also by inference asserts that without the stench of decay there is no real death. The position he assumes is not in accordance either with science or common sense, and I shall now endeavor to prove that two-fold fact.

As long as a grain of wheat or any other vital seed is kept cool and dry it remains an inert thing, but put it into a moist, warm soil and it soon displays its inherent powers. The moment that germination begins, disintegration of the seed, as such, begins also. According to Webster, disintegration means a separation of a thing into integrant parts, but Dr. Hudson asserts that a germinating seed does not undergo disintegration.

He then goes on to say that its elements are absorbed by a growing plant, that is after they are disintegrated, and he himself admits that disintegration means death.

In a short time after a sound seed has been put into a suitable soil two things will happen. The seed will vanish, and a young plant will have been sustained by it so that it can thereafter rely on soil nourishment. Would it be of any use for Dr. Hudson to assure the world that the seed, as such, had not gone out of existence? If it is not dead why cannot it be seen and handled? "Oh," he will say, "it has been absorbed by the plant it produced, and exists in it." Yes, but it is no longer a grain of wheat. A chick leaving the remains of the egg it came from, in the form of a shell, is not to be considered the egg itself, merely because it weighs about as much.

If the absorption of its constituents by a growing organism does not kill wheat, as such, then it must remain intact in that organism. It follows, therefore, that the wheat Dr. Hudson eats as bread, being absorbed in elemental form, is alive in him as wheat. In reality under his own theory of nutrition, he is a preambulating sack of wheat. He may protest against that idea by saying that he did not eat wheat germs, but flour from wheat killed by grinding. As there was no decay or bad smell in the milling process, there could not, according to our Stockton authority, be the occurrence of death, for that means a return to earth, air and water by putrefaction.

Bury at the root of a tree a living dog, and years later, according to the theory I am combating, its dark green foliage will prove that the canine victim is alive, his elements having evidently been absorbed and rearranged in "the form of roots and stem." As weight for weight in ligneous tissue, the dog is present in active being, it is quite as preposterous to suppose that he is dead, as to imagine that the grain of wheat which has produced 50 stalks of growing wheat is dead.

When the farmer's wheat is sprouting in the field, he knows that it will soon, if let alone, be worthless. It would be no consolation to tell him that the sprouts gained all the grain lost, or that continued growth would not result in its death or dissolution, but merely in a distribution and rearrangement of its elements. His answer would be

"my wheat is being destroyed, and what care I for what becomes of it in another form, which to me is of no value."

The statement of scripture that a seed must die in order to produce an increase of its kind, is undoubtedly true. It gives its all to start a new plant, and in the act ceases to exist. Everywhere in the vegetable world we see plants living mainly to produce seed, and then die. The seeds so matured are the vital links between the past and the future, and when they have served the purpose of their creation, they too disappear—they die.

In the letter I am dealing with, Dr. Hudson refers to shriveled wheat producing a better crop than came from plump seed. The former was no doubt green when reaped. It is known that overripe grain is not as good for seed as that cut when greenish. Even for flour-making, dead-ripe wheat is not the best. JOHN DARE EMERSLEY.

Dos Cabezos, Arizona, Feb. 24, 1893.

The Tomato Pack.

The Secretary of Agriculture reports the canned tomato pack of 1892, for the United States, to be 3,223,165 cases, against 3,322,365 in 1891, a decrease of 38,573 cases. The average for six years has been as follows: (Cases of two dozen tins each).

YEAR.	CASES.
1892.....	3,366,792
1891.....	3,495,395
1890.....	3,166,177
1889.....	2,976,765
1888.....	3,343,137
1887.....	2,817,048
Total for six years.....	19,075,284
Average per year.....	3,179,214
Average per years 1890-1892.....	3,312,778

The packs of the leading six States for 1891 and 1892 were as follows:

STATES.	1891.	1892.
New Jersey.....	950,833	862,692
Maryland.....	744,010	977,742
Indiana.....	341,217	282,717
California.....	218,311	230,943
Delaware.....	264,950	175,700
New York.....	114,774	146,290

Bermuda Grass.

TO THE EDITOR:—If I plant Bermuda grass around my house will it cross a wagon-road and get in my meadow? And if it should get in the meadow, would it spoil it? Would it grow in a cold climate? It gets as cold as zero here in the winter. Sierraville, Cal.

Bermuda grass would laugh at a wagon-road as a barrier. If it could not crawl over or tunnel under, and we believe it could do both, it would hire a small boy to throw a piece over, or it would make the trip on a wagon-wheel, or on a plow-point, or harrow-tooth, or a ground bird would carry it over to make a nest of. You can count on its getting there sure. If it should get into the meadow it would run out everything else. It is sometimes grown as a hay grass at the South, but it would be vastly inferior to the natural grasses of the mountain meadows—that is supposing it would survive the winter. Tough a customer as it is in many ways, it is very tender to frost. It does not endure the winter of northern States. It is killed to the ground even in the valleys of California, but it reappears early in the spring. We do not know just how much ground-freezing it will stand. Perhaps some reader can tell.

THE FIELD.

What County Assessors Must Do.

The State Board of Equalization has issued the following letter of instruction to County Assessors, who will commence their work of assessing next Monday:

The board has made no change in the form of assessment roll, but has adopted and hereby prescribes the same form for the year 1893 that was used in 1892.

We again call the attention of the assessors to the manner of assessing "improvements." Section 3617, Political Code, paragraph 4, defines what are improvements on real estate, viz.:

1. All buildings, structures, fixtures, fences and improvements erected upon or affixed to the land.
2. All fruit, nut-bearing or ornamental trees and vines not of natural growth.

The law contemplates that the assessor, in entering such property on the assessment roll, should segregate it and place a separate value thereon, and not (as in some instances called to the attention of the board) simply enter "improvements."

You should enter below the real estate, in the body of the assessment roll, the kind and value, such as house, barn, fence, etc., giving the value, then amount of trees, vines or other improvement, with value, and carry out the total under the proper heading.

Where assessors have failed to do this, it has been misunderstood and they have been accused of not putting such property on the assessment roll; and in counties where the assessor has complied with the law in this respect, it was thought that this board had given directions for the placing of new property on the assessment roll that had not been previously assessed. Such, of course, is not the case, and assessors should take pains to have the people understand that it is not a new feature, but simply a compliance with the law, and that this board expects each assessor having such property in his county to enter it on the roll as hereinbefore directed.

In justice to the large body of tax-payers whose property cannot be concealed, assessors should use more diligence in the assessment of solvent credits. The board recommends that each assessor have printed in the statement submitted to the taxpayer, and that such taxpayer be required to answer the following questions under oath:

Does any person in this or any other county in the State

hold your open note or evidence of indebtedness unsecured by mortgage?

If so, give name and amount.

A general compliance with this direction will, no doubt, accomplish good results, and in this connection we call your attention to Section 3637 as to your duty in the premises.

Freak of an Artesian Well.

Messrs. Bennett & Taylor recently drilled a well for Mr. Wm. Duncan, on his sister's (Mrs. T. S. Brown's) place back of the Oak Glen Cottage property, says the *Nordhoff Ojai*. The well was put down 388 feet, and while an abundance of good water was found, there was no flow, which fact puzzled Mr. Ezra Taylor, who has charge of the drilling business, as he felt pretty sure of striking a flow there. The well was put down farther than any around here, because he hoped each hour to make a "strike." But the effort was abandoned when the pipe was down 388 feet and a pump put in.

During the last storm the well was transformed into a gusher, and ever since has been sending an inch and a half stream up through the pump valve. Mr. Taylor will remove the pump and thinks that then the flow will be materially increased. Now every one is at liberty to guess whether or not the flow will be permanent; but it would be intensely interesting to be able to look at the cave of earth that probably took place at the end of the pipe, thus making a vent for the big underground stream that is rushing across the Ojai Valley.

HORTICULTURE.

Fruit vs. Bees.

TO THE EDITOR:—In the address read by R. Touchton before the Beekeepers' Convention at Los Angeles, and printed in the *RURAL PRESS* of February 25th, Mr. Touchton seems to have taken only the beekeeper's view of the question and utterly ignored the rights of the fruitman and labor, and eagerly looks forward to the time when his family can have sufficient home-grown fruit for its own use. Imagine the farmer's feelings when a troop of bees come sailing in and, settling on his little crop, go to sucking the juice from his luscious fruits and grapes; also, when the farmer spreads some fruit in the sunshine to dry and goes back in a few hours to find nothing but skins and seeds left, all the sugar and juice having been sucked out by the rapacious insects. Mr. Touchton says the fruit should be picked before becoming "over-ripe," and the bees will not injure it. Now, I have been a fruit-grower all my life and know this assertion to be unwarranted. I am living on the "foothills of Southern California," near the coast, and the dampness of the atmosphere causes many varieties of fruit and grapes to crack, despite our care to the contrary; and while the most of such fruit is merchantable we lose much of it by the depredations of the bees, which not only destroy the cracked fruit, but thereby daub and damage the sound fruit, causing it to decay also. The countless stings received by us while preparing the fruit for the dryer are not soon to be forgotten, the bees becoming so thick around the dryer as almost to cause us to suspend work entirely.

Last season, while drying prunes in the sun, the bees destroyed tons of the fruit, and the nuisance became so great that my next neighbor and myself were compelled to buy hundreds of yards of cloth and cover all our trays in order to save the balance of the crop. The costs to us amounted to \$50, or two per cent of the gross receipts of our crops. The loss of fruit amounted to several per cent more—not less than 15 to 20 per cent altogether. The bees became more plentiful every day, coming in such swarms that the trays were black with them, until we adopted the cloth covering, which baffled their efforts to get at the fruit. We bought honey and fed them, and spread crushed pears upon trays to attract them from the prunes, but without success until we covered every tray with cloth.

The position taken by beekeepers that their bees have a right to go whither they will and rob their neighbors of their crops, is certainly untenable; and no one, on proper investigation, could sustain such ideas. We are not supposed to, nor do we expect to be compelled to care for and pasture our neighbors' live stock. Why, then, should we feed their bees?

Mr. Touchton did a good thing when he advised Eastern beekeepers to stay at home, and I thank him for it. If they should come we will welcome them, if they leave their bees at home.

L. B. CADWELL.

Carpinteria, Cal., March 8, 1893.

Summer Crops in the Orchard.

TO THE EDITOR:—Referring to your article in to-day's issue, "Inter-Culture in the Orchard": The general practice here in Ventura county is to crop with a summer-growing crop till the orchard is well into bearing, or until the trees, by absorbing the summer crop, tell you to desist. I find the crop is the first to suffer. The tree roots, reaching so much deeper and farther laterally, and also getting the tree into heavy foliage and growth before the summer crop draws on the soil, will generally take care of themselves. Never allow anything to grow within six feet of your trees. Keep the surface soil in fine tilth from and after every general rain.

The orchardist who allows his heavy soil to remain after a copious rain with deep cracks, simply because there are no weeds, makes a grave mistake. Each fissure acts as a chimney to discharge the deep moisture, and the hard, smooth ground between cracks allows the surface moisture to come in contact with the atmosphere and evaporate. A fine surface tilth of two or three inches acts like a blanket to protect and retain the "surface evaporation" you speak

of. Our soil is of an ancient alluvial deposit which varies in different localities from light sandy loam to heavy and dark clay loam, which has to be worked just at the right time to insure best results.

On our rich soils I believe in planting trees wide apart, say for apricots 30 feet; peaches, pears, etc., 25 feet, in triangular form, and then summer-crop till your orchard in profitable bearing. The trees will need all of this room when in full bearing.

On light, also sterile soils, it would likely be better to plant closer and not summer crop between trees, as on such soils your trees will likely come into bearing sooner, and will also have to be headed closer and sooner.

Squashes are a bad crop to raise in a young orchard; also lima beans are more injurious than the smaller growing varieties. In hot localities corn is said by some to be desirable to plant the first year, as it shades the young, tender bark of your trees and prevents sunburn.

Wherever practicable any business, orcharding not excepted, should be made as nearly as possible to pay its own development. The interest for a term of years on the investment, together with other necessary expenses, without counting revenue to partially balance, is wonderfully accumulative.

ARATUS EVERETT.

Montalvo, Ventura Co., Cal.

California Fruits in Illinois.

TO THE EDITOR:—As much of the fruit grown in California is consumed in regions east of the Rocky mountains, and as the demand for such fruit depends largely on whether there is a good crop in the Mississippi valley, it may be of interest to your readers to know something of the prospect for fruit here this year. Before stating the present prospects, it may not be out of place to say that 1892 was, with the exception of locally a few peaches, the poorest year for fruit we have known in southern Illinois for many years. I do not believe there was a barrel of perfect apples grown in this part of the State. I know of families that have 50 acres of bearing apple orchard, that have had no apples of any kind for their own use since the early part of the winter. There have been no salable apples on our market all winter except such as have been shipped here from the East. Such is the condition of our market now for green fruit. Our people find oranges and bananas as cheap as Eastern-grown apples, and are buying them to take the place of apples that would be eaten raw.

The winter so far has been favorable to wintering all forms of fruit buds. Through January and fore part of February it was cold enough to prevent the development of any buds that would be lured into expanding under the influence of a few warm days, and yet at no time cold enough to kill peach buds. The coldest I noticed here was five degrees below zero, though at some points it was reported one or two degrees below that. Aside from this, fruit trees, except peach when they bore last year, made a good growth last year and are in a good condition to bear this year. All these things point to a good crop of fruit in southern Illinois this year. Of course there is still time for peaches and plums to be killed in this month, but the buds are in condition now that they would stand considerable cold.

California canned and dried fruits still hold their own in our market, with a call for more of the better class of these than formerly.

G. H. FRENCH.

Carbondale, Ill., March 2, 1893.

Facts About Olives for Oil.

After two years careful experiment with the different olives, for bearing and quality and percentage of oil, I find them as follows:

My trees will be planted out five years the 17th of next April, and were two years old when planted. The Pendulina, Oblonga, Uvaria, Columella, Rubra, Regalis and Precox commenced to bear the second year and have borne regular and steady crops ever since. The Manzanillo and Nevadillo Blanco bore for the first time last year and were planted out the same days as the others. In regard to size of pit, the Pendulina was the smallest.

My Rubra and Pendulina trees averaged me a gallon of oil to the tree this year, of the very first quality. After fully one-third of the crop had been picked off the Columella trees, the balance was picked and weighed and averaged 51 pounds to the tree. The Uvaria is not so large a tree as the other, but a very heavy and regular bearer and the earliest to ripen of all in October. The Uvaria, Oblonga and Pendulina are the most even ripeners, so that all the fruit on the trees can be gathered at once. All the bearing part of my orchard being five years old, will return me over \$400 per acre this year, the fruit being made into oil; the Pendulina, Rubra and Columella about \$7.50 per tree.

The following is the per cent of oil of two years' tests which each variety turned out. I have arranged them in the order which they turned out the highest per cent of oil, viz: Pendulina, 21; Rubra, 18½; Oblonga, 18; Mission, 17.9-10; Uvaria, 17½; Nevadillo Blanco, 16½; Precox, 14; Picholine, 10; Manzanillo, 8½.

In my orchard, situated at Pomona, they ripen in about the following order: Uvaria, first of October; Polymorpha, Macrocarpa, Atro-Vialacea, Manzanillo, last of October or first of November; Oblonga, Nevadillo Blanco, in November; Pendulina, last of November; Rubra, Columella, first of December; Regalis, Precox, middle of December; Mission, last of December or January; Nigerina, January.—J. L. Howland in Pomona Times.

Fruit-Raising in Southern Humboldt.

TO THE EDITOR:—Much has been said in favor of devoting more attention to fruit-raising in various parts of this county, and as the actual figures are more worthy of consideration than any estimates or calculations, the following figures were obtained from Mr. P. J. Woods, senior member of the well-known Woods Bros. of Garberville.

This orchard is situated on the left bank of the south

fork of Eel river, one mile distant from the above village, in a level valley extending along the bank of the river for a mile or more, and one-fourth to three-fourths of a mile in width.

As this ranch is right in the heart of the fruit belt, with all the advantages of sun—it is also well sheltered from the wind, as was shown by the way it stood the late storm—and the choicest of fruit soils, it will not suffer by comparison with any of the other locations selected by the numerous fruit colonies throughout the county. There is quite an orchard of old trees, planted here in the '60's, which are all doing well, and several acres of young trees that have not arrived at a bearing age; but I will confine my remarks to the trees that bore their first crop last season.

Last season there was the greater part of three acres that came in bearing for the first time—two and one-half acres of peaches and one-half acre of French prunes.

The peaches were packed in 20-pound boxes and hauled to the neighboring logging camp, and sold very readily at 75 cents and \$1 per box. The French prunes were sold in the orchard to parties who dried them, and they disposed of the entire lot at prices ranging from 10 to 15 cents per pound; and one would think they had a fair margin, as they paid \$25 per ton for the green fruit.

Over and above what fruit was canned and used on the ranch, Mr. Woods cleared \$750 on the three acres, or \$250 per acre for the first year's crop.

They intend to erect a fruit-drier this coming season, so as to be prepared to take care of the extra amount of fruit that will come into bearing next season. They also intend to keep adding to their orchard from year to year. The amount of land on their large stock ranch of 10,000 acres deeded land that is adapted to fruit—prunes, pears and apples—is almost unlimited, or it appears so when you think that the fruit industry in this county is but in its infancy.

One who has seen sheep roam over these hills for many years has to draw on his imagination to see the fruit farms take the place of those woolly creatures, who have nigh outlived their usefulness and must give way to the steady march of cultivation and the horticulturist.

Garberville, Feb. 19, 1893.

ED ROBERTSON.

Should Fruit Trees Be Exempt?

TO THE EDITOR:—In your last issue I find a very readable reply, on the question of exempting young orchards from taxation, to something I wrote in the RURAL PRESS of February 11th in opposition to an exempt list.

The writer is mistaken if he thinks me an enemy of horticulture and desire it taxed out of existence. He gives rather a doleful account of his experience and intimates, though he does not say it in so many words, that he has been unjustly dealt with by the taxing power. I had supposed that all property was to be, and in reality was assessed at its real value. If "Amen's" trees and vines, half dead and dying, were assessed at the same value as healthy trees and vines, a great wrong was perpetrated, which could and doubtless would have been righted by the County Board of Equalization.

It is very evident that the assessors cannot enter into the business of determining whether property is productive or not in order to fix the value. Were this practiced, very little property would be listed. It is said very few wheat-farmers have made a profit in the last two or three years, yet they should not be exempt. If such a test were applied to our railroad system it is thought not a dollar's revenue would result.

Again, innumerable ventures are entered into of every kind and description; some yield a profit and more do not, and very few ever declare dividends, yet the managers become wealthy under the profit rule—none would assist in the support of the Government. Finally, the paying list would become so reduced as to render it unable to meet the expenditures, and then who would support the Government.

All orchardists, however, do not share the fate of "Amen." Only a day or two ago we read that a young orchard had been sold for \$300 an acre. In this case the venture was a growing one and the seller had returned to him, in one item, the value of his land, his labor, his expenditures and his taxes.

My critic speaks of his increased assessments, from \$900 eleven years ago to \$7800 present value, all apparently owing to the improvements put upon the land. Evidently, something more must have been created besides sick and dying vines, yet it is true that enterprisers and industry are compelled to suffer for their own and the State's sake, as against the indolent and slothful.

This is a punishment that it is pleasant to know is accepted with satisfaction if not with pleasure, and in a sentiment that moves and improves the world. But my position is only against the creation of an exempt list, even the growing grain crop of the farmer. It is of no advantage to him, but it turns the eyes of all other property towards this door that is left ajar.

EUREKA.

Yuba City, March 11, 1893.

Fresno's Winter Apples.

TO THE EDITOR:—During the summer of 1892 we had 12 days of intense heat, the thermometer standing over 100° Fahr. under the dense shade of my grove of evergreens; yet during that time apples were growing in our orchard that are now, at the beginning of strawberry season, fragrant, mellow, juicy and crisp—the perfection of good eating apples.

We started with the fundamental fact that Astrachan apples from the valley of the Caspian sea—a region of intense summer heat—are a grand success here; but Astrachans are not winter apples, so we hunted other regions of intense summer heat for their best long-keeping winter apples. From near Galveston, Texas, we got the Grindstone apple. It keeps crisp till June. From near Mobile, Alabama, we got the Red Warrior (local name; not the Red Warrior of Downing), which sells here for five cents per pound during January and February—fine color, good

flavor. From the hot sandhills of Carolina we got the Golden Wilding, a seedling of Newtown Pippin—the equal of its excellent parent and from its southern origin perfectly adapted to our hot climate. From Florida we got a seedling of the White Spanish Reinette—like its parent of enormous size, where properly thinned, averaging 15 to 20 ounces, sour, crisp and juicy throughout the winter. The best winter apples of the Eastern States were failures here; that winter apples from climates of intense summer heat are a success here is abundantly proven by a large dish of the above varieties before me as I write, and their rich fragrance that pervades the room, and that, too, now when strawberries are beginning to ripen. W. A. SANDERS.

Sanders P. O., March 12, 1893.

California Wild Fruits, Nuts, Etc.

TO THE EDITOR:—Some of the wild fruits of California are very valuable, and well worthy of cultivation; but, strange to state, they have received very little attention by California horticulturists. This is occasioned, no doubt, by their being overshadowed by more profitable varieties of domestic fruits. It is to be hoped, in the near future, that some of the most superior varieties of wild fruits will be extensively tried. No doubt they can also be greatly improved by careful breeding and selection of the fittest. Some of California's shrubs and bushes are especially valuable for ornamental purposes, as well as for their yield of fruit. The following varieties, I think, are well worthy of notice:

The California wild gooseberry, red variety (*Ribes menziesii*), is certainly a desirable variety, and is said to be superior to crabapples for jellies, etc. The plant is exceedingly ornamental when loaded with its reddish-gold fruit. There is a yellow variety similar to the red one. *Ribes divaricatum*, a thornless gooseberry, is also a superior variety.

The California wild blackberry (*Rubus usinus*) flourishes in luxuriant profusion in the warmer portions of the State, especially among tules and on river-banks, etc. I do not think that they are as prolific as the common, cultivated varieties, but they are very valuable nevertheless.

Sierra black currant (*Ribes sanguinem*) is a shrub growing from 4 to 10 feet high, with pink and white blossoms, which are very attractive and fragrant. The fruit is black when ripe, covered with a faint, whitish bloom, and is very sweet, and may no doubt answer the purpose of any currant. It is extremely hardy, and adapts itself to many uncertain localities. There are a number of varieties of this Sierra black currant.

California thimbleberry (*Rubus nutkanus*) is a shrub growing from 3 to 6 feet high, has a large, white bloom, somewhat fragrant; fruit is a scarlet red when ripe, of fine flavor and taste, but would hardly pay to cultivate, I think.

California wild raspberry (*Rubus leucodermis*) grows in trailing vines, somewhat like the common dewberry. The berries are highly aromatic, with a decided tartish flavor. There are three varieties that I know of—the red, yellow and reddish-black. This latter has a fruit shaped like an acorn. These wild raspberries may be valuable to cultivate.

Sierra huckleberry (*Vaccinium ovatum*) is a low-growing, evergreen shrub, generally occupying wet, marshy places; fruit is green and reddish-black. I do not know whether it will ever pay to cultivate.

Oregon grape (*Berberis repens*) is a low-growing shrub of about a foot in height. Fruit is dark-blue. The roots of this plant are extremely valuable as a medicine for chills and fevers. The wood is also an orange-yellow, and, if I am correctly informed, capable of being highly polished.

Elderberry (*Sambucus glauca*) is a rapid-growing bush, from 4 to 15 and 20 feet high; blossoms are white; the fruit is reddish-black when ripe, covered with a faint, powdery bloom, and is very valuable for jams, jellies, wines, etc.

Wild grape (*Vitis Californica*), a very hardy grape, and adapting itself to a great variety of soils and climates; the grapes are small in size, with a high, musky flavor; bunches small and compact.

River grape is a variety of large size, with a musky, agreeable flavor; bunches are large and straggling; they would no doubt pay to cultivate.

Wild cherry (*Prunus demissa*) grows 2 to 12 feet high; fruit is black; may be of value for medical purposes. There are three other varieties in California. The Alpine cherry is a native of a high elevation, has small, willow leaves, and the bark somewhat resembles the common cherry tree. The trees sometimes attain five and six inches in diameter and from 10 to 25 feet in height. The cherries of the Alpine variety are very highly colored, intensely bitter and unfit to eat; the trees are immense bearers.

Unnamed variety, that resembles the *cascara sagrada* in bark and foliage, is a native of the upper ranges; cherries are dark-black, of fair size, and a strange aromatic flavor; may be of great value for several purposes; cherries ripen in October. I have seen trees of this variety fairly breaking with their immense loads of glossy, black fruit. This cherry, I think, is closely related to *Prunus Besseyi*, the dwarf Rocky mountain cherry, which is much prized for its immense yield of superior fruit.

Evergreen cherry (*Prunus ilicifolia*) grows from 8 to 12 feet high; the fruit is red or dark purple and of a large size.

Wild strawberries.—All the wild strawberries of California belong to the Alpine variety, and, therefore, are mostly everbearing. There is a great number of varieties, some of which will pay well to cultivate. As I have made quite a study of the California wild strawberries, I know whereof I speak. I think they would be an excellent stock for crossing with larger varieties of common strawberries. For sweetness and fine flavor, these California strawberries are unrivaled, and these desirable traits or qualities, I think, could be perpetuated. California Alpine strawberries are extremely hardy, growing in many different soils and altitudes. The following is a list of a few that I have tested the last season. I have a great many more varieties, but cannot report definitely until next season.

Chilensis (*fragaria Chilensis*) is said to be identical to the Chilean species of wild strawberries. The leaves of

this variety are very large, blossom yellowish white and perfect; fruit small, but of excellent flavor, reddish white in color, everbearing; its value not yet proved.

California Alpine (*fragaria Californica*) has very small leaves. I have not succeeded in making it bloom yet and therefore cannot speak of its fruit.

Red and Gold Alpine—Remarkable for the symmetry and shape of its leaves. The runners and stems of this variety are red, which makes it sort of an ornamental plant; productiveness and value not yet proved. I obtained the plants too late to give any definite idea of their value.

Honey Strawberry (*Red Alpine*) is identical to a Swiss variety; is of great value to cultivate; berries small to medium size, of an exquisite flavor, and a glowing red in color; immensely productive, blossom perfect, a very hardy strawberry.

Mill City Alpine I think will also be of great value to cultivate; berries small to medium size, beautifully colored, and the finest flavored of any strawberry that I know of. The fruit stalks of this variety resemble the Honey strawberry, except the fruit is round in shape.

California Green Alpine is a medium-sized berry, of fine color and flavor; its value not yet proved.

I have taken up wild strawberry plants from a great many patches in the upper Sierras and next season I may bring to light several other choice varieties.

Wild Plums.—How many varieties there are it is hard to state. I had hoped this year to learn more of this valuable fruit, but being an off year in the fruiting line I learned nothing. There are varieties that I am certain it will pay to cultivate. A fruit-grower in Northern California states that in early times he bought a variety of wild plum from the Indians that was superior to the well-known French prune. This plum is no doubt one of the yellow varieties, which are said to be very sweet and edible and which inhabit the granite formations of the middle regions of the Sierras. The *Prunus subcordata*, or common red wild plum of the Sierras, grows from 4 to 12 feet high. The fruit is small, highly colored and somewhat bitterish in taste.

Sierra Hazel (*Corylus*) is a bush growing from 8 to 20 feet high; the nuts are greatly prized by all persons. Sierra hazel nuts are larger than the Eastern variety.

Sierra Nutmeg (*Torreya*).—Of great beauty as an ornamental tree. The foliage is silvery, bluish green; it yields a nut said to be similar to the nutmeg of commerce. The heart wood of this tree is golden yellow and is capable of being highly polished; the wood is also possessed of a spicy, nameless fragrance and is also very durable. Trees of this variety sometimes attain a height of 50 or 60 feet, and 18 inches in diameter.

Sierra Yew tree (*Taxus*) is an exquisitely beautiful tree; the foliage is dark green; it yields a small, reddish, bell-shaped fruit, very delicious to eat; the fruit ripens from September to November. The wood of the Yew tree is very hard and of great value for many purposes.

Sierra Strawberry tree (probably belongs to or is related to the *Euonymus*) is a tree of surpassing and wondrous beauty. In the fall the leaves all drop off and the tree is fairly breaking with large-sized, glowing, red berries—so red that they almost sparkle in the light. The bark is mottled and of a beautiful chocolate color. It is by far the most beautiful of all trees in the Sierras, or possibly in the world. This wonderful tree is seldom met with in the Sierras. I only know of three or four trees, and they are in very isolated localities and growing at a very high elevation.

Chinquapin, a dwarf chestnut, is generally found inhabiting the higher ranges; the nuts are small and inferior, but no doubt can be greatly improved by cultivation. Botanical name of Chinquapin, (*Castanopsis Chrysophylla*).

California Holly or Toyon (*Heteromeles arbutifolia*) is a valuable ornamental bush; leaves are a light, shining green; the blossoms are small and whitish green in color, and are much liked by honey bees on account of their large secretion of nectar. In the fall of the year the holly is loaded with bright red berries, which are much prized for decorative purposes.

Madroña (*Arbutus menziesii*) is a rapid-growing, beautiful tree, of reddish chocolate-colored bark, and extremely pretty, dark green leaves; the tree is an evergreen; in the fall large trees are covered with bunches of glowing red berries, which forms quite a contrast to the dark green leaves. The blossoms of this tree are also much liked by bees.

Sugar Pine (*Pinus Lambertini*) is without doubt the most valuable lumber tree in the world. It is a soft, easy lumber to work, durable and non-checking; it yields a sugar, valuable for its laxative qualities, and also furnishes a very good, edible nut. The sugar pine most frequently inhabits the lofty ridge-top of the upper Sierras. It is easily recognized from its neighbors by its heavy, sturdy limbs and its long yellow cones, which depend gracefully from the ends of the limbs.

Nut Pine (*Pinus Sabiniana*) also yields a desirable nut. This tree generally inhabits the foot-hill regions and is recognized by its silvery-gray foliage and its loose, tropical appearance.

S. L. WATKINS.

Grizzly Flats, March 8, 1893.

Prices for Strawberry Fields.

TO THE EDITOR:—Will you kindly inform me (1) on what terms strawberry fields of ten acres or more rent for in Santa Clara, where water for irrigating purposes is furnished by proprietor? (2) What is cost per acre of setting in strawberries? (3) What rental per acre is received for land and water and buildings, lessee furnishing and setting plants and doing the labor? (4) Please name cash rental and rental on shares.

Penn's Grove, Feb. 28, 1893.

SUBSCRIBER.

This communication was referred to Mr. I. A. Wilcox, of Santa Clara, who responds as follows:

TO THE EDITOR:—If I do not follow the line of queries made by your correspondent relating to the growing of strawberries in Santa Clara, I will, nevertheless, give in substance what he desires to know.

Some of us, in early days, paid as high as \$20 an acre

per annum for ground and water for irrigating purposes. But during the last 20 years the business of strawberry-growing has passed entirely into the hands of Chinamen. While many of them rent the ground for a term of years at a cash rental to be agreed on by the parties respectively, and to be paid at some time in the future, the general custom is to rent on shares. In such cases the proprietor plows and ridges the land for planting and furnishes the plants, which are set by the lessees at their expense. I cannot say what it costs to do this work, only that it is a small item when compared with the main work of tilling the ground and gathering the fruit. Under the system of irrigation, it is very expensive to keep down weeds, aside from common cultivation where ground is not irrigated.

All the work thereafter is to be done by the lessees. They cultivate the ground and pick and pack the fruit for market. It is then sent in chests and draws furnished by the owner of the land and shipped by him to market. He also furnishes habitations for the workmen, as well as tools for working the ground, and a horse when needed for that purpose.

If he is particularly anxious to lease the land, he will advance rice and other supplies, and now and then a little pocket money to the renters for their own use and to pay the hired help so as to retain them. It is a difficult matter in the busy season, when help is needed in the orchard and vineyard, to hold the hired men, and the lessees themselves are sometimes enticed away by the glitter of ready money and higher wages.

There may be one person or a half-dozen in the company of renters, and they may rent from five to fifty acres or more with but little capital of their own. Sometimes they obtain supplies from the head Chinese companies in San Francisco, in which case it complicates matters for all parties concerned, especially whenever the business fails to pay, in cases of short crops, or low prices owing to the competition of other fruits in the San Francisco markets.

While the share system requires the land-owner to divide equally the net proceeds from sales, after paying freight, cartage, commissions, etc., he now and then gives two-thirds, and sometimes all the crop ungathered, when the receipts fail to pay for running the plantations; and of late, since labor has become scarcer and in greater demand, he relaxes his hold under the lease, and gives the companies all the onion crops grown the first year on the ridges between the rows of strawberry plants. While this reduces the receipts of the land-owner, it holds the hired men, provided he agrees to see them paid from this late crop.

Santa Clara, Mar. 13, 1893.

I. A. WILCOX.

FRUIT MARKETING.

Organization Pays Well.

The annual meeting of the West Side Fruit-Growers' Association was held at San Jose last week. A good majority of the stock was represented, and the proceedings indicated perfect satisfaction and harmony among the stockholders who unanimously endorsed all the acts of the directors for the past year. The institution being now well established, and its plans and methods fairly perfected and well understood, there was no occasion for any but routine business which, however, as showing the results of co-operative effort in fruit-drying, will be found of decided interest to the many now contemplating a similar course.

The Association has this year divided an average of \$87.50 per green ton on all prunes dried by it, and for peaches and apricots a sum somewhat more per green ton than selected fruits of the same kinds brought when sold in other ways. The above amounts are net, after paying all expenses of every kind, including eight per cent on the capital stock, and setting aside a proper amount for depreciation of trays and other portions of the plant.

In response to inquiry by a San Jose *Mercury* reporter, it was stated that the 35 stockholders who had their fruit dried by the Association last year had divided \$12,000 more than they would have divided had they sold the same fruit green at the highest prices paid last season. This very much more than pays the cost of the entire plant.

Had all the stockholders sent their fruit to the Association, an additional \$12,000 would presumably have been gained, as there are nearly 80 stockholders in all. Many, however, dried their own fruit. Those who dry their own fruit, charging nothing for their own time or that of their families and nothing for rent of grounds, interest on plant and wear and tear, may make as good or even a better showing; but it was the feeling that the output of the average man would really cost him more, with private drying, and that the average quality would be decidedly inferior.

The cost of drying the various fruits the past year, including interest, depreciation of plant and all other items of expense, has been: Apricots, per dry pound, 2 cents; peaches, per dry pound, 1½ cents; prunes, per green ton, \$4.75.

As it is expected that hereafter nearly every stockholder within a reasonable distance will avail himself of the advantages of the Association, thus giving a much longer tonnage of fruit to bear the fixed charges of the concern, it is presumed that in future these costs will be considerably reduced.

The success of the Association has created a large demand for its stock from outside growers, there being on file about 30 applications for stock, most of which will apparently have to be declined, except as stock can be bought in from a few who are too distant to haul their fruit to the drier. Any such persons can obtain par for their stock in cash by applying to the secretary of the Association. The Association desires to buy in all stock not needed by its owners.

Some additional funds being needed for the purposes of the Association, a block of about \$3000 of stock was offered to the original members only, of which \$1375 was

taken within a few moments, and the rest will be forthcoming.

All the directors of the Association were unanimously re-elected as follows: S. P. Sanders, E. G. Hall, D. H. Blake, S. Lydiard, Philo Hersey, A. R. Woodhams, E. T. Pettit.

After the adjournment of the stockholders' meeting, the directors also re-elected their old officers, who were: Pres., Philo Hersey; Vice-Pres., E. Lydiard; Treas., A. R. Woodhams; Sec., E. T. Pettit.

Sutter Fruit Association By-Laws.

The following by-laws have been adopted by the Sutter Fruit Association:

We, the committee, selected to formulate by-laws, beg leave to submit the following:

Name.—That this association shall be known as the Sutter Fruit Growers' Association.

Place of Business.—That the principal place of business shall be Yuba city.

Membership.—Any fruit-grower or shipper of Sutter or any neighboring county can become a member of this association by signing these by-laws.

Officers.—The officers of this association shall be a president, a general manager who shall act as secretary, and a board of directors which shall consist of seven members.

Objects.—The object of this association shall be to promote greater unity of action among the shippers of deciduous fruit from this locality and to obtain better facilities for transaction of their business.

Pledge.—We do, by signing these by-laws, each of us agree one with the other, that we forward all our eastern shipments as far as practicable, through the same organization, and we do further agree that we will give three day's notice in writing to the president before withdrawing from this agreement.

Duties of Officers.—It shall be the duty of the president and secretary to perform such duties that usually pertain to their offices. It shall be the duty of the manager to see to the procuring, icing, loading and shipping of all cars and arrange for the fruit. It shall be the duty of the Board of Directors to have charge of the routing and diverting of all cars, and receive the reports and audit the accounts of the manager; the Board of Directors shall be the executive body of this association.

Salary.—The shippers shall pay the manager two cents for all peach boxes and half crates, and three cents for pear boxes and full crates for loading and one-quarter of a cent on all boxes to the association for necessary expenses, all to be collected by the manager. Any surplus money remaining shall be divided pro rata among the shippers at the end of the year.

Debts.—No officer shall contract debt or incur any liability in the name of this association.

By-Laws.—These by laws may be changed by the majority of the signers.

Meetings.—This association shall hold an annual meeting on the second Monday of January, at which time officers shall be elected for the ensuing year. Other meetings may be held at the call of the president.

FLORICULTURE.

The Santa Barbara Flower Festival.

Very handsome cards are out announcing the Santa Barbara Flower Festival for 1893, beginning April 11th and closing April 14th. The first of these festivals was held two years ago, on the occasion of the visit of President Harrison. Its success was so pronounced and the displays so profuse and attractive that it was decided to make them annual events. To this end the Flower Festival Association of Santa Barbara has been formed, and it is under the auspices of this new organization that this year's show will be given. The sole purpose of the association is to gratify the artistic sense and develop a love for the beautiful. So laudable an object ought and no doubt will be fully appreciated and endorsed by the public. The program for this year's festival includes the following:

Tuesday, April 11th—Exhibition of flowers in the pavilion afternoon and evening, and forenoon of Wednesday.

Wednesday, April 12th—Exhibition of flowers at the pavilion, open until 12 M. Afternoon—Grand floral procession of decorated vehicles on State street. Battle of flowers and distribution of prizes.

Thursday, April 13th—Tournament, or riding at the rings, and other games. Evening—Theatrical entertainment by the dramatic club.

Friday, April 14th—Foot-races, burlesque races, games, etc. Evening—Grand flower festival ball in the pavilion.

The Rose Show.

During the latter part of April there will be a grand display of California roses in the Mechanics' Pavilion, and it promises to be one of the greatest exhibitions of the kind that San Francisco has ever known. It will be held under the auspices of the State Floral Society. It is believed that the roses in this district will at that time be at their best, and the manager of the coming exhibit, W. H. Smyth, has already received many applications for space.

This will be the ninth time that the society has been before the public with displays. The managing committee is Mrs. William Alvord, Mrs. J. R. Martin, J. Siegfried, Mrs. Maybeck and Mr. Smyth. Mrs. Martin of 2918 Howard street is secretary of the committee, and the manager's address is 226 Market street.

Premium lists covering over 200 premiums and aggregating \$3000 have been sent out, and there is talk of arranging for the production of novelties hitherto unthought of here.

THE STOCK YARD.

The Supply of Live Stock.

The report of the Statistician of the United States Department of Agriculture, upon comparative numbers and values of farm animals, based on returns of January, 1893, shows an increase of horses, mules and sheep; no material change in the number of milch cows; a decrease in oxen and other cattle, and a very heavy reduction in the number of swine. The estimate of numbers is very probably closer to the actual facts than for ten years, because the census returns of 1890 form an accurate basis of comparison and correction. The values given are based on the local prices of stock received by farmers at their farm or local depot. These returns for 1893 thus compare with the two preceding years:

Horses.	1893.	1892.	1891.
Number.....	16,206,802	15,498,147	14,498,140
Value, Total.....	\$992,225,185	\$1,007,593,639	\$941,823,222
Value per head.....	61.22	65.01	67.00
Mules.....	1893.	1892.	1891.
Number.....	2,331,128	2,314,699	2,296,532
Value, Total.....	\$164,763,751	\$174,882,077	\$178,847,370
Value per head.....	70.68	75.55	77.88
Cows.....	1893.	1892.	1891.
Number.....	16,424,087	15,416,351	16,019,519
Value, Total.....	\$357,223,892	\$351,373,132	\$346,397,900
Value per head.....	21.75	21.40	21.62
Other Cattle.....	1893.	1892.	1891.
Number.....	35,954,196	37,651,239	36,875,648
Value, Total.....	\$547,921,947	\$570,749,155	\$544,127,908
Value per head.....	15.24	15.16	14.75
Sheep.....	1893.	1892.	1891.
Number.....	47,253,553	44,938,365	43,431,136
Value, Total.....	\$125,909,204	\$116,121,270	\$108,397,447
Value per head.....	2.66	2.58	2.50
Swine.....	1893.	1892.	1891.
Number.....	46,094,807	52,398,019	50,625,106
Value, Total.....	\$295,426,492	\$241,031,415	\$210,193,923
Value per head.....	6.41	4.61	4.15

The increase in the number of mules is very slight. The apparent increase in sheep exceeds two millions, a continuation of the movement which commenced in 1889, by which numbers have increased nearly five millions in four years. In the case of swine, there was a small pig crop last spring, and the late advance in pork products has caused the slaughtering of some portion of the stock of mature animals. As the average age now attained by these animals is less than a year, there is a liability to extreme fluctuation in numbers, which is possible in no other species. Cows have not increased in numbers sufficiently to keep pace with the demand for their products from an increasing population; hence the firm state of the butter market.

Average values have declined as to horses and mules; advanced as to cattle of all kinds; a greater gain appears in the value of sheep, and a very large advance is seen in swine, amounting to 39 per cent, and progressive since the returns were made. The total makes an interesting exhibit of values, showing that the total value of all our farm animals compares as follows:

	Total Value.	Over Previous Years.
1893.....	\$2,483,506,676	Increase \$ 21,750,998
1892.....	2,461,755,678	" 131,967,908
1891.....	2,329,787,770	Decrease 88,978,258

The Intelligence of Cattle.

TO THE EDITOR:—It is usually supposed that cattle possess a very low kind of intelligence, but when they are battling for their lives on an overstocked range it is surprising how shifty and "knowing" they become. A few days ago I was ascending a mountain, and well on toward the summit came upon an old Mexican cow with no other stock near. After going some distance I came in sight of a small band of young cattle, which fled as soon as they saw me. They crossed the apex and then turned off toward a tract of thick timber, where they disappeared. A quarter of an hour later, when I was breaking rock on a mineral outcrop, the cow I had noticed came along in a great hurry looking for the vanished herd. She stood on the summit listening, first turning her head on one side and then on the other, but evidently hearing nothing satisfactory she put her nose to the ground and began to follow a trail just as a dog follows his lost master. But as the whole surface was bare rock, she crossed the tracks of the fleeing cattle and seemed puzzled for a moment; then, turning back, she tried again and took the right direction. On watching her I found that she went wholly by sight when she came to ground favorable for track-making. She went fast then, but coming once more to a rock surface she put her nose to the ground as before and went slowly. When I lost sight of her she was going straight after the herd, apparently quite confident that she was right. There was certainly a fair amount of intelligence in her movements. Who would suppose that a stupid cow would follow a band of running cattle, and do it easily too by scent and sight, according as each was required?

There is a cow in this region noted for her successful wrestling through several years against occasional impending fate. Every spring some cattle die of starvation, and at that season nearly all are tottering skeletons, but at such times she has always been sleek and lively. When feed in the valley or foothills fails she takes to the highest summits, and on bluffs and benches where other cattle never go she finds sweet, nutritious grasses. She knows all the water-holes, and, though alone, keeps in out-of-the-way places till rain comes and then she appears in the valley in good condition. She seems to have a good deal of Devon blood. Her full, mild eyes tell plainly that she possesses unusual bovine intelligence.

There is a striking contrast between the valley-bred and mountain cattle. The latter go up and down steep slopes with ease, rarely get footsore, and have a singular knack

of adapting themselves to their surroundings. The former do well enough when grass is abundant, but if hunger forces them to the mountains they linger along helplessly for a few months only to die. A year ago when "bear grass," a very coarse herbage found in the mountains, was the only food that cattle could get, there were a number of deaths through its indigestibility. At present it is again the only available food, and, strange to say, over a hundred head of stock are wintering well upon it. The explanation is that by some means it came to be understood that to live and thrive on that stuff every animal had to do plenty of chewing when gathering it. If not chewed then its coarseness would keep it from being brought up in cud form and death would be the result. But how did these creatures discover the cause of last year's deaths and solve the problem of making a heretofore worthless grass preserve their lives?

Last spring, when ascending a steep ravine, I heard a cow mooring in piteous tones. On coming to her I found that her newly-born calf had fallen among rocks and could not by any possibility get out. She was standing licking it, and so made use of her tongue as to lift it a few inches, but when it fell back she cried out in anguish. When I went to the youngster's relief she offered no opposition. I carried it to a level bench, and was about, after resting a moment, to take it to a still better place when she came at me in a rage. In effect she said: "I was gentle with you when you were saving the life of my calf, but now that you are going to steal it I will hook you." She was wrong, but I respected her maternal instincts and departed in haste. Perhaps I moralized a little and decided that in the matter of ingratitude she was no worse than a good many two-legged cattle that are to be met with in the world, and they do not have to live on grass.

JOHN DARE EMERSLEY.

Dos Cabezas, Cochise Co., March 13, 1893.

Milking Jerseys.

American Jersey Cattle Club Prize Essay by D. W. VOYLES.

Thorough milking, performed in the light of full information in regard to the anatomical construction of the udder and the chemical constituents of the milk is an act of the greatest importance to the owners of Jersey cattle.

The art of milking consists in the removal of all the milk in the udder at the time of the act in the gentlest possible manner and by rapid process, slow milking being always bad milking.

When being milked the cow should be in a condition of absolute quietude; if excited by the act of stabling she should be allowed time to quiet down.

No condition is so favorable to the milking process as that feeling of satiety following a full feed. The udder should be thoroughly cleansed and teat first chosen gently squeezed on its tip end in order to overcome the contraction of the sphincter muscle and thus facilitate the flow, after which the milk should be drawn as rapidly as possible. There is a feeling of relief when a distended udder is being emptied, to which a cow responds and to which she will continue her consent to the end of the act, if it be not too long delayed, that is not only of valuable assistance in the process, but without which it cannot be perfectly complete.

The first teat selected should be milked perfectly clean before passing to another, and so on until all are emptied, by which time the first teat milked will be partly refilled by the "second flow," when the second round should be made in the same order as the first; but in adopting this system of milking the same teat should not be chosen at every milking for the beginning, because the first quarter of the udder emptied has the assistance of the compression made by the three remaining distended quarters, and the last one milked has no assistance from this source; if, therefore, the same teats be always selected in the same order, the teat first milked would develop that quarter of the udder to increased capacity, while the last quarter emptied or partly emptied would correspondingly diminish in capacity. This fact can be taken advantage of in the development of deficient quarters by always emptying them first until the udder is balanced by their restoration.

Whether, in the act of milking, the teat should be caught high up or compression made from its middle or lower half only, will depend upon the nature and construction of the udder and teats in each respective case. If the teats are of good size and have good openings leading both into them and out, the cow can be milked easily and rapidly by either plan; but in the case of a cow that has a small opening leading from the large milk pouch into the teat, whether the teat be large or small, and whether its terminal opening be large or small, the udder cannot be emptied by drawing on the teats alone, but compression must be made high up and include enough of the adjacent udder to force the milk out of the lower and large milk-punch into the teat. This act is performed at the risk of producing varicose veins at the base of the teat that will eventually develop into chronic garget, but not to perform it on this unsatisfactory class of cows is to allow them to retain so much of their milk as to become early strippers and valueless animals.

Cows having fat udders usually belong to this class, and require the exercise of a great deal of patience and skill in their management in order to preserve their usefulness. In the hands of a careless and unskilled milker they soon become of little practical dairy value.

When the fault of hard milking is due to a small opening in the terminal end of the teat the remedy is artificial distension, but with a correspondingly small opening above no operation can remedy, since if the teat be emptied easily and rapidly the udder above cannot respond through a small pouch opening in refilling the teat, but will continue to give down the milk in a dribbling manner.

Cows that are imperfectly milked, from whatever cause, either careless or imperfect milking from the fault of the milker or from the difficult task by reason of the anatomical

construction of the udder herein described, soon degenerate into worthless animals. The milk that remains in the udder from imperfect milking is that which is held by the small pouches or milk vesicles high up in the bag, and will form a curd which will excite inflammation and destroy the secreting function of its mucous lining or cause the adhesive and complete closure of the cavity or pouch.

It is the experience of every dairy of 25 or more cows milked promiscuously by three or four milkers, that a contest is always waged for the privilege of milking "old Rose," because she milks easy, and a shunning disposition displayed by all in reference to eight or ten others that no one cares to milk. To be able to milk the hard ones with patience and skill is the qualification that should and must be attained by a successful dairyman.

Feeding Value of Barley.

E. W. S., of Vilas, Wis., writes and asks Hoard's *Dairyman*:

Will you please tell me if ground barley is a good feed for milch cows? I have oats and corn and could mix with either. Is it a good feed for horses? Barley is so cheap it does not pay to sell it.

Prof. W. A. Henry answers: At the present prices for other feeds I should certainly hesitate about selling barley. A model grain ration for a dairy cow would be 5 lbs. of barley-meal, 3 lbs. of cornmeal and 4 lbs. of bran and oats. Barley can also be fed to horses with satisfaction. It is the great horse feed on the Pacific Coast, where it is rolled instead of being ground. Rolled barley is a lighter feed than barley-meal.

I urge Wisconsin feeders to use this feed more freely. When they have learned how to handle it, they will find it satisfactory I am quite sure. At present there is a prejudice against it in some cases, and a great lack of knowledge in others, and this enables the brewers to secure the grain at a low cost, farmers feeling that they must sell the grain in order to realize anything from it. By understanding its feed value farmers can use barley profitably at home, when the market prices for it are not satisfactory. Home feeding will also tend to regulate the price, and thus be doubly helpful.

PUBLIC AFFAIRS.

The New Game Law.

The amended Emeric game law has passed and is now the law. The following are its provisions:

SECTION 1. Section 626 of the Penal Code of the State of California is hereby amended to read as follows: Every person who, in the State of California, between the 1st day of March and the 1st day of September in each year shall hunt, pursue, take, kill or destroy, or have in his possession, dead or alive, except for purposes of propagation, any quail, bob-white, partridge or grouse, or any kind of wild duck, snipe or rail, shall be guilty of a misdemeanor.

Every person who, in the State of California, shall take, gather or destroy the eggs of any quail, bob-white, partridge, pheasant, grouse or dove, or any kind of wild duck, shall be guilty of a misdemeanor.

Every person who, in the State of California, between the 1st day of March and the 1st day of August, in each year, shall hunt, pursue, take, kill or destroy, or have in his possession doves, shall be guilty of a misdemeanor.

Every person who, in the State of California shall, within the two years next (except from September 1st to October 15th in each year) after the passage of this Act, hunt, pursue, take, kill or destroy any male deer, elk, antelope, mountain sheep or buck, shall be guilty of a misdemeanor.

Every person who, in the State of California, shall at any time hunt, pursue, kill, take or destroy any female deer, antelope, elk, mountain sheep or doe shall be guilty of a misdemeanor.

Every person who shall at any time hunt, pursue, take, kill or destroy any spotted fawn shall be guilty of a misdemeanor.

Every person who shall take, kill or destroy at any time any bird mentioned in this Section, unless the carcass of such bird is used or preserved by the person so taking or slaying it, or is sold for food, shall be guilty of a misdemeanor.

Every person in the State of California who shall at any time sell, or offer for sale, the hide or meat of any deer, elk, antelope or mountain sheep, shall be guilty of a misdemeanor.

Every person who shall buy, sell, offer, or expose for sale, transport or carry, or have in his possession any deer or deer-skin, or any deer hide or pelt from which the evidence of sex has been removed, or any of the aforesaid game at a time when it is unlawful to kill the same, shall be guilty of a misdemeanor.

Every person who, in the State of California, shall, within the two years next after the passage of this Act, hunt, pursue, take, kill or destroy or have in his possession, except for purposes of propagation, any pheasant, shall be guilty of a misdemeanor.

Every person who shall, at any time, net or pound any quail, partridge or grouse, and every person who shall sell, transport, or give away, or offer or expose for sale, or have in his possession any quail, partridge or grouse that has been snared, captured or taken in or by any means of any net or pound, is guilty of a misdemeanor.

Proof of possession of any quail, partridge or grouse, which shall not show evidence of having been taken by means other than a net or pound, shall be "prima facie" evidence in any prosecution for violation of the provisions of this Section, that the person in whose possession such quail, partridge or grouse is found took, killed or destroyed the same by means of a net or pound.

Every cold-storage company, person keeping a cold-storage warehouse, tavern or hotel-keeper, restaurant or

eating-house keeper, marketman or other person who shall sell, expose or offer for sale, or give away, or have in his possession in this State any deer, quail, bob-white, partridge, pheasant, grouse, dove or wild duck during the time it shall be unlawful to kill such animal or bird shall be guilty of a misdemeanor.

Every person who shall use a shotgun of a larger caliber than that commonly known and designated as No. 10 gauge, for the purpose of killing or destroying any wild duck, rail, quail, partridge, pheasant or grouse, shall be guilty of a misdemeanor.

Every person who, upon any inclosed cultivated grounds which are private property, and where signs are displayed forbidding such shooting, shall shoot any quail, bob-white, pheasant, partridge, grouse, dove or wild duck, without permission first obtained from the owner or person in possession of such grounds, shall be guilty of a misdemeanor.

Any person found guilty of a violation of any of the provisions of this Section, shall be fined in a sum not less than \$20, or be imprisoned in the county jail in the county in which the conviction shall be had not less than ten days, or be punished by both such fine and imprisonment. One-half of all moneys collected for fines for violations of this section shall be paid to the informer, one-quarter to the district attorney of the county, and one-quarter shall be paid into the Fish Commission fund for the purchase and distribution of game birds in the various counties of the State.

SEC. 2. All Acts and parts of Acts in conflict with this Act are hereby repealed.

SEC. 3. This Act shall take effect and be in force from and after its passage.

MISCELLANEOUS.

Notes on Correspondence.

TO THE EDITOR:—In the *RURAL PRESS* of February 18th, S. P. Snow gives a description of his berry shears. The best and cheapest pruning tool is made from a thin, flat file shaped like the usual pruning-knife, but given more of a hook. The blade should be drawn out thin and kept very sharp. With a four-foot handle, the most of the briars can be avoided. The usual pruning-knife cannot be excelled for trimming the tips of berry bushes.

Ensilage.—Mr. Ira W. Adams condemns all the forage plants save sweet corn and alfalfa. I have proven to my own satisfaction that where fertilizers and moisture can be secured, alfalfa cannot be excelled, with sweet corn a good companion; but I am convinced that Mr. Adams' tests are in part wrong. In speaking of Kaffir corn, he states: "All the stalks were very hard and tough and my cow would eat only a small portion of the tops and did not seem to relish that." I have cut Kaffir corn when "in the milk" cured it in the shade by standing the bundles close together, and, when this bright-green fodder was fed in the bundle to my Jerseys, they ate it up, stalks and all, and relished it. I have allowed a portion of the same Kaffir corn to ripen for seed, and this fodder the stock nosed over and ate only the very tips. I cannot speak for the other plants, but with the Kaffir the fault was in the curing, and, in all probability, some of the other plants would have proven satisfactory if properly cured. Red-top clover, orchard grass and alike is fast coming to the front as a fine, permanent pasture mixture.

Pruning.—Mr. Treat, in his letter to Mr. Maslin, advocates allowing a tree to grow at its own sweet will, and states: "What care I if my trees grow crooked or grow long, slim, lateral branches. I say so much the better. Prop up the branches if they need it. Put two, three or four or any number of props under the branches if necessary. The cost of putting props under limbs is nothing compared to the amount of fruit lost if that limb is shortened in." To the experienced orchardist no criticism of the above is necessary, but lest the inexperienced be led to follow this advice, I would like to give only one example, and would, in addition, ask any one contemplating following this advice to first look around among the successful orchardists and study their system of pruning. Mr. Maslin, among others, can give an experience in "long, slim branches," as shown in a wrong system of pruning that he once tried on some of his fig trees. But to get back to our mutton: I was traveling from orchard to orchard through Sutter county. I had just driven from H. Stabler's fine orchard, where the trees were all grown stocky so as to brace themselves, produce the greatest quantity of fruit spurs, and carry their load without props or breaking down the tree. I walked through another orchard, and, noticing the "long, slim, lateral branches" growing out from every tree, I asked the owner, "Won't you head that tree in?" "Not a bit of it," he replied. "Why, sir, cutting off those limbs is just like cutting off twenty-dollar gold pieces." The orchards were both young then. Two years later I visited these same orchards, when the trees were loaded with ripening fruit. In looking down through the avenue of fruit trees on Mr. Stabler's model orchard, the trees seemed a solid mass of beautiful fruit, with no props or broken limbs. I next visited the orchard of the anti-pruner, and the sight was a sad one. The limbs of every tree were bent down to the ground; props were everywhere to be seen. The whole center of the tree was open, while the limbs on all of the trees were broken or split from the trees. What is the crop of one year? A fruit or nut orchard in California is a property that can be handed down from one generation to another if properly planted, pruned and cultivated; and the pruning as much, or more, than all else should be given the greatest amount of study and the system producing the best results followed. I am satisfied from a personal examination of the orchards from Tulare to Shasta county that success has never been attained by growing "long, slim, lateral branches."

Murphys, Cal., March 14th.

E. H. SCHAEFFLE.

Fruit, Wine and Brandy Shipments by Rail and Sea.

The following paper and tables on California fruit, wine and brandy shipments by rail and sea were prepared for the State

Board of Trade by Gen. N. P. Chipman, of Tehama county. Much care was taken by Gen. Chipman in their compilation, and they make altogether a clear and comprehensive statement of our commerce in these various articles. No other statement yet published is so complete and intelligible:

FRUIT SHIPMENTS EAST BY SOUTHERN PACIFIC SYSTEM—1892. Data furnished by Mr. Richard Gray, General Traffic Manager.

PLACE.	Deciduous Green Fruits, Lbs.	Citrus, Lbs.	Dried Fruit, Lbs.	Raisins, Lbs.	Nuts, Lbs.	Canned Fruit, Lbs.
San Francisco.....	332,000	222,000	7,394,000	894,000	364,000	30,108,000
Oakland.....	3,034,000		226,000		120,000	4,028,000
San Jose.....	14,084,000		18,948,000	60,000	20,000	16,030,000
Stockton.....	12,106,000		9,888,000	39,366,000	34,000	2,662,000
Sacramento.....	62,142,000	2,000	7,890,000	1,500,000	482,000	14,572,000
Marysville.....	3,962,000		3,340,000	328,000	122,000	3,408,000
Total north of Tehachapi.....	95,660,000	224,000	47,686,000	42,148,000	1,142,000	70,808,000
Los Angeles.....	800,000	17,852,000	5,484,000	1,692,000	1,170,000	3,108,000
Total by S. P. Co.....	96,460,000	18,076,000	53,170,000	43,840,000	2,312,000	73,916,000

FRUIT SHIPMENTS EAST BY SOUTHERN CALIFORNIA RAILWAY CO.—1892. Data furnished by Mr. H. C. Whitehead, Auditor (Santa Fe System).

COUNTY AND PLACE OF SHIPMENT.	Deciduous Green Fruits, Lbs.	Citrus, Lbs.	Dried Fruit, Lbs.	Raisins, Lbs.	Nuts, Lbs.	Canned Fruit, Lbs.
Los Angeles.....	7,328,940	10,511,000	2,290,060	393,320	1,412,940	3,170,600
Orange.....	733,090	5,103,000	730,910	240,000	209,720	25,520
San Bernardino.....	6,221,540	35,322,000	2,202,460	5,016,000	58,780	439,720
San Diego.....	945,120	903,000	333,550	3,624,000	23,800	3,980
Total South of Tehachapi.....	15,228,690	51,639,000	5,565,980	9,273,320	1,705,240	3,639,820

SHIPMENTS BY SEA FROM SAN FRANCISCO.

Compiled from the *Commercial Herald and Market Review Annual* for 1892.

	Pounds.
Canned Fruits.....	32,991,600
Dried Fruits.....	696,681
Green Fruits.....	1,060,510
Nuts.....	108,785
Raisins.....	233,640
Total Pounds of All Kinds.....	35,091,216
Total in Carloads.....	1,754.5

SUMMARY OF FRUIT SHIPMENTS BY RAIL—1892. Excluding Wine and Brandy.

KINDS.	S. P. Co.	Santa Fe System.	Total, Lbs.	Total, Cars.
Green Fruits, Deciduous.....	96,460,000	15,228,690	111,688,690	5,584.43
Citrus Fruits.....	18,076,000	51,639,000	69,715,000	3,485.75
Dried Fruits.....	53,170,000	5,565,980	58,735,980	2,936.79
Raisins.....	43,840,000	9,273,320	53,113,320	2,655.66
Nuts (Almonds and Walnuts).....	2,312,000	1,705,240	4,017,240	200.76
Canned Fruits.....	73,916,000	3,639,820	77,555,820	3,877.79
Cars.....	287,774.000	87,052,050	374,826,050	
	14,388.7	4,352.6	18,741.3	18,741.18
Total pounds by sea.....				35,091,216
Total pounds by sea and by rail.....				409,917,206
Total cars by sea and by rail.....				20,495

WINE AND BRANDY SHIPMENTS BY SEA AND BY RAIL.

Data furnished by Mr. Clarence J. Wetmore, Sec'y Board of Viticultural Commissioners.

KINDS.	1891. Gallons.	1892. Gallons.
Wine by Rail.....	5,621,179	6,330,624
Wine by Sea.....	5,492,850	4,843,128
Brandy by Rail.....	305,886	366,763
Brandy by Sea.....	493,726	540,957
Total Gallons.....	11,913,641	12,081,472
Total Expressed in Carloads.....	4,765.4	4,832.5

COMPARATIVE TABLE OF FRUIT SHIPMENTS BY RAIL—1890, 1891, 1892.

KINDS.	1890.	1891.	1892.
Green Deciduous.....	68,081,124	98,689,100	111,688,640
Citrus.....	68,419,370	93,862,800	69,715,000
Dried Fruits.....	64,595,181	65,090,220	58,735,980
Raisins.....	41,120,330	44,954,850	53,113,320
Nuts.....	1,574,230	2,623,560	4,015,240
Canned Fruits.....	80,121,930	49,566,680	77,555,820
Total pounds.....	323,915,185	354,773,210	374,324,000
Carloads.....	16,195.7	17,738.9	18,741.2
Add total in carloads by sea.....		954	1,754.5
Total carloads fruit.....		18,692.9	20,495.7

COMPARATIVE SHIPMENTS OF FRUIT BY RAIL FROM NORTH AND SOUTH CALIFORNIA—1892.

KINDS.	From North Lbs.	From South Lbs.
Green Deciduous.....	95,660,000	16,028,690
Citrus.....	224,000	69,491,000
Dried Fruit.....	47,686,000	11,049,980
Raisins.....	42,148,000	10,965,320
Nuts.....	1,142,000	2,865,240
Canned.....	70,808,000	6,757,820
Total by rail.....	257,688,000	117,158,050
Total Canned Fruit by sea from San Francisco.....	32,991,600	
Other fruits from San Francisco by sea.....	2,100,616	
Total by sea and rail.....	292,780,216	117,158,050
Carloads.....	14,638	5,857.9

GENERAL SUMMARY OF SHIPMENTS OF FRUIT AND PRODUCTS OF FRUIT BY SEA AND BY RAIL, 1892, EXPRESSED IN CARLOADS.

Fruits of all kinds by rail.....	18,741
Fruits of all kinds by sea.....	1,754
Total fruits.....	20,495
Wine and brandy by rail.....	2,678
Wine and brandy by sea.....	2,153
Total carloads.....	25,326

The tables show a steady increase in fruit shipments, although not so rapid as has been predicted. The severe weather in the south greatly reduced the orange crop. There was a falling off in shipments as compared with 1891, of 1208 carloads.

There was by no means a full crop of deciduous fruit in 1892, but the increase over 1891 shipped by rail, excluding canned fruit, reached 809 carloads. The gain in shipments of canned fruit by rail was 1399 carloads, which, added to the 809 carloads of other deciduous fruits, makes a gain of shipments by rail of 2208 carloads.

To show the entire gain of shipments from the State, there must be added the gain in shipments of fruits by sea, which was 800 carloads gain, making in all a gain for 1892 over 1891 of 3008 carloads. The shipments by sea, mainly canned fruit, were nearly double those of 1891.

Some notable differences not mentioned are to be observed.

Our shipments by rail of green deciduous fruits in 1892 exceeded those for 1891 by 600 carloads, and exceeded shipments of same in 1890 by 2135 carloads.

The citrus fruits shipped in 1892 exceeded same for 1890 only 80 carloads.

The dried fruit shipments by rail for 1892 were less than in 1890 or 1891.

The raisins shipped by rail in 1892 exceeded those shipped in 1890 by 600 cars, and exceeded shipments in 1891 only 40 carloads.

In canned goods the gain for 1892 was quite large. This was due partly to stock of 1891 held over into the new year, and partly by reason of a smaller pack for 1891 than usual.

The railroads shipped 1399 carloads more in 1892 than in 1891, and there went out of the State by sea 938 carloads more than in 1891, making a total gain in canned goods of 2337 carloads.

Considering the distribution of the fruit crop of the State, the same facts are noticeable as in former reports. Southern California continues to produce practically all our citrus fruits, while Northern California produces the bulk of the deciduous fruits.

Southern California shipped in 1892 by rail 12,867 carloads, and by sea from San Francisco 1754 carloads—the product of Northern California orchards. There were doubtless some shipments by sea from ports in the south, but I have not been able to obtain any account of them.

In the shipments by sea the notable increase is in canned fruits.

There was but little difference in the shipments of other fruits.

In 1891 our exports of canned fruit by sea amounted to 761 carloads. In 1892 we exported the equivalent of 1754 carloads.

England took 172,073 cases in 1891 and 191,997 cases in 1892. Australia more than doubled her purchases, taking 41,272 cases in 1892. Germany took 8 cases in 1891 and 2002 cases in 1892.

Large shipments were made by sea to Eastern cities. More shipments were made to the city of New York alone than the entire amount shipped by sea in 1891, and withal the railroads carried 1400 carloads more than in 1891.

I am informed by the railroad companies that some part of the canned goods are vegetables, but that the proportion is quite small.

From an intelligent view of the fruit industry it will be found to be in an exceedingly prosperous condition and growing rapidly throughout the State. Respectfully submitted,
N. P. CHIPMAN,
Chairman of Committee of Industrial Resources of the State.

Good Boxing.

A picture on page 223 of last week's RURAL PRESS shows the wonderfully compact arrangement of the Walter A. Wood mower gearing, which is closely boxed but accessible. The bearings of this machine are thimbles or boxes of composition metal, which is anti-friction, holds oil well, takes all the wear, leaving the steel shafting unaffected, and may be easily replaced. The Wood Mower has a large sale in California, its powerful mechanism and quick motion adapting it for heavy cutting.

If you think of buying an incubator, write for catalogue of the New Improved Victor advertised in our columns.

FOR \$19.00

We can send you one of our

SPECIALTY SINGLE BUGGY HARNESS.

Which is the result of years of figuring to make the best harness ever known for the money. It is made from oak stock, hand stitched and finished by skillful mechanics, handsome full nickel or Davis hard rubber trimmings.

Just the Harness for an Elegant Turnout.

They sell here for \$25.00, and harness not as good is often sold for \$35.00 in retail shops. If harness is not as represented, money will be refunded.

Liebold Harness Co.

110 McAllister St., San Francisco.

Collar and Harness, instead of Breast Collar, \$2.00 extra.

Please state if you want single strap Harness, or folded style Harness, with traces double throughout.

Money

IN

Farming

Not if the farmer throws it away.

Not if he spends an hour on a row of onions, which the "Planet Jr." Wheel Hoe would do better in six minutes.

Not if he takes half an hour to "set" his old cultivator, when he could change a "Planet Jr." without stopping his horse.

Not if he wastes his seed in sowing thick, and then his time in thinning, when he might save both with the new Hill-Dropping Drill. Money lies in raising double the stuff at half the cost. It can be done.



The "Planet Jr." Catalogue costs nothing. Doing without it is expensive. Write for the latest.

G. G. WICKSON & CO.,
3 and 5 Front Street, San Francisco, Cal.



Horse Owners! Try

GOMBAULT'S Caustic Balsam

A Safe Speedy and Positive Cure
The Safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes all Bunches or Blumishes from Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING. Impossible to produce scar or bluish. Every bottle sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars.
THE LAWRENCE-WILLIAMS CO., Cleveland, O.



LAND FOR SALE

Choice Fruit Land Cheap near Saratoga, Santa Clara county in lots to suit.

\$3600—20-Acre Tract, partially improved, near Fresno City.

JOHN F. BYXBEE,
No. 42 Market St., San Francisco.

"DEAD LOCK" GOPHER TRAP.

Simple, Effective.
Double Trigger, "Fish Hook" Jaws. Show this cut to your dealer and take no other trap. Price 25 cts. each or \$3.00 doz. delivered. Sole M'trs, Ira F. White & Son, Pasadena, Cal.

DANIEL BEST'S STEAM PLOW.

**Fifty
Horse-
Power.**

AWARDED FIRST PREMIUM AT STATE FAIR.

As seen at work in Colusa County pulling **SIXTEEN 10-INCH PLOWS** at the speed of three miles per hour, cutting 16 to 25 feet.

A REVOLUTION IN PLOWING.

Best's Traction Engine.

THE MONARCH OF THE FIELD.

It Will Do the Work of 100 Horses!



PLOWING REDUCED TO A MINIMUM COST, and from 35 to 70 acres plowed each day at an expense of **50 TO 60 CENTS AN ACRE.**

**TWO SIZES BUILT.
30 AND 50 HORSE-POWER.**

**40 OF THESE ENGINES
AT WORK NOW.**

A **50-FOOT HARROW** is used, with which from 100 to 125 Acres are harrowed each day, doing the work much better than horses.

Plowing by
SUNLIGHT BY DAY
and
HEADLIGHT BY NIGHT.

GOLD MEDAL

Awarded by the State Agricultural Society at Sacramento.

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any \$200 job.

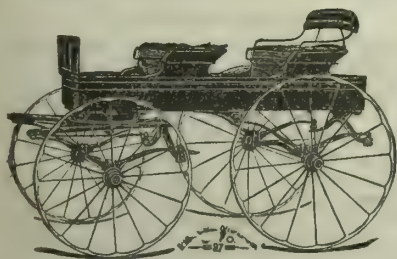
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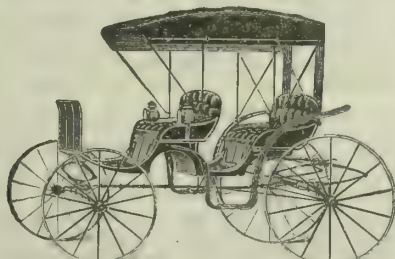
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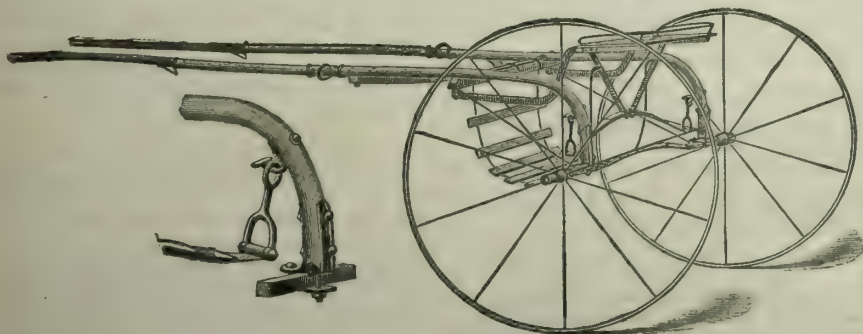
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As good as any \$135 job



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Sells Elsewhere for \$100.



No. 201. Price, \$185.
Compares with the Best.



No. 5 Cart. A Good, Strong Cart. Price, \$15.

**All Kinds of Vehicles and Harness Way Below
Anything on This Coast.**

WE SHIP ALL OVER THE PACIFIC STATES.

CALIFORNIA WAGON & CARRIAGE CO.,

36 1/2 to 44 1/2 FREMONT STREET, SAN FRANCISCO, CAL.

**WHEN IN WANT OF A MILL
BUY THE BEST!**



It Will Cost You
No More Than
Other Makes.

**"The
Crane"**



Was Awarded the Premium at State Fair Sacramento, OVER ALL OTHERS.
WE MAKE THEM BOTH PAINTED AND GALVANIZED.

8 1/2 and 12-FOOT DIAMETER.

Please note that an 8 1/2-foot mill has 6 1/2 feet more wind surface than an 8-foot m
EVERY MILL GUARANTEED. We will replace all parts broken by storms that do no wreck buildings.

Any Mill that does not work satisfactory may be returned to us and we will pay the freight both ways.

THE CRANE COMPANY,

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ORIGINAL AND BEST IN THE WORLD.

Send for Illustrated Descriptive Catalogue and Price List.

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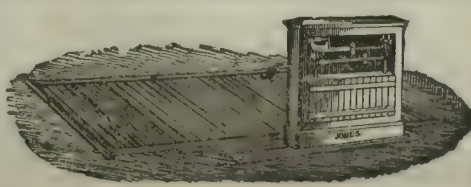
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Price \$68, Delivered Anywhere in the United States.

These Scales have STEEL BEARINGS, Not Wood—
BEAR THIS IN MIND.
From 25 to 50 per cent cheaper than any other
Scales of like quality. All sizes and kinds
of Scales always in stock.

Truman, Hooker & Co., San Francisco.



THE HOME CIRCLE.

Nature's Answer.

Written for the RURAL PRESS by ISABEL DARLING.

"For one sweet day"—No more, O longing soul?
And why?
Can one day's heartbeats send along the thrilling
veins
Full answer to the one eternal, rhythmic call
I breathe to every spirit and inbreathe from all—
The call of growth with its outreaching joys and
pains?
Can one day's longing lift the caverned glooms on
high
And bend the mountain peaks to clasp the depths
below,
And still both heights and depths retain their own
rich store
Of sun and rock and tree, of dimness, moss and
fern; no more,
No less of all the centuries have brought? Not so.
Not for one day, but all the days, draw near, dear
soul!
With me there is no sacred time, no broken song;
For all are holy, and the voice of brook and tree
Are never silent. If thou canst but dimly see
My full, uncovered face, thine eyes are misty, strange
to me,
Stand straight and listen! that thine ear may hear
the roll
Of that retreating hindrance in thine upward way
Which only waited for the overmastering will,
The power that bids the sea of "human fret" "Be
still!"
And thou shalt see all life as "one entrancing day."

Alone in the House.



THE house being all alone by itself, inexperienced persons may believe that it behaves exactly as it does when there are people in it; but that is a delusion, as you will discover if you are ever left alone in it at midnight sitting up for the rest of the family; at this hour its true disposition will reveal itself.

To catch it at its best pretend to retire, put out the gas or the lamp and go upstairs. Afterward, come down softly, light no more than one lamp, go into the empty parlor, and seat yourself at a table with something to read.

No sooner have you done so than you will hear a little chip, chip, chip along the top of the room—a small sound, but persistent. It is evidently the wall paper coming off, and you decide, after some tribulation, that if it does come off you can't help it, and go on with your book.

As you sit with your book in your hand you begin to be quite sure that some one is coming downstairs. Squeak—squeak—squeak! What folly! There is nobody up there to come; but there—no, it is on the kitchen stairs. Somebody is coming up.

Squeak—snap! Well, if he is a robber you may as well face him. You get the poker and stand with your back against the wall. Nobody comes up. Finally you decide that you are a goose, get a magazine and try to read.

There, that's the door. You heard the lock turn. They are coming home. You run to the door, unlock and unbolt it, and peep out. Nobody there.

Then, the door lock gives a click that makes you jump.

By daylight neither lock nor stairs make any of these noises unless they are touched or trodden on.

You go back to the parlor in a hurry, with a feeling that the next thing you know something may catch you by the back hair, and you try to remember where you left off.

Now it is the table that snaps and creaks as if all the spiritualist knocks were hidden in the mahogany. You do not lean on it heavily without this result, but it fidgets you, and you take an easy-chair and put the book on your knees, and try to read.

Your eyes wander up and down the page and you grow dreamy, when, apparently, the bookcase fires off a pistol.

At least a loud, fierce crack comes from heart of that piece of furniture—so loud, so fierce, that you jump to your feet, trembling.

You cannot stand the parlor any more. You go upstairs.

No sooner do you get there than it seems to you that somebody is walking on the roof. If the house is a detached one and the thing is impossible, that, of course, makes it all the more mysterious.

Nothing ever moaned in the chimney before, but something moans now. There is a ghostly step in the bathroom. You find out afterward it is the tap dripping, but you do not dare to look at that time.

And it is evident that there is something up the chimney—you would not like to ask what.

If you have gas, it bobs up and down in a phantom dance. If you have a lamp, it goes out in a blue explosion. If you have a

candle, a shroud plainly enwraps the wick and falls toward you.

The blinds shake as if a hand clutched them; and finally a doleful cat begins to moan in the cellar. You don't keep a cat, and this finishes you.

You pretend to read no longer and, sitting with a towel over your head and face and hearing something below go "shew, shew, shew," like a little saw, you believe in the old ghost stories.

Ten minutes later the bell rings; the belated ones come home; the lights are lit; perhaps something must be got out to eat. People talk and tell where they have been and ask if you are lonesome.

And not a chair cracks. No step is heard on the roof; no click to the front door. Neither bookcase nor table cracks. The house has on its company manners—only you have learned how it behaves when it is alone.—New York Mercury.

Chivalry in the Civil War.

Major-General John M. Schofield relates many pleasant anecdotes of his war-time experience tending to show that a strong feeling of chivalry was frequently exhibited on either side during the Civil War. General Schofield makes use of the following incident to illustrate this idea: "Instances were very common throughout the war," the General said, "showing that fighting was done on both sides for military results rather than for personal devilry. A conspicuous example of this occurred at Pine Mountain, when the Confederate General, Polk, was killed. As was the case when my young aid was killed at Resaca, the battery that threw the fatal shell was directed upon another object, when it became known that the Confederate commander had been killed by it. This is a case that came within my personal observation, and I can say without reserve that the feeling of regret among Union officers and soldiers, that General Polk had fallen, was sincere and widespread. There was no sign of exultation on any side. Then, again, when McPherson fell before Atlanta, it came to our knowledge that his death was much regretted among the officers of the enemy, who had learned to appreciate his manly and soldierly qualities."—Blue and Gray.

Cows with Blue Spectacles.

A remarkable story comes all the way from Moravia to the effect that all the cows in that part of the country are "humped in the rail-fence corners chewing their cuds with great blue spectacles fastened before their eyes." It seems that the ground in that country has been covered with snow since the latter part of October. Nearly every day has been clear and cold, the reflection of the sunlight from the snow being very disastrous to the eyes of both man and beast. Thousands of cattle went entirely blind before the attention of the Government Director of Agriculture was called to the fact. That gentleman, Dr. Verincourt, recommended blue spectacle glasses, set in wooden or wire frames, and the result is that thousands of cows are now roaming about over the Moravian pastures looking as dignified as Boston "schoolmarm." It is further said that the entire blue-glass supply of Vienna has been exhausted, and the Government has applied to Paris and London glass-dealers for additional supplies.

The Duke and the Banker.

The late Duke Maximilian, father of the Empress of Austria, was one of the most simple and affable of men. One day, as he was traveling on the train between his country residence and Vienna, he fell into conversation with a banker from Stuttgart.

"Are you going to Vienna?" asked the Duke.

"Yes; to see my daughter. She has just been married."

"Ah!" said the Duke; "mine has just married also. Was it a good match?"

"Excellent! And that of your daughter?"

"Not bad either."

"My daughter married the banker Goldschmidt."

"Mine the Emperor of Austria."—Harper's Bazar.

A Great Idea.

"Do you think you could lend five dollars to-day, Jack?"

"Well, yes, I can. But you will have to wait here till I go out and get it."

"Certainly."

Jack returns two hours later and says:

"Here's the five dollars."

"Look here, Jack," says the borrower, "you have got to give me six."

"Why?"

"Why? Darn it, I've got to charge you for loss of time waiting for you, and that's cheap at one dollar."—New York Press.

Patience.

Written for the RURAL PRESS by M. PULSIFER.

Where and in what is it not needed? Wherever human hands and minds struggle to achieve, there should be patience; from the highest to the most humble of life's duties this virtue is found in all its gradations and moods; from the cheerful and exalted to the stubborn and sullen, its purpose is always carried out, though with widely varying results.

Patience is the first essential to success in any undertaking. It often succeeds alone where talent and ability and capital fail without it. Knowledge of method and detail are useless unless there is first patience to insure continuity. Many are there capable of conceiving and setting new schemes and ventures afloat; but it is only the few who are not discouraged, and give up if adverse winds necessitate any change in their course.

The tree that bends most in a storm is least likely to break. One must bend to the varying breezes that sway the barque in which life's fortune is launched, changing tack when necessary, keeping the coast in mind, and well out at sea.

It is not safe to "bug the shore." Temptation and wreck lie there; temptation to desert one's craft if the sky darkens, and rocks that one must not take the risk of encountering.

There is something grand and inspiring in the new, though we may love and reverence the old; and well we should, if from it we gathered strength and wisdom that shall serve us in our dealings with the new and untried. If it has added a new growth to our patience, then, indeed, is the old and departed to be held in most grateful remembrance.

Cheerful patience is one of the most beautiful attributes of human nature, especially in one whose lot is cast in an uncongenial spot, the work distasteful, and all the surroundings out of harmony with one's tastes and inclinations. But there is something often called patience that were better named indifference—a disposition that tamely resigns itself to circumstances that might be improved or quite changed. It is akin to the dumb obedience of animals, and when it takes possession of a human being, he or she is to be pitied, sad illustrations of "arrested development," as they are.

True patience implies perseverance; and, as all progress who persevere, it is well that we understand the kind we are cultivating. To plod uncomplainingly is not patience, but lack of spirit. Patience is inspiration—an inspiration that has an end in view, a goal to attain, and a determination to press on through all and every obstacle until it is reached.

To reach this goal is but the beginning of the end, and that end recedes as we advance; for there is no resting-place for the spirit that has learned to climb, and inhaled the invigorating air of the evergreen hills.

There is yet a patience more admirable than all—that which one finds necessary in dealing with self; that which enables one earnestly to say, "I will try again." So long as one can say this, he or she is growing in the right direction, their work of character-building not a failure. If we but knew one-tenth part of the noble efforts made by erring mortals in this direction, there would be far less condemnation, more sympathy and charity. Especially would this be the case if all could be deeply impressed with the truth that what makes or mars us in this life is what we do for or against others; that the wrong and pain we inflict on others, though in blindness, will in time be turned upon the doer.

Could we all believe this, it would increase our patience with those around us, and cause us to try again and again to overcome our faults, that we might the better aid those less strong.

Thus would we all grow in those qualities needful to success and well doing here and a peaceful entrance into the hereafter.

Splendid Gifts for the Kaiser.

One of the most striking incidents of the wedding gayeties in Berlin was the extraordinary attention paid by the German Emperor to the Czarovitch, who stayed at the royal castle, where no Russian guest had been entertained since the reign of Nicholas II. The German Emperor seized eagerly every opportunity which presented itself for holding long and confidential conversations with his youthful guest. The Czar's present, which consisted of a Russian diadem in pearls and diamonds, eclipsed every other gift, and is supposed to be worth £10,000. The Sultan has sent a number of magnificent and very costly presents to the German Emperor, whose eager acceptance of these frequent gifts from Constantinople is severely

censured in Berlin. The latest consignment includes a complete suite of Oriental furniture in ten pieces. The Empress has received two splendid vases of great value in blue enamel and silver. Each of the young Princes has a set of beautifully worked diamond studs, with links to correspond. The baby Princess has been sent a fan-shaped brooch of diamonds, rubies and sapphires.

A Test Case.

A corpulent gentleman stood in front of the Providence depot recently. His immense head was elevated high in the air, it looked as if he was watching a balloon; but the *Journal* representative hadn't heard of any balloon ascension, and upon glancing upward could see nothing unusual.

The rotund gentleman was soon the center of a large crowd, each staring solemnly at the wintry skies.

"What's the matter, anyway; what are you all lookin' at?" asked a shriveled-up lady with a pair of green goggles protecting her eyes.

As no one knew, the lady received no definite answer, whereupon she muttered: "Never saw such a pack of fools before," and then left in disgust.

A policeman came along, and he, too, gazed aloft. Seeing nothing, he said, "Move on here, don't be blocking the sidewalk, or Oi'll pull yez all in, so Oi will."

The crowd melted away, and the fat gentleman walked over to the depot and entered. The *Journal* man asked him what he had been looking at.

"Well," said he, "I wanted to see how many dumb fools I could gather around me without saying a word. I counted 50. I guess all the greenhorns ain't outside of Boston."—Boston Journal.

Keep the Ovens Clean.

That it is a marked addition to the flavor of oven-cooked food that these places should be kept scrupulously clean is not so well realized by housekeepers as it should be. In Devonshire ovens are whitewashed, a practice that is excellent.

Firstly, it makes the ovens light, and it is doubtful if ovens would be allowed to get so dirty if they were not so dark and the dirt so inconspicuous. Then the lime whitening, which is the particular ingredient of whitewash, is a material approaching the nature of a disinfectant; anyway, it is not favorable to smells or odors of any kind whatever. Lastly, it so plainly shows by discoloration when objectionable results may be expected and the limewash should be renewed.

If you cannot have tiled ovens, in which bread and meats are most admirably baked, scrub out the black, sooty ovens of your range and whitewash them, and if you can't do this, at least keep the ovens actually clean, if they do not look so.—Chamber's Journal.

Is Electricity Sour?

Physicians explain in an interesting fashion the fact that the electric current when applied to the tongue seems to taste sour. The gustatory or tasting nerves, according to the doctors, are industrious and well-meaning little things, and, although it is not their business to take cognizance of any impression made by touch, they do their best to look after anything that happens to come their way. Thus, when subjected to the electric current, they telegraph the fact in their own language to the brain, and, as their language is exclusively that of taste, they inform the brain that the electric current is sour. The ordinary unscientific citizen, having confidence in the stories told by his gustatory nerves, really believes that the electric current has an acid taste.—New York Sun.

The Author of "Uncle Tom."

Mrs. Harriet Beecher Stowe seldom fails to visit Mrs. John Hooker, Mrs. Charles Dudley Warner or some other friend in the daily walk she takes in the vicinity of her home on Asylum Hill, Hartford. She is especially fond of music, and greatly enjoys the singing of her sister, Mrs. Hooker. Mrs. Stowe's physical health is apparently as good as it was ten years ago, and her mental condition remains about the same. Her mind seems incapable of any sustained effort. She is happy and cheerful, and at times there are flashes of her former vivacity. The occasional notes she writes to friends give no hint of mental decadence.—N. Y. World.

Value of Olive Oil.

No family where there are growing children should be without a bottle of the best olive oil, says Alice Chittenden. A celebrated physician once told me he had saved his child's life when she was very low with

typhoid fever, or rather after a severe attack of the fever, from which she did not have vitality enough to rally, by sweet-oil baths. Twice a day he rubbed the child all over, and particularly about the upper part of the body, with a little sweet oil, taking a few drops at a time in the palm of his hand. The nourishment thus absorbed gradually gave the little one strength to recover. When a child is suffering from a cold, it is advisable to omit the daily bath, said this doctor, and instead, at bedtime, wrap the restless little sufferer in a blanket before a warm fire, and rub a little oil on the soles of the feet, down the back and neck. A threatened attack of croup may often be averted by saturating a flannel with sweet oil, sprinkling with a little camphor, not too strong, and applying it as hot as can be borne over the chest and throat. Cover with dry flannel and change as soon as it gets cold.

Pains in the Heart Region.

Pains in the region of the heart are common, and the general dread of this disease makes many people imagine that they have heart disease when there is any local affection in this region. Many who think they are suffering from heart disease have their pain caused by the pressure of the stomach when distended with food or gas. Neuralgia or muscular rheumatism of the chest-wall will give similar pains in the heart region, which may readily be thought to come from heart disease. The obscurity which involves the whole subject of the heart's nervous system makes it impossible to tell definitely about such pains. Various drugs, which will slow the action of the heart, will sometimes give relief. But it is necessary first to ascertain positively if the heart is really affected.

Those who suffer from such pains can frequently discover the cause better than the physician. There is no reason why such pains should give cause for alarm. Even though neuralgia or rheumatism is causing pain in that region, it is not essentially dangerous. The best plan at such times is to keep in a dry place, avoid draughts of wind, rain or wet weather, and remain in a lying posture for hours. This gives the heart rest and gradually strengthens it. Hot, dry applications over the region are always good. Those suffering from neuralgia and heart disease should always apply hot flannels over the region of the heart when the pain is severe. This will prevent the neuralgia from settling in this organ, the most dangerous spot.—New York Ledger.

Ventilation of Sleeping-Rooms.

The proper arrangement of draughts for the ventilation of sleeping-rooms has perplexed all. One thing, however, is certain. It has been proved by actual experiment that a layer of air lies against the walls which is subject to very little movement, even when there is a strong circulation in the middle of the room. It is, therefore, important that a bed should not be placed close to the wall. If kept there during the daytime, it should be moved at least several inches out into the room at night. Alcoves and curtains should be avoided. In an alcove enclosed on three sides a lake of air forms, which may be compared to the stagnant pools often observed along the margins of rivers. A few yards away a rushing tide may be moving swiftly along, but these placid pools are unruffled by the current.

While placing the bed, especially the head of it, where it will be shielded from the strongest draught, there should still be enough motion to the air in that vicinity to insure fresh supplies constantly throughout the night. The prevailing lack of appetite for breakfast, as well as many cases of anæmia and worse diseases, is due to the breathing over and over again of the same air in restricted bedrooms, where beds are too often placed in alcoves or are shielded by curtains, which are far too seldom shaken out in the fresh air.—New York Times.

Brushes for the Kitchen.

Besides the various kinds of brushes used for scrubbing, keep one exclusively for washing vegetables; potatoes, turnips, beets, etc., can be more easily cleaned in this way than in any other.

Use a small tooth-brush for cleaning around the handles of cups and tureens, and for dishes with rough surfaces or raised designs; keep it convenient and it will be used oftener. I keep mine in a drawer of my kitchen work-table, beside my silver polish, chamois skin and other useful cleaners.

I have found a small paint or varnish brush, costing five cents, a useful accompaniment to the larger stove-polishing brush, as it can be made to reach into corners where the other one will not go.

A nail-brush for the cook's and the chil-

dren's use is indispensable. Of course there are dust-brushes, crumb-brushes and tooth-brushes. I only mention those which I do not find in general use, but which cost little and aid much in making easier the work which many deem drudgery.—Portland Transcript.

Hints to Housekeepers.

Leather mats are shown for polished tables.

Large squares of Turkish bath toweling, almost sheets in size, are much used instead of bath robes. The loose cloth is manageable and serviceable actually as a drying towel, while the robe is necessarily, from its fashioning, merely a covering.

When a child receives a cut with a knife or any sharp object, such as glass, or from a fall, wash the cut well with warm water to remove any dirt which may have got in, and then put a piece of clean, soft linen round the part, and fasten it on by winding cotton round it or by means of a handkerchief or bandage. Should there be much bleeding, or the wound be large, a doctor should be sent for, as a stitch may be required to prevent a very ugly mark, which would be left if the cut were allowed to gape open.

Always spread a large clean cloth in your clothes-basket before putting in the clothes. Pass a clean, damp cloth along the clothes-line to free it from dust. A galvanized wire clothesline is best, as it need not be taken down, besides freeing one's mind of the fear of breakage or slipping of knots, with the direful attendants of such contingencies. A clothespin apron, which is made by facing a large square piece of cloth on the outside for a pocket, is much more convenient than a basket, as it allows the free use of the hands.

An excellent way to restore the brightness of tarnished brass is to dissolve in a saucer of ammonia a little of any of the scouring soaps sold. Apply with a toothbrush and polish with a bit of chamois.

In making lined skirts, the best plan is to put the belt on before finishing the bottom. After the belt is on make the skirt the proper length and baste the outside and lining together nearly the entire length of the skirt; then finish the bottom and put on the trimming before taking out the bastings. If these directions are carefully followed, the skirt will not hang badly, nor will the material sag over the trimming.

Articles of food that are damp or juicy should never be left in papers. Paper is merely a compound of rags, glue, lime and similar substances, with acids and chemicals intermixed, and when damp is unfit to touch things that are to be eaten.—American Cultivator.

Cost of Furs.

A skin of the sea-otter has been sold for as much as \$775. Sable skins, little bigger than a man's hand, have been sold for \$100 each, which is proportionately more expensive than the skin of the sea-otter. A mantle of this valuable sable fur was a gift to the present Empress of Russia on her coronation by the town of Vitoutsk, in that country. It weighed 16 ounces and is valued at \$60,000.

The skin of an elephant, when tanned, is very expensive, the tanning taking about six months, says the Boston *Globe*. Articles made from elephant hides are costly luxuries.

The skin of a silver fox, otherwise called black fox, varies in price from \$50 to \$200. The whole number obtained annually amounts to only 2000, of which about 1600 are imported into England. La Hontan states that in his time the skin of the silver fox was worth its weight in gold, and an unusually fine skin has been sold in the London market for \$250.

Of the species of marten which is distinguished as the Russian sable, the darkest skins command \$150 each. Inferior skins of the same animal fetch as little as from \$1 to \$2.

A skin of the tiger of North China, which has hair from two to three inches long, and frequently measures from 10 to 14 feet in length, is valued at from \$50 to \$100.

Among expensive furs, Mrs. Mackay owns a set of black fox which cost \$14,000.—Chicago News-Record.

A Hint from 1742 for 1893.

At this time, when so much is being said against the hoop-skirts and crinoline, it is interesting to know that at the first performance of Handel's oratorio of *The Messiah*, given at Dublin, Ireland, April 13, 1742, so great was the anxiety of the people to obtain seats that "the ladies of rank in the capital agreed for the time being to go without hoops, so that an additional number of people could be admitted in the audience."—Boston Evening Transcript.

YOUNG HOLKS' COLUMN.

The Shadow on the Moon.

AS I was talking one evening with a bright, intelligent boy of fifteen about some of the more familiar astronomical subjects, he surprised me greatly by a question that he asked. My surprise arose from the fact that I knew the boy to be a good student, who stood well in his classes, and that he should be ignorant of so simple a thing as that about which he asked the question seemed almost incredible.

Since then, however, I have found that there is a general misapprehension of the subject, not only among boys and girls, but among grown people, and it is the purpose of this short article to give a simple explanation of it.

Here is the question asked by my young friend: "We are told that one proof of the earth's spherical form is the round shadow that it throws upon the moon, but when the moon is half 'full' the edge of the shadow is straight, and when it is three-quarters 'full' the edge of the shadow is concave. Now, why is the shadow not always convex, as it is when the moon is seen as a crescent?"

The boy thought, as you see, that the moon's phases are caused by the interposition of the earth's shadow. A little reflection will show you that this is simply impossible. Let me see if I cannot describe the phenomenon so that you may draw a mental picture of it.

You are standing, we will say, on a big ball out in space. Away off yonder is another big ball, glowing with light. Between you and the glowing ball is a smaller but non-luminous one. As the latter emits no light of its own, the side that is toward you is dark and of course you cannot see it.

That is the phase called the "new moon." The ball on which you stand is the earth, the glowing ball is the sun, and the dark ball between you and the sun is the moon. The other side of the moon, the side toward the sun, is bright, for the sun is shining on it. At this time the three balls are almost in a straight line with each other.

In a few days the moon, which is perpetually revolving around the earth from west to east, moves above the straight line high enough for you to catch the first glimpse of its illuminated side, and you see it as a thin crescent. Every day it moves higher and you see more and more of its bright side.

When it reaches a point directly overhead you see one-half of that side, which is one-fourth of the sphere, and when it begins to go down on the other side of the earth from the sun, the bright part becomes convex and the dark part concave, of course. When it gets down far enough on the side of the earth away from the sun to be in a line with those two bodies, you see all of its illuminated side, and then it is "full" moon.

As it continues in its course around the earth, the same phases are passed through, but in reverse order.

It is very plain, then, that the shadow of the earth does not cause the moon's phases. Sometimes, however, the moon, in its monthly revolution, moves in the same plane as the earth's orbit, and gets into its shadow. Then we have a lunar eclipse. At no other time does the earth's shadow touch the moon.

To make this still plainer, let me remind you that when the sun is in the west the earth's shadow must necessarily be thrown out into space toward the east. But the crescent moon is seen in the west, you know—how, then, could it be caused by a shadow that is away off in the east, on the other side of the earth?—Worthington's Magazine.

The Bite of a Snake.

The heads of most of the venomous snakes, including the "rattlers," bulge just beyond the neck. Without exception they have fangs, either always erect or raised and laid back at will. These fangs are long, sharp-pointed teeth, with a hollow groove running their entire length. At the root of each fang is a little bag of poison. When the snake bites the motion presses the poison sac, and its contents flow down through the hollow in the tooth into the puncture or wound. The harmless little forked tongue is often spoken of by the uninformed as the snake's "stinger." Now there is no propriety in the name, as the poisonous snakes do not sting, but bite their victims. There is no creature, even if brought from foreign countries where "rattlers" do not exist, but will halt and tremble at the first warning sound of the rattle.

Dr. S. Weir Mitchell, with others, has

been making experiments with the venom of different serpents. He has found that, aside from its poisonous qualities, it contains living germs which have the power of increasing enormously fast. So, you see, when an animal is bitten these tiny bits of life entering with the poison, cause harmful action to begin almost at once. Dr. Mitchell has found that the nervous center controlling the act of striking seems to be in the spinal cord, for if he cut off a snake's head and then pinched its tail, the stump of its neck turned back and would have struck his hand had he been bold enough to hold it still.—St. Nicholas.

A Pretty Custom.

There is a certain softness and sweetness in Southern manners that appeal very strongly to less demonstrative Northerners. Perhaps no Southern custom is prettier than that of having the children of a household call a friend of the family or a favorite visitor aunt, uncle or cousin, as the case may be. Doubtless the custom had its origin in the numberless genuine relationships of Southern life, which led people to feel that there was a certain coldness in addressing a guest by a formal title when everybody present was addressed familiarly or affectionately.

DOMESTIC ECONOMY.

SCALLOPED OYSTERS.—Drain your oysters and season them with salt and pepper; crumb some stale bread and season it with salt and pepper. To each gill of the bread crumbs add one hard-boiled egg, finely chopped; butter a deep dish, strew in a layer of egg and crumbs, then a layer of the oysters, with some lumps of butter on them, then more crumbs, and so on till all are in. Put a cover of the crumbs on the top. Bake this in a tolerably quick oven and serve it hot.

SAGO SOUP.—Put two quarts of stock into a soup kettle; when boiling add to it four tablespoonfuls of pearl sago that has been washed in cold water; simmer gently for 10 minutes, being very careful that the sago does not scorch while it is simmering. Cut a small carrot into fancy shapes and boil it slowly in plain water; then add it to the soup; cook 10 minutes longer. Beat the yolks of three eggs until creamy, add to them a half-pint of cream, stir this quickly into the boiling soup; season with salt and pepper and serve at once. Chicken stock would be very much better for this, as it is a light and delicate soup.

MILK BISCUITS.—A quarter of a pound of butter, one quart of milk, one gill of yeast, as much flour as will form the dough, a little salt; stir into the milk so as to form a very thick batter, and add the yeast; this is called a sponge. This should be done in the evening; in the morning cut up the butter, and set it near the fire where it will dissolve but not get hot; pour the melted butter into the sponge, then stir in enough flour to form a dough, knead it well and stand it away to rise. As soon as it is perfectly light, butter your tins, make out the dough in small cakes, and let them rise. When they are light bake them in a very quick oven, take them out, wash the tops over with water and send them to the table hot.



A cream of tartar baking powder. Highest of all in leavening strength.—Latest U. S. Government Food Report.

ROYAL BAKING POWDER CO., 206 Wall St., N. Y.

AGRICULTURAL NOTES.

CALIFORNIA.

Butte.

The almond trees in the orchards near Oroville are white with blossoms this week. The almond here, as elsewhere, is the earliest tree to bloom, but it is later this season than usual.

Oroville Register: "The flowers that bloom in the spring, tra la," and after the flowers the berries ripen, and this week O. S. Upham, of Honcut, sent us a box of nice, ripe, fragrant and luscious strawberries. Strawberries early in March, how is that for "our glorious climate." Last season, Mr. Upham shipped berries some five or six months to the metropolis.

Oroville Register: Z. W. Burnham, of Chico, has 40 acres planted to orange trees on Butte creek, in the low foothills, near Chico. The locality is free from frost and is admirably adapted to citrus growth. He has Malta Bloods, Mediterranean Sweets and Washington Navels. B. F. Allen has 300 orange trees in the same vicinity. His varieties are Mediterranean Sweets, Navels and Malta Bloods. Ten miles above Mr. Allen's place, Mrs. John Nichols has many orange and lemon trees that do exceedingly well. At Forest Branch, Mrs. Harris has several hundred fine bearing orange trees. This is about 18 miles from Chico, and on Chico creek. The altitude is over 1200 feet, but the trees succeed well and bear good crops. There are many in and near Chico who have bearing orange trees, but these trees appear to thrive better in the low hills east of the town than in the open valley.

Oroville Register: Six hundred acres of hops near Wheatland yielded \$150,000, or \$250 an acre, says the *Wheatland Four Corners*. We think the estimate too high, but cutting it down one-half it still shows a remarkable yield. Not a pound of hops is grown in Butte for commercial purposes, yet the land on Honcut, Butte and Chico creeks will grow as fine hops as ever sent their twining tendrils into the air. Why don't farmers learn to diversify their crops and make money?

Fresno.

Republican: S. N. Mitrovich has put up a box of figs in a novel as well as elegant manner for exhibition at the World's Fair. They are of the Smyrna variety and the choicest he could obtain, being thin-skinned and of large size. The fruit is packed in a thin box with a glass cover, and set into a silver and gilt frame. They were grown on the Kennedy and Pew places.

Sanger Herald: Twenty thousand stakes from the Loma Prieta mills were unloaded at Fowler last week for the Rio Del Rey vineyard, and are now being driven beside the Emperor vines on the estate. It is the purpose of the company to tie up their vines that produce fine table grapes, that they may have the best chance to ripen, and to make a business of shipping east during the summer.

Humboldt.

The following officers were elected at the annual meeting of the stockholders of the Eel River Creamery Company: J. Jeriminni, C. Regli, C. Decarli, H. C. Blum and C. Furrer. The officers are J. Jeriminni, president; C. Regli, vice-president; C. Decarli, secretary; H. C. Blum, treasurer.

Kern.

Californian: Frederick Seaton and a party of surveyors have been busy for several days past laying off a tract of 50 acres northwest of town, on the Cotton ranch, which is to be planted this season as an experimental farm. It will be planted to a great variety of fruit and ornamental trees, shrubs and vegetables of all kinds that are likely to do well in our soil and climate, and will be in the charge of a thorough and experienced gardener. The project is an excellent one, as it will show visitors at a glance the wonderful and varied capabilities of Kern county's soil. It will serve, too, to demonstrate the most profitable varieties of fruit or vegetables to grow, the best methods of cultivation, irrigation, gathering and curing. In fact, it will be a practical horticultural and agricultural encyclopedia in operation.

Lake.

Examiner: We learn that Chas. Innes has a band of sheep affected with something like pneumonia fever, and that he is losing from 40 to 50 head per day out of a band of 4000.

Los Angeles.

Pomona Progress: It is reported that "Lucky" Baldwin says he will have for sale at Santa Anita, next winter, half a million of budded orange trees, at from 30 to 45 cents each, and also that he says he can make money on them at those prices.

Monrovia Messenger: It is a good many years since the winter rains have been so timely as they are this winter. Although there was a heavy rainfall three years ago, over 40 inches, it came in such downpours that a great deal of it ran off, therefore doing very little good. Last fall the earth was very dry, and the rains have come so steadily that they have nearly all gone into the ground.

Duarte Cor. to Messenger: Jas. A. Fosby has just completed the setting out of nearly 15 acres of plums on his 20-acre tract. In a few weeks he will set out lemon trees on the same 15 acres, and when the lemon trees grow to a pretty good size the plum trees will be taken out. The property has been further improved by lining it on three sides with olive trees. This will be a fine property in a few years.

Mendocino.

L. Witherell, a prominent resident of Boonville, Mendocino county, while coon-hunting,

climbed a tree to close the entrance to the hollow in which the coon had taken refuge. While in this elevated position, one of the party gave the tree a few strokes with an ax, and, being badly decayed, the tree tottered and fell, breaking Witherell's leg.

Monterey.

Pajaronian: New spuds and asparagus are among the good things now to be seen in local markets. We are all waiting for the Pajaro strawberry. When that comes, spring has arrived in dead earnest.

A Salinas correspondent says: "The principal cereal sown in the Salinas valley this year is wheat. Barley is apparently neglected, owing to the low prices ruling. Potatoes, beans and sugar beets will receive much attention immediately around Salinas."

Pajaronian: Last year Mark Hudson shipped a chest of raspberries to San Francisco in March—the first of the season from this valley. This year he beats the record, as he shipped a half-chest of fine raspberries on Monday. These were reported the first of the season in the city market, and undoubtedly commanded a big price.

Orange.

Santa Ana Blade: John Salles, of Santa Ana, brought into the World's Fair exhibit yesterday a beet that weighed 81 pounds. It was sent to the Chamber of Commerce, Los Angeles. Wm. Halesworth, of Santa Ana, contributed some fine peanuts.

Santa Ana Blade: Twelve men are employed at the Santa Ana Incubator Factory at the present time, and Mr. Phelps, the manager, informed a *Blade* reporter that work was coming in at an encouraging rate. A mammoth incubator, having a capacity of 2000 eggs, has lately been manufactured for D. G. Pitner, of Ukiah, Mendocino county.

The co-operative sugar factory at Anaheim is getting down to business. The *Gazette* says the beet sugar company received yesterday 150 bags of beet seed, containing five tons, from the Chino factory. The seed has been placed in the Kellogg warehouse, near the Southern Pacific depot, and will be assorted according to the various grades of land to be planted, and will be distributed, after which planting will begin.

Placer.

Placer Herald, Feb. 25: Peach trees on the ranch of Ira Avery, near Rattlesnake Bar, are in bloom, and Mr. Avery has apricot trees with the foliage of last season still upon them, as luxuriant as though they belonged to the evergreen family. While our Eastern friends are talking of the spring thaw, etc., we in Placer will be eating our early peaches, strawberries and cherries.

San Bernardino.

Citrograph: H. H. Pettit has planted ten acres at Alessandro to apricots and prunes, and will plant ten acres to olives.

San Benito.

A careful estimate places the number of trees planted in the San Juan valley this season at 45,000.

Hollister Free Lance: F. W. Buckley, of Santa Cruz, says the valley is looking fine and reports that young grain is doing well. A large acreage has been planted this season, and new feed has got a good start. Prospects are very bright and stockmen feel happy. Mr. Buckley has just purchased from C. Smith, of Llanada, 620 acres of land known as the old Shaw place and adjoining the Keith ranch, which he also bought lately. This certainly proves Mr. Buckley's faith in the future of that section, he having purchased 1100 acres in that locality within the last three months.

San Diego.

The *Escondido Times* claims that 1400 acres will be set in trees in and about Escondido this spring.

Santa Barbara.

Graphic: A sample of lemons on exhibition at Fleisher's shows what the sandy land near the river will do. They were grown by Mrs. J. W. Grant, whose place is one mile north of town. They are large and fine-looking specimens.

TO THE EDITOR:—The heaviest rainfall (for a short time) of the season occurred to-day, March 4th. A strong east wind was blowing and several peals of thunder were heard. The creeks were lively and lowlands covered with water for a while. Two inches fell in less than two hours. Boggy lands are now boggy than ever. Grass is doing exceedingly well, causing stockmen to rejoice. Some grain is yellow as a consequence of too much water, but crop prospects generally are promising. Many lemon and olive trees have been set out so far in this (eastern) part of the county, and many more are to be planted. The Crocker lemon orchard in Montecito is doing finely. They have lately completed an immense curing and packing-house with machinery, also for making olive oil. The building is of stone, iron and glass and is said to have cost \$250,000. A pumping plant and large storage reservoir supply water for irrigating. Hon. Russell Heath is going extensively into lemon-raising, and is having a reservoir 75 feet square and 9 feet deep built to furnish water for irrigation. Many smaller orchards are irrigated by artesian wells and pumps. Mr. Higgins' immense well (supplied by several artesian wells), from which he supplies his lemon orchard with water, is a curiosity worthy of more than passing notice. Many lima beans have been bought lately, and the crop has passed almost entirely from the hands of the farmers. Prices now range at about three cents per pound. Considerable work is being done in the way of getting out and shipping asphaltum, and the industry is becoming of much importance.

Boring for oil is still being prosecuted and a fine supply of gas has been found in the Santa Monica oil well at Carpinteria. It gives a bright light and burns continuously as long as desired. This well also furnishes a large flow of sulphur water, which tastes so strongly of sulphur as to be unfit for use. The oil springs in the Santa Monica creek seem to be sending out unusually large quantities of petroleum this winter, and everything indicates that there must be a large deposit of oil near by. The Boulevard at Santa Barbara is fast nearing completion, and a fine driveway it will be. It is rumored that the Southern Pacific will soon commence the erection of a mammoth hotel on their Hope Ranch property, and that other parties intend building one on Burton Mound. These improvements and the completion of the railroad would do much to advance the interests of the county. L. B. CADWELL, Carpinteria, Cal., March 8th.

Orange Belt: William Gould, of Montecito valley, who was mentioned last week as having purchased machinery for a new olive-oil mill from Elwood Cooper, writes that the machinery was furnished by Toulouse & Delorion, of San Francisco.

Santa Clara.

Gilroy Advocate: Thousands of barren acres which we passed over years ago in the San Joaquin valley are now thriving vineyards and orchards and adding millions of revenue to the State. What is the prospect of the Gilroy valley, with its superior soil and climate? The thousands of unoccupied acres have a future, if the price is within the reach of the industrious cultivator.

Shasta.

The *Shasta Courier* hits the nail on the head in the following: In Shasta county we need more men who will take hold of from 5 to 100-acre tracts of land and plant a few acres in alfalfa, on which to keep a few cows and raise cattle and hogs to sell to the butcher and make butter to supply the grocer; men who can be depended on to raise a supply of vegetables, fruit, fowls, eggs for market, as well as for their own home use. Such farmers can not only live well themselves but furnish and dispose of surplus products, and thus keep in the county money which is now constantly sent away to other localities and distant markets of trade and supplies.

Redding Free Press: We are always pleased to note progress in the development of our fruit interests, for we not only have faith in our soil and climate for the successful culture of fruit, but we also consider fruit orchards a profitable investment for capital, because for our markets we have the world. The fruit industry is among the first in Shasta county, and the day will soon dawn when all our available red land not used for mining will be dotted with profitable orchards. With sufficient money to plow, plant, fence and mature fruit, success is sure to follow. If the price of fruit falls one-half, still the man with 20 acres in bearing has a good investment. Plant orchards.

Sonoma.

Cloverdale Reveille: Planting fruit trees is now occupying the time of the Turner Brothers. They have just received 1600 trees, peaches, cherries and prunes being the varieties set out. When these are all in the ground they will have about 30 acres planted to fruit.

Sonoma Index-Tribune: W. A. McCauley, who recently purchased the Ewell ranch, is sparing neither time nor money in making many needed improvements on the place. He has added to his orchard nearly 1000 fruit trees, consisting of French prunes, Early Crawford peaches, Bartlett pears and a choice variety of apricots. A small Tokay vineyard has also been set out.

Stanislaus.

Oakdale Ledger: W. H. Holliway is transplanting 30,000 young orange trees this week on a piece of land leased from the Ames Bros.

Sutter.

Ernest Blackmer has set out 2000 strawberry plants and about 500 blackberry plants this winter.

Meridian Cor. to Farmer: The rain of last week gave general satisfaction, and, unless it continues, will work no injury.

J. P. Onstott, of Yuba City, has recently shipped two carloads of Thompson seedless grape cuttings to the southern part of the State.

Tehama.

Corning Observer: There will be 1500 acres planted in fruit trees this year in Tehama county. More than half of that number of acres will be planted in this the south portion of the county. The superintendent of the Maywood colony will plant 300 acres; then there are several parties who have bought tracts planting their own trees. In the Fair View tract No. 2, there may be 100 acres planted, and yet the land is only this spring put on the market. The Hammans colony will plant several tracts by the owners of the land, not to mention all there will be planted by farmers themselves. This southern portion of Tehama county is going to be a big fruit district. This will insure shipping of fruit by carloads.

Tulare.

C. J. Giddings has planted 20 acres of his ranch southwest of Visalia to prunes.

Visalia Delta: Prune trees can be purchased for four cents apiece, and they are going a-begging at that price.

D. G. Overall and W. H. Hammond have purchased 20 acres of land from J. W. C. Pogue at Lime Kiln, and will plant the tract to lemons this season.

Visalia Delta: S. C. Brown has purchased 40 acres of land from J. W. C. Pogue at Lime Kiln, and he will plant the same to lemons this season.

son. This land adjoins the Kaweah Lemon Company's ranch.

The Porterville *Enterprise* says that Senator Berry is planting 3000 vines, 200 fig trees and 150 orange trees on his place at Lindsay.

Dixon Tribune: Dr. W. S. Richey brought to our office this week samples of Navel and Blood oranges raised on his ranch near Porterville, which excel in flavor any of the productions of the boasted Los Angeles belt we have ever tasted. Samples of the Magnum Bonum orange, raised by the doctor on his place, took the first premium at the Central California Citrus Fair.

Tulare Times: Some years ago the people of Pleasant valley and Rural, 18 miles above Porterville, placed a wire suspension bridge across Tulare river, which they thought would always remain high and dry above water. In summer it is 15 feet from the under part of the bridge to the surface of the water below. Some idea of the late flood can be formed when it is known that the waters of the river flowed over the center of this bridge.

Register: Mr. John Burr, of San Fernando, arrived in this city yesterday with a carload of orange and lemon trees. Fifteen hundred oranges and five hundred lemons were consigned to J. J. Cairns and a few small lots went to others. These two thousand trees will plant twenty-five acres, and they are as fine, healthy trees as have ever come into the county, being one year from the bud on three-year-old stock. This is excellent planting weather and they will be set right away.

Hanford Sentinel: O. H. Howard, who lives on the Cressey ranch, found one of the finest specimens of Indian arrow-head or spear-point that we have ever seen. He found it on the Cressey ranch, joining Hanford, near the spot where so many skeletons were found last year. It is just seven inches long and one and a quarter inches wide at the widest part tapering to a true point. It is black flint with saw edges worked to a nicety. The redman who fashioned and worked it from the flint rock was certainly an artist of great skill.

Tulare Register: A gentleman visited this city two or three days ago in the interest of New York and Chicago fruit-dealers. He visited Paige & Morton's, and within ten minutes after looking at their two and three crown raisins, he purchased the entire stock and asked Mr. Montgomery to get him some more of the same kind if possible. That gentleman has since secured a portion of F. Rosenthal's crop and one or two other small lots which he will turn over to the Eastern buyers. The prices paid were from three to four cents per pound in the sack.

Register: Everybody knows that peanuts will make a first-class crop in Tulare county soil, but no one, to our knowledge, has done more than experiment with them on the smallest scale, having a half-dozen or fewer vines in their gardens. Mr. D. J. F. Reed has determined to give this branch of agriculture a more thorough test, in order to demonstrate whether or not it will pay to grow peanuts for market. He will, a little later in the season, plant between five and six acres of the "goobers" between the rows of his fruit trees, and there is scarcely room for doubt that he will have loads of peanuts to sell when the time for harvesting them arrives.

Ventura.

G. W. Mosteller says this is fine weather for the 40,000 blue gums and numerous other trees set out in this county this year.

Ventura Observer: We are informed that the prospect for fruit in this county is very fine. The apricot trees promise an abundant yield, and so we believe of all other trees. The outlook for a prosperous year was probably never better. This, however, should not induce men to venture into speculation unless they have the money to pay down, or sufficient backing otherwise, for many things might thwart their expectations.

Ventura Observer: The country is as beautiful as paradise. The mountains, foothills and valleys are covered with a mantle of green, and flowers are blooming in rich profusion. How different from the snowland and ice-locked East and the fearful blizzards that are sweeping over some of the States east of the Mississippi valley. And even with flowers, ripening oranges, and the most genial climate in the United States, some will grumble. So they would if in heaven, unless their natures were changed.

Yuba.

Marysville Democrat: W. P. Harkey recently sold to Mrs. Mary C. Grant, of Yuba City, ten acres of the old Gelzhauser farm, receiving \$150 per acre for the same, says the *Farmer*. The land is in the upper end of the field, where Mr. Harkey has also sold during the past year one tract of 10 acres and another of 25 acres. Mrs. Grant has begun setting the land in trees. The soil is excellent for orchards, and no doubt there will be more subdivisions for that purpose.

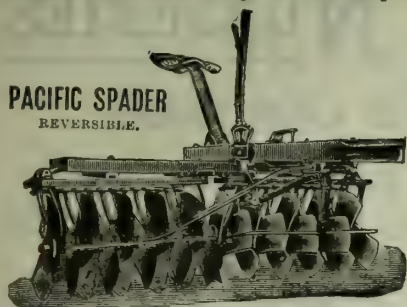
OREGON.

Salem Statesman: In accordance with a resolution adopted by the State legislature the presses in the office of the State printer are now being given a big run in printing 25,000 copies of the second biennial report of the Oregon State Board of Horticulture. These books are for distribution at the World's Fair. Their distribution will be managed by the superintendents appointed by Commissioner Cardwell, of the horticultural department.

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It consists of a series of knives secured in an opening of the table. The potato is placed in a pair of hinged jaws above the knives, and by a plunger the potato is cut at a single stroke and the eyes divided in a most satisfactory manner. The screen below frees the seed from dirt or chips and more thoroughly prepares the cuttings for planting.

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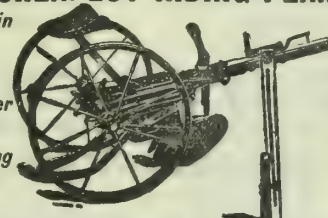
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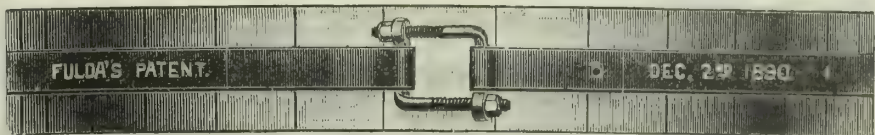
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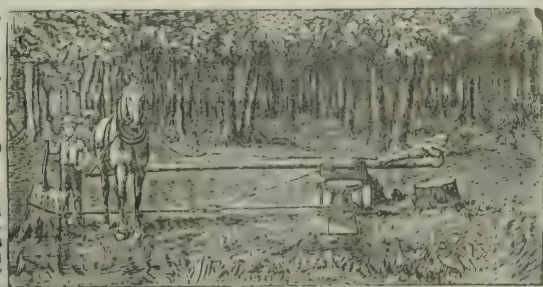
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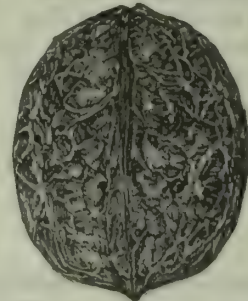
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Orange, Lemon, Lime, Olive, Japan Persim-
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ON PEACH, VERY CHEAP.

Freight paid on 500 or over of above surplus stock.

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Muir Orange Cling and other PEACHES,
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All first class and raised without irrigation.

New price list free on application. Correspondence
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The Largest and Best Stock of Camellias,
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From Worthy Master Davis.

Petaluma, Petaluma Grangers and all Sonoma county want to see you at the State Grange next October. Remember it, and tell your wife, "I told you so."

Sonoma County Pomona Grange No. 1 holds its next meeting at Petaluma, Wednesday, April 19, 1893, at 10 A. M. A large attendance is expected.

Everything points to a large increase in the membership of the Order in California this year. Perhaps Petaluma, having the State Grange, will take in the greatest number of members; but, if so, they will "have to work like beavers."

There are a host of boys and girls over 14 years of age living on the farm who ought to belong to the Grange. How many of them are in your jurisdiction? They will make excellent members! Remember the children of your jurisdiction! Don't fail to try to get them into the Grange, where their pure minds will receive that gentle care and training which enlivens, elevates and dignifies labor.

Graft one Grange thought on your neighbor's mind-tree this spring, and see if you can't get him to come to the Grange, where his social, moral and educational faculties will be benefitted.

Bros. J. D. Huffman, A. P. Roache, Amos Adams, J. V. Webster, Cyrus Jones and E. T. Pettit are going to speak to the Patrons and farmers in Santa Clara, San Benito, Santa Cruz, San Luis Obispo and Santa Barbara counties soon. Due announcements will soon be made. All who have an opportunity should hear these honored and talented defenders of agriculture and the farmers' home, family and interests. It will pay you, fellow-farmers, to take a day from the cares of the field and devote that day to the fearless advocate of farmers' rights.

From the Worthy Master—W. E. Harbaugh—of the Missouri State Grange, we learn that an aggressive Grange campaign is to be made in that State this summer. Missouri is a great State, but we don't intend to let her get away with California.

Bros. B. F. Walton, B. F. Frisbie, Geo. Onleyer Sr. and P. L. Bunce, all Grange Deputies, are preparing a Grange canvass for Northern California. Already one section has surrendered and promised to organize a Grange, provided these talented speakers will not turn loose their "batteries." These brothers intend to conquer as they go. That's right. They have the W. M.'s permission "to fire at will," so they get Grangers and Granges.

Sunday, March 12, 1893, at 1:30 P. M., there stood beneath the marriage bell at the country home of the bride, near Santa Rosa, Mr. Don Mills and Miss Elizabeth May Hudson. The words were spoken by Rev. Dr. Shepherd which made these young people husband and wife. There are few members of the Order in California who do not know Bro. Don Mills, at one time Assistant Secretary of the California State Grange. His bride is also a member of the Order, being a member of Santa Rosa Grange. The bride and groom are both natives of the Golden State. There was not a ripple on the beach as the newly-married couple launched their ship on the sea of life, and they enjoy the confidence and have the best wishes of an army of friends. May the benedictions of Him who doeth all things well be with Mr. and Mrs. Don Mills is the wish of the Master, and he believes of many members, of the California State Grange.

Get ready for the spring campaign! Tell us how to strengthen your Grange and how to extend the influence and power of the Order. There is work enough for all. The grain is ready. Laborers and maids are wanted. The wages paid are high enough to command good service. If you want knowledge rather than fine gold, join the Grange and get a sheaf that will yield grains of thought.

County Deputies have been appointed in every county when the Masters of subordinates have made recommendation. The Master of the State Grange is waiting patiently to hear from other counties. Name a good, aggressive Master or Past Master for County Deputy, and he will soon get his commission. The County Deputy is a most important factor in Grange life and activity. Do try to get your forces organized, fellow Patrons, and ready for the spring campaign! Let us fire upon the enemy simultaneously from north to south and all along the line. Grange enthusiasm ought to be kindled on every farm hearthstone in California. Will you help to do the work? First get a County Deputy and then help him and have him help you. Let the Master know your wishes, and so far as he is able your wishes shall be fulfilled.

You don't want your help to loiter about when there is plenty of work to do. Just so with the Grange. Its members ought not to loiter when the Order needs their help. Don't you know there is something you can do to help the Grange? Find that something and set about doing it at once!

"Behold how good and how pleasant it is for brethren to dwell together in unity." This is not only true in theory, but also in practice. Men, and women too, have a right to hold to their own opinions, and more particularly so if those opinions are founded on justice and right. But because one differs with you is no reason why you should fall out with him. The keynote to family and fraternal success is harmony. No family blessed with good health makes a failure of life if they work intelligently and harmoniously together. Success, sooner or later, is their share. So no fraternity, subordinate, district, State or national makes a failure if all of its membership work together in unity. This idea that the leaders of any organization can chide one another publicly and not hurt the cause they represent is a mistaken idea. If the Grange will do in the future as it has done in the past, bury personalities and labor for principle and all the good that it can do, there is no limit to its sphere of usefulness.

"Down, down with the spite and the words that estrange, And long live the peace that we find in the Grange."

SAN JOSE GRANGE.—On April 1st San Jose Grange will hold a spring feast. At

these festivities State Master E. W. Davis of Santa Rosa will be present as will J. D. Huffman, the State Grange Lecturer. Mr. Huffman has consented to deliver two addresses on that day on topics of interest. As a further entertainment the young ladies of the Grange will render a carefully-prepared literary and musical programme. A motion was unanimously carried to invite the Temescal Grange of Oakland and the Eden Grange of Haywards to be present at the feast.

The Secretary's Column.

By A. T. Dwyer, Secretary State Grange of California.

THE WORTHY MASTER will address San Jose Grange at an open meeting April 1st.

PAST MASTER WEBSTER was chosen chairman of the People's Party State Convention at Sacramento, on Saturday last.

GRANGE DIRECTORY CORRECTIONS.—Sacramento is the P. O. address of E. Greer, W. M. of Sacramento Grange. Jennie Clyma is secretary of March Grange.

RECOMMENDATIONS to the Worthy Master Davis for the appointment of deputies are still in order from several important districts.

HINTS AND HELPS.—New Hope Grange has ordered a copy of the above publication, and other printed matter, to forward work within its gates, and we hope to soon hear of more initiations.

MERCED GRANGE.—March 9th, Secretary Letitia Archibald writes: "Our Grange is prospering finely. At our last meeting we conferred the Third and Fourth Degrees on a class, and hope to have more coming in at every meeting."

THOS. MCCONNELL and family visited Oakland last week. Bro. M. reports that the Legislative Committee has been active and he believes successful in doing considerable good work during the session, although the work has been performed in a quiet way.

IMPROVING.—Bro. Williamson, Secretary, has ordered new copies of the amended Constitution and By-laws for Elk Grove Grange. Speaking of Elk Grove fire, he says: "It has cramped us financially for some time, but our good Grange is now improving nicely with an excellent set of determined officers."

FREE RURAL MAIL DELIVERY.

March 4th, Merced Grange adopted the following:

Resolved, That we, the officers and members of Merced Grange, No. 7, P. of H., most heartily commend and endorse the action of our leaders in the National Grange who have attempted, and are now attempting, to secure free rural delivery of mails; and

Resolved, That the ideas and sentiments expressed and published by them upon this subject meet our earnest and sincere approval; and

Resolved, That these resolutions be spread upon the minutes of this Grange and a copy of the same be forwarded to the worthy secretary of the National Grange.

FARMERS' INSTITUTE.—The following is a portion of the program adopted by Tulare Grange for the Farmers' Institute to be held under the auspices of that Grange on Saturday, May 5th:

Forenoon.—1, Opening Address, by Prof. E. J. Wickson; 2, Irrigation Plans and Suggestions, by Urton, C. E., of Hanford; 3, Marketing of Fruits, by O. E. Erwin. Afternoon.—4, Insects Injurious and Beneficial to Vegetation, with Microscopic Exhibition, by N. W. Motherall, Hanford; 5, Insect Worms and Seed-Eating Birds, by Rev. F. H. Wales.

Tulare Grange has made suitable appropriations and appointed committees, who no doubt will secure another successful meeting of the Institute.

GOOD WORDS FROM OREGON.—Bro. Hilleary, Sec'y of O. S. G., writes for a copy of our By-laws to learn how California State Grange provides Deputy Lecturers, etc. He adds: "The Grange in Oregon is prospering. Bro. J. Casto has four new Granges in Clackamas county and Bro. R. A. Irvine a new one and one revived in Linn county. The State Grange meets in May at The Dalles. Come up and enjoy the magnificent scenery and a journey along the Columbia river, and assist us with your counsel."

It is encouraging to learn that our northern neighbors are thus prospering in their Grange work. We know that a cordial welcome awaits all California Patrons who will visit Oregon. We wish we could accept the kindly invitation of Bro. Hilleary, and with at least 100 more Patrons from California partake of the fraternal hospitality of Oregon's noble Patrons; view the largest and most magnificent of American rivers; its beautifully verdant valleys and evergreen hills; towering mountains with eternal snow-white peaks pointing heavenward, beckoning

faith above to all. Oregon is the State that sets us the example for adopting the Australian ballot system and the election of a Railroad Commission that recognizes the rights of the people and protects her producers from the greed of avaricious transportation corporations.

The Dalles is a large and beautiful town for the State Grange session to be held in. A Grange excursion from Portland up the Columbia river must afford a most happy sensation.

CO-OPERATION.

This is a leading subject now in hand with Tulare Grange. In a recent private letter a member writes: "At present I think co-operative insurance the most likely thing for a commencement. It should not be on the percentage assessment plan. That failed at the first starting of the Grange, and the failure is now used as a club by the stock insurance companies. I think if enough good Patrons can be got to try an agreement (contract plan) to insure their property, in the right spirit, it can be made feasible."

Since the above was written, the

MUTUAL FIRE INSURANCE

Bill has passed both Houses of the Legislature. When signed by the Governor, the way will be open for Grange county insurance companies to be established. This is what our Order has been striving for repeatedly, year after year, and has been denied the privilege by the boodle corruption of our Legislature.

We see no reason why such insurance companies should not meet with as great a measure of success in this State as they have in many others in the Union. The Grange has been the pioneer in its efforts to secure this enabling Act as well as the Australian ballot system in California. We secured the Australian ballot system at the last session and this year constitutional provision for local fire insurance companies. This is encouragement! Patrons strive on! If we can get one such important act of reform legislation each year, it pays farmers to co-operate.

It is to be hoped an effective re-assessment Act will yet be evolved before the Legislature closes. Let other Granges take hope and join our Tulare brother in formulating plans and putting them in operation for the advancement of the principles and interests of the Order and the good of their fellow members and neighbors.

TULARE GRANGE.

Owing to the storm, the attendance was light at Tulare Grange March 4th. Bro. Scott, of Indiana, and A. T. Dewey, of Oakland, were visitors. The committee for conference with members of the Alliance and others for holding a union picnic reported progress. A very successful picnic is anticipated in due season.

Bro. Farrer of the U. S. Experimental Station at Tulare gave a meteorological re-

port for the previous month, which contained much interesting information.

Under Good of the Order, Lecturer Mackie read an extract from Bill Nye's lectures about "Hard Times," for farmers and farmers' wives, which dealt out many truthful hints of the hard road many farmers' wives travel before falling by the wayside, besides good bits of humor. Bro. Mackie pointedly expressed sentiments well received and invited further comment.

A. T. Dewey, being called upon, urged co-operation on the Rochdale plan as one of the best means to better the condition of the Grange and its members. He also advised further organization of the Grange in Tulare Co. Brief remarks on the subject were made by Bro. Scott, Worthy Master Tuohy, and Bros. Farrer, Merritt, More, Mackie; Sisters Merritt and Adler.

The Grange resolved to consider, at its next meeting, March 18th, whether the principles of the Rochdale Co-operative Association are feasible for adoption here. Sister Crosett Morcen, an elocutionist and member of San Jose Grange, who has recently taken up her abode in Tulare, has also been invited to favor the same meeting with a recital or speech.

QUESTIONS FOR DISCUSSION.

Worthy Master Tuohy submitted to Lecturer Mackie 14 subjects for discussion and entertainment at future meetings. Thinking it to be an excellent list, in whole or part, for the consideration of Granges in general, we publish them, as follows:

1. A Grange system of honorary membership.
2. Children's day.
3. When and where can we have a new Grange?
4. Best system of cooking dried fruits.
5. Do shade trees propagate injurious insects?
6. Lecturer's hour.
7. Remedy and cause of mildew.
8. Remedial industries other than cereals and grain in Tulare.
9. Advantages of co-operation in buying and selling.
10. Shade from early sun as a protection against frost.
11. Australian system of guaranty birds.
12. Insectivorous and seed-eating birds.
13. Can we have a class in our public schools with practical instruction in agriculture?
14. Should the agricultural college of California be an adjunct of the classical university?

Other Lecturers may find the above worth preserving for laying out work for their own Granges. Tulare Grange, although not one of our largest, has an able and effective working force. We hope to hear further of its efforts for Grange and farm progress.

NOTICE.

THE ANNUAL MEETING OF THE STOCKHOLDERS of the Grangers' Business Association, a corporation, for the election of a Board of Directors, and for the transaction of such other business as may properly come before it, will be held at No. 108 Davis street, San Francisco, at 10 o'clock A. M. WEDNESDAY, April 12th, 1893. I. C. STEELE, President.

CHARLES WOOD, Secretary.

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To the Editor of the New York World:

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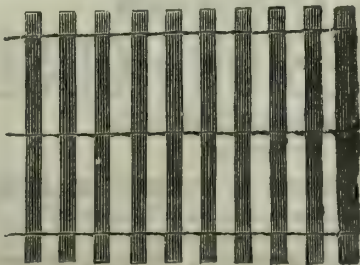
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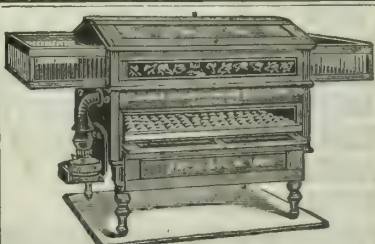
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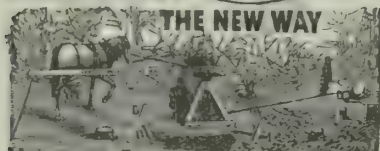
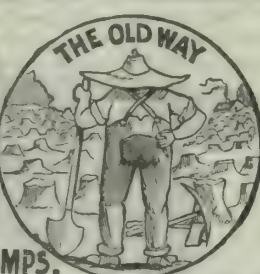
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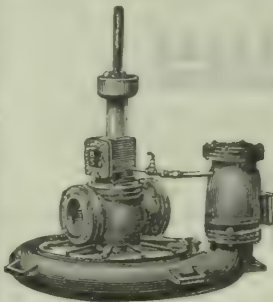


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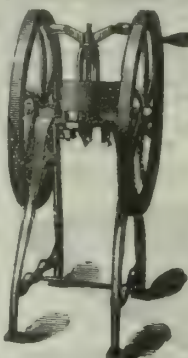
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S. H. MARKET REPORT

Market Review.

SAN FRANCISCO, March 15, 1893.

The expected grain bulletin of the Government Statistician has been issued, and the quantity of wheat in farmers' hands in the United States is said to aggregate 135,000,000 bushels, 36,000,000 bushels less than last March and 23,000,000 more than the remnant of the very small crop of 1890. This condition of things is more satisfactory than many had anticipated. It was feared that the aggregate might reach the enormous surplus of 1892, when it was 171,000,000 bushels, indicating a congestion of the world's market that reasonable time could not heal, and that might continue during another entire season, if not longer. There is a striking evenness of visible stocks and invisible stocks of wheat in 1893 and 1892 making the total of the combined supplies abt the same at this period for the two years. That is to say, the Government report just issued takes account of wheat in farmers' hands—"invisible" stocks. The New York Produce Exchange weekly figures are of visible stocks—in warehouses, etc. For 1892 (March 18th) the visible supply in the United States was about 38,000,000 bushels; for 1893, 79,000,000. We therefore find that the total reserves for the two years are as follows:

	Visible.	Invisible.	Total.
1892.....	38,000,000	171,000,000	209,000,000
1893.....	79,000,000	135,000,000	214,000,000

Now let us see what are the world's supplies for March 1st in past years: They are stated by Bradstreet's to be as follows (available wheat in United States, Canada and Europe and afloat for Europe):

	Bushels.
1893.....	178,181,000
1892.....	145,615,967
1891.....	99,523,948
1890.....	95,841,000

It is to be noted that these are figures of available stocks (not in farmers' hands), and that their increase accords with the increase of visible supplies in the United States, being 33,000,000 more in 1893 than 1892; but invisible stocks in the United States are, as stated, 36,000,000 bushels less than last year. The invisible supply must be considered as a factor in controlling the visible supply. It is difficult to make a clear comparison between the world's available (visible) stocks and the invisible stocks of the United States. But we think it may fairly be said that the deficit in the invisible stocks of the United States is an offset to the increase of the available world's stocks. In other words, the increase in the world's available supply in the past year is just about the same as the decrease in invisible (or farmers') stocks in the United States. The actual conditions, so far as supplies go, are about the same this year as one year ago. The controlling feature of future prices, therefore, will be crops and crop prospects of 1893. It is of great importance to the producer and to all others interested in grain to know what the yield of 1893 will be. There is good reason to anticipate a falling off of the United States crop east of the Rocky mountains. Reports are still indefinite, but it is fairly well settled that the production will be less than last year—some say 20 per cent less. We think that too high a figure. But it is altogether likely that it will be materially smaller. Prospects on the Pacific Coast are good, and the yield in California will be about the same as last year. The weather generally has been favorable, with perhaps too much rain in some places. But too much rain is better than too little, provided it is less than a flood. Seeding has been finished satisfactorily, and the important thing now is to have good growing weather.

Mr. Bannister, of Starr & Co., gives to the RURAL PRESS the following, as a rough estimate of the quantity of wheat to be carried over next August 1st from the season of 1892-93:

	Bushels.
Visible supply March 10.....	79,000,000
In farmers' hands.....	135,000,000
	*214,000,000
Less spring wheat seed.....	17,000,000
Four months' U. S. consumption.....	130,000,000
Four months' exports.....	10,000,000
	157,000,000
Balance August 1.....	57,000,000

* This includes about 17,000,000 bushels now in California which cannot reach the United Kingdom until the 1893 harvest there, and is, therefore, misleading as a source of supply.

Mr. Bannister's figures are, then, that there will be on hand August 1 in the United States 57,000,000 bushels to be carried over into the next season. Similar stocks last year were somewhere in the neighborhood of 80,000,000 bushels. It is apparent that inroad; are being made into the enormous excess carried over from 1891 and 1892.

Other Cereals.

Barley trade has been light during the week. Monday no sales were reported at all on the Call Board. The market, however, shows a steady tone and there has for some time been gradual improvement in prices, corresponding with the improved feeling. Feed, however, has been dull, while brewing has shown a deal of activity. The local demand has been active and stocks considerably diminished. The demand is expected later on to improve and quotations and tone to be better. For the present the weather has interrupted the local situation.

Oats have been slow, though the market is somewhat better and is slowly emerging from its continued dullness. While no great activity is to be expected in the near future, better feeling pervades the market and sellers are getting in better position. Choice grades are rather scarce and move off fairly well.

Corn is beginning to show some slight movement, the export demand having improved a little. Stocks are plentiful, however, and no special stir is to be anticipated. Rye is steady.

Fruits.

Locally, the situation is about as it has been. Stormy weather has caused a weakening of demand and receipts have been free. The range of prices is great, and it is difficult to give stable quotations. It is said that the principal strawberry patches in the Alviso district have been flooded for the eighth time this season, and growers write that this will shorten the crop materially. The outlook from other points is not very promising from present indications. In regard to the future, Thomas' Produce Report says: "Never at this time have the fruit trees of the State looked more promising. The heavy rains have given them plenty of sap to draw on and the cool and lowering weather has kept them back, giving the buds more strength to resist any frost and also adding flavor and keeping qualities to the fruit. A heavy frost is now the only possible contingency."

Oranges.

It cannot be disguised that there is present demoralization in the orange market, both in San Francisco and in the East. Just how long present conditions will prevail it is impossible to say, but packers are inclined to take rather a gloomy view of the situation, and to declare that a large part of the crop must be marketed soon even at cut prices. The Riverside Association, which started in the season under auspicious circumstances, has been defeated in its purposes and has been wholly unable to keep up prices. Navels must be marketed early, and it has been impossible to hold back the crop as long as desired. Seedlings can be retained because of their superior keeping qualities. Two important commission houses—the Earl Fruit Company and the Griffin-Skelley Company—have withdrawn from the Riverside Association, and Mr. Everest, owner of the largest Navel orange orchard in bearing in the world, has been shipping all along, independent of the association. Prices were recently reduced temporarily by the association, and this reduction it has been found necessary to maintain indefinitely. Independent shippers have paid no attention to the association prices and are obtaining what they can get. Recent shipments of oranges to New York—a comparatively new market for the California product—are said to have failed to pay expenses. The large Florida crop has not yet been disposed of. One thousand carloads are yet unsold, but it is believed to be mostly in bad condition. Unfavorable weather has interfered with the consumption. It is still expected, however, that when the Florida product is out of the way the California orange will have a clear field. With better weather and the holiday demand at the World's Fair, reasonable prices ought to be obtained.

Dried Fruits.

A local authority reports: "The past week has been an extremely quiet one in the dried fruit market, as there is so little stock left that trade is necessarily limited. Reports from the East are to the effect that there is a good, steady demand, but prices are now so high and the season so late that there is little chance for further advance there. The trade on the coast is now mostly of a jobbing nature, as stocks are all out of the producer's hands and are taken from the holders only on consumptive requirements." Quotations are almost nominal. They are unchanged.

Provisions.

Prices for California smoked beef are lower than a week since. Pork products show no change, though the activity noted recently, due to a rising market, has in part disappeared. There was recently a slight break in Chicago prices of pork products, due to the fact that intense rivalry had carried prices to an excessive figure and to a drop in cottonseed oil, used largely in pork compounds. Conditions surrounding the market are unchanged. There is no material increase in the supply. The market is strong at present quotations. The Chicago *Brokers' Gazette*, March 8th, says of the hog market has preserved comparatively a steady tone. There have been slight fluctuations from day to day, but quotations have not been more than 100 per 100 lbs. away from those last given. Receipts have increased but slightly—they were 99,500 as against 85,813 for the previous week—and show little or no improvement in quality. In the character of the demand also we are unable to note any radical change. Several of the local packers are making a show of running their houses, but they allow Eastern buyers to "gobble up" considerably more than half the offerings. During the last six days less than 50,000 hogs were packed here. By a majority of the stock-yard people, this month's receipts were expected to show a large increase on the February aggregate, but the first seven days have seen an increase of only 14,000 head. The total for March last year was 625,000 head.

Poultry, Butter, Cheese and Eggs.

The poultry market is in excellent condition. Arrivals are light and the demand very good. Quotations have been advanced a little over last week. Butter is coming in freely, and, except for very choice, sales are very slow. Eggs are unchanged. Receipts are large, and the range of quotations is slow. Cheese is lower.

Vegetables.

Sellers have control of the potato market. Arrivals have been limited, and another advance has occurred. Onions are in good shape. Vegetables in most lines are more in favor of producers. Arrivals have been light and the range of quotations is somewhat higher. Tomatoes are very scarce. Rhubarb is plentiful. Choice asparagus sells well. Choice peas are in good demand. Cucumbers appear to be out of the market. String beans are plentiful.

Wool.

Thomas Denigan, Son & Co. report to the RURAL PRESS that the first shipment of the spring clip of

wool received by them was made March 5, from Hanford, Tulare county. It was a small consignment. Last year the same firm received its first consignment March 15. At that time, however, a general shipping movement had begun. This year the spring clip is not fairly under way, and will not be until about April 1. It has been delayed by stress of weather. Prospects for satisfactory prices are good. As shown in another place on this page, supplies in the United States were lighter January 1 than for several years. No unsold stock remains in California. The manufacturing demand is greater than ever before. All the conditions seem to be present for a prosperous season. The early quotation will probably be 20 cents.

Miscellaneous.

Soft-shell walnuts have shown a sharp advance, owing to great scarcity. Honey and beeswax are firm, with stocks very small. Hay is dull, and prices depressed. Supplies are very liberal, and there are no present signs of improvement. Bran has been advanced 50 cents per ton. Apples are somewhat slow. Choice varieties are disposed of without trouble. Hops are dull and quotations nominal. There is little or nothing doing in game. Spring lamb is beginning to come in with some freedom. The demand is fair. Pork is firm. The market is well supplied with other meats. Good tallow is in excellent demand. There has been a fair movement in beans for Eastern shipment, and, as stocks on the coast are light, there is no reason to doubt that they will all be marketed long before the new crop is ready to harvest. The recent rains have insured crops all over the State, barring a late frost, which, of course, we are liable to have. With this exception, everything points to a big crop all along the line.

The Wool Market for 1892.

The quarterly bulletin of the National Association of Wool Manufacturers, just issued, contains the following review of the wool market for 1892: The year 1892 has been noticeable for the amount of business transacted and the general absence of speculative features. While the total sales of wool show a great increase over any preceding year, the business has been largely confined to the provision by manufacturers for their immediate wants, and consequently, although the supply has been large and readily absorbed, the tendency of the market has been generally downward. This is especially true of "Territories," which have to some extent lost their popularity, having dropped, according to our quotations, from 57 to 58 cents in January to 54 to 55 cents in December for fine medium Montana. Ohio fleeces XX, in the meantime, have nearly held their own, our January and December quotations being the same—28½ to 29 cents. In March the price was reduced to 27½ to 28 cents, but these wools quickly recovered their position. A special feature of the year has been the large importation of Australasian wools. The total quantity of class one wool (mostly from Australasia), entered for consumption during the fiscal year was 38,641,130 pounds, exceeding by more than 12,000,000 pounds the imports of the preceding year, and by 19,284,695 pounds the average of the ten previous years. The gross imports for the calendar year of class one wools were 51,313,983 pounds. The importations of second and third class wools for the same period were 6,243,279 and 110,226,828 pounds, respectively. In spite of these enormous importations and the domestic clip, 333,018,405 pounds (as shown in our last bulletin), the largest we have ever had except that of 1884 (337,500,000 pounds), the consumption has been so great that the stocks in first hands are much less than usual, as appears from the following careful estimate published in the Boston *Commercial Bulletin*:

THE AVAILABLE SUPPLY OF DOMESTIC WOOL, JAN. 1, 1893.

The supply of domestic wool now in the United States can be estimated pretty closely as follows:

	1893.	1892.	1891.
Boston.....	30,659,500	28,705,300	24,042,900
New York.....	3,901,500	3,728,100	5,148,431
Philadelphia.....	7,300,000	7,000,000	7,500,000
Albany and Troy.....	1,440,000	1,283,000	2,055,000
Hartford.....	1,500,000	2,500,000	1,500,000
Providence.....	100,000	750,000	.....
West Pennsylvania.....	50,000	1,000,000	1,000,000
Wheeling.....	175,000	250,000	375,000
Ohio.....	935,000	5,200,000	2,300,000
Michigan.....	470,000	1,500,000	1,370,000
Louisville.....	500,000	260,000	550,000
Chicago.....	2,743,000	4,255,000	3,000,000
Milwaukee.....	300,000	400,000	500,000
St. Louis.....	6,310,000	7,130,000	5,110,000
Texas.....	195,000	1,005,000	880,000
Territories.....	250,000	500,000	1,000,000
Oregon.....	None.	250,000	200,000
San Francisco.....	1,525,000	3,275,000	7,397,000

Total.....58,354,000 68,991,400 63,928,331

The large pullers are closely sold down. We believe that ten million pounds, our last year's estimate will be sufficient to add for concealed supplies and wool in the hands of pullers. The grand total of domestic wool unsold in the country on January 1st is therefore:

	Pounds.
1893.....	68,354,000
1892.....	78,991,400
1891.....	75,928,331
1890.....	85,000,000
1889.....	65,000,000
1888.....	110,000,000

THE SUPPLY OF FOREIGN WOOL.

The supply of foreign wool in the three Eastern markets compares as follows:

	1893.	1892.	1891.
Boston.....	4,340,500	1,619,300	1,793,200
New York.....	8,348,375	11,545,566	5,457,600
Philadelphia.....	5,500,000	8,000,000	7,000,000

Total.....18,388,875 21,154,866 14,250,800

It will be seen that there is a decrease in the supply of domestic of 10,637,400 pounds, and a decrease in the supply of foreign (chiefly carpet) of 2,765,991 pounds.

Grain Futures.

Liverpool.

The following are the closing prices paid for wheat options per cwt. for the past week:

	Mar.	April.	May.	June.	July.	Aug.
Thursday.....	5607 d	5607 d	5608 d	5608 d	5607 d	5607 d
Friday.....	5608 d	5607 d	5608 d	5608 d	5607 d	5607 d
Saturday.....	5606 d	5606 d	5607 d	5607 d	5608 d	5608 d
Monday.....	5606 d	5607 d	5607 d	5608 d	5608 d	5608 d
Tuesday.....	5606 d	5607 d	5607 d	5608 d	5608 d	5608 d

The following are the prices for California cargoes for off coast, nearly due and prompt shipments for the past week:

	O. O.	P. S.	N. D.
Thursday.....	29.9 d	30.3 d	29.9 d
Friday.....	29.9 d	30.3 d	29.9 d
Saturday.....	29.9 d	30.3 d	29.9 d
Monday.....	29.9 d	30.3 d	29.9 d
Tuesday.....	29.9 d	30.3 d	29.9 d

To-day's cablegram is as follows:
LIVERPOOL, March 15.—Wheat—Not much inquiry. California spot lots, 5s 11½d; off coast, 29s 2½d; just shipped, 30s; nearly due 29s; cargoes off coast, very slow; Mark Lane wheat, turn easier.

Eastern Markets.

The following shows the closing prices per bushel of wheat for the past week at

New York.

Day.	March.	June.	July.
Thursday.....	77½	77½	80
Friday.....	77½	78	78½
Saturday.....	77½	77½	79½
Monday.....	77½	77½	79½
Tuesday.....	77½	77½	77½

The following is to-day's telegram—per bushel:
NEW YORK, March 15.—Wheat—76½c for May; 77c for June and 77½c for July.

Chicago.

Day.	March.	May.	July.
Thursday.....	73	74	74½
Friday.....	73½	76½	72½
Saturday.....	73½	76½	73
Monday.....	72½	76½	72½
Tuesday.....	72½	76	72½

The following is to-day's telegram—per bushel:
CHICAGO, March 15. Wheat 76½c for May.

San Francisco.

WHEAT.

	March	May.
Thursday, high.....	\$1.30	\$1.24
" low.....	1.18½	1.26½
Friday, high.....	1.18½	1.26½
" low.....	1.18½	1.26½
Saturday, high.....	1.18½	1.26½
" low.....	1.18½	1.26½
Monday, high.....	1.18½	1.26½
" low.....	1.18½	1.26½
Tuesday, high.....	1.18½	1.26½
" low.....	1.18½	1.26½

*Buyer's option.
The following are to-day's recorded sales on Call:
M. rning 1 formal.—Wheat—May, 200 tons, \$1.25½; 1200, \$1.26; 1200, \$1.27½. December 200 tons, \$1.32½; 30, \$1.32 per cwt. Regular Session. May, 1300 tons, \$1.27½; 2100, \$1.26. December—30 tons, \$1.52 per cwt. Afternoon Session.—May, 600 tons, \$1.25½ per cwt.

BARLEY.

	March.	May.
Thursday, highest.....	83	85½
" low.....	83	84½
Friday, highest.....	83	85½
" low.....	83	84½
Saturday, highest.....	83	85½
" low.....	83	84½
Monday, highest.....	83	85½
" low.....	83	84½
Tuesday, highest.....	83	85½
" low.....	83	84½

*Sample market—choice brewing.
Barley 1st rmal.—N. sales. Regular Session.—May, 100 tons, \$4½; 100, \$4½ per cwt. Afternoon Session.—May, 300 tons, \$4½. May, season's storage paid—100 tons, 85c per cwt.

Markets by Telegraph.

NEW YORK, March 12.—Canned Fruits.—Cheap figures, \$1.85, have again been named for apricots and some standard peaches have sold close down to \$1.80. Rejections of a portion of late arrivals are mentioned, as buyers were disappointed in the quality. This has led to much disparaging gossip which is hurtful to a market on which goods have to undergo a long period of inactivity.

Peaches—Steady at 13¢ to 16¢.
Prunes—Strong prices check prompt sales, but holders do not seem disposed to give way. Boxes were quoted four sizes at 11¢ to 11½¢.
Raisins—California held strong by their few owners. Some were released to a few buyers, who must provide for assured use at 6c. Chicago, it is thought, will be an early buyer. This looks as though speculators' views will be supported. Bags are now quoted at 5c for prime and 6c for selected; clusters have sold at \$2.10, but there are brands above that rate. Good layers, \$1.75 to 1.85; loose in boxes sold at \$1.50, with \$1.60 now asked for similar grades. Off quality, \$1.30.

Apricots—Firm at 15½¢ to 17½¢, with 18c demanded for large, bright, smooth goods.
Wool—Assortments at all seaboard points seem pretty well broken up, and large buyers make only "piece-out" visits to market. Everything looks favorable for the new clip. From the condition of matters the grower ought to have a favorable start this coming clip. Prices have ruled firm with reduced stocks materially advancing views of quality. Australian wool firm. Shipments from recent foreign markets are now arriving direct to manufacturers. Sales at New York—406,000 pounds of domestic, 55,000 Australian and nearly 1,000,000 carpet goods, including a large block of Donkio, last week. Sales at Boston—1,871,000 domestic, including 50,000 California; also 388,000 Australian and 250,000 carpet. Lima beans show a good deal of strength; 100-bag lots and under, \$2.25 to 2.30 spot bushel.
Honey—Almost any shade of strained amber brings 10 cents.
California fresh asparagus, \$4 to 5 per case to the trade.

Canned peas have sold at \$1.30; Oregon peas, \$1.10. Flies. Quiet, the demand being limited to best grades. Sales, 1000 California at 12½¢ to 13c full weight.
Hops—Interior State dealers have again controlled considerable trade. Four hundred bales have recently sold at 20c. This cuts down brewers' purchases in this city. Spot buyers are bidding 21c for styles of Pacific and State that ought to rate above prime: 22½¢ is the extreme at the close for choice. Ex. orts for the week, 290 bales.
Mustard Seed—No yellow California is offered under 7½¢ to 8c. This is below last quotation, but buyers here and abroad are supplied for the time being. Holders look for a recovery of late prices, or at least a support of present rates, before new crops can become an opposing feature.

California Products at Chicago.

CHICAGO, March 14.—California Dried Fruits.—There is a quiet, rather slow market quoted, but as a rule prices are steadily maintained, for there are no large stocks of anything aside from raisins, peaches, and there is no overstock of those remaining also in firm hands.
Raisins—London layers, 3-crown box, \$1.40 to 1.60; do 3-crown, fancy, \$1.75 to 1.85 loose Muscatels, 3-crown, according to quality, \$1.25 to 1.35; do 4-crown, 3-crown, \$1.25 to 1.35; do 3-crown, 5½¢ to 6½¢; do 2-crown, 5c; do seedless, according to condition and quality, 4½¢ to 5c. Prunes—40 to 50 to the lb in sacks, 13c; 50 to 60, 12½¢; 60 to 70, 12c; 70 to 80, 11½¢; 80 to 90, 10½¢; 90 to 100, 10c; 100 to 120, 10c. Apricots—New choice to fancy, sacks, 16c; 16 to 17; new, fair to good 16 to 16½¢. Peaches—Peeped, 25-lb boxes, 16c; 22 to 24c;

peeled, sacks, 20@22c; unpeeled, 12 1/2@13 1/2c. Nectarines—Red, sacks, 11@12c; white, 12@13c.

Oranges—The demand and supply are hardly in proper proportion, there being rather an excess of the latter. A good part of the trade, both here and Western points, has secured considerable California stock during the past ten days, and demand in consequence has waned. There are quite free offerings at the present time and an easy feeling prevails. The market for Florida is also affected and sales are slow. Even the Indian River is not selling as well as was calculated on. An easy feeling prevails throughout the entire market. Among auction sales: California Oranges—Seedlings, 20 bx, 128 to 216 to the bx, \$2.25; 250 to 300, \$1.75@1.90; Riverside Seedlings, 128 to 216, \$2.25@2.50; 350 to 390, \$1.90@2.10; Navel, 200 to 216, \$2.25@2.50; 350 to 176, \$2.90@3; fancy to extra, \$3.50@4.

The Hop Market.

Mark Lane Express, Feb. 20: There has been a quiet trade doing in English hops at late reduced values. There is an utter absence of speculation, the demand being confined to retail orders for immediate requirements. Old reds continued to sell in pretty fair quantities, but values are still low. New York State and Pacific Coast hops are arriving more freely, but there is a good demand for them, even the lower qualities of the latter selling quite readily. Continental markets are quiet, but values continue to be in advance of those current on this market. The brewing trade in Germany is depressed, and, moreover, it is stated "German brewers are reluctant to lay in stocks of any magnitude, in view of the proposed largely increased brewing tax."

Visible Supply of Grain.

New York, March 13.—The visible supply of grain is: Wheat, 79,104,000 bushels, an increase of 7000; corn, 15,309,000 bushels, an increase of 215,000; oats, 4,983,000 bushels, a decrease of 226,000; rye, 314,000 bushels, a decrease of 5000; barley, 1,520,000 bushels, a decrease of 199,000.

General Produce.

Extra choice in good packages fetch an advance on top quotations, while very poor grades sell less than the lower quotations.

BEANS AND PEAS.	
Bayo, chl.	2 70 @ 2 75
Buster	2 75 @ 3 00
Poa.	2 75 @ 2 80
Red	2 75 @ 3 00
Pink	2 70 @ —
Small White	2 85 @ 2 85
Large White	2 70 @ 2 80
Lima	3 20 @ —
Flat Peas, bk	1 10 @ 1 65
Do green	2 00 @ 2 25
Split	4 50 @ 5 50

BUTTER.	
Cal. poor to fair, b.	15 @ —
Do g'd to choice	20 @ 21
Do Giltedged	22 @ 23
Do Creamery	23 @ —
Do do Giltedged	24 @ —
Eastern, lad e.	15 @ 18
Cal. Pickled	16 @ 17
Cal. Keg.	15 @ 16
Eastern Cream	15 @ 20

CHEESE.	
Cal. choice cream	11 @ 12
Do fair to good	10 @ 11
Do Giltedged	13 @ —
Do Skim	5 @ —
Young American	13 @ 15

EGGS.	
Cal. "as is," doz	— @ —
Do shaly	10 @ —
Do candied	17 @ —
Do choice	17 @ —
Do fresh laid	— @ 16
Do do d'ed white	— @ 16
Do selected	— @ 16

Outside prices for selected large eggs and inside prices for mixed sizes—small eggs are hard to sell.

FEED.	
Bran, ton	14 00 @ 14 50
Feedmeal	25 00 @ 26 00
Gr'd Barley	19 00 @ 19 50
Middlings	19 00 @ 22 00
Oil Oat Meal	— @ 35 00

HAY.	
Compressed	7 50 @ 10 00
Wheat, per ton	7 00 @ —
Do choice	— @ 12 00
Wheat and oats	7 00 @ 10 00
Wild Oats	7 00 @ 9 00
Cultivated do	6 00 @ 8 00
Barley	8 00 @ 9 00
Alfalfa	8 00 @ 10 00
Clover	7 00 @ 9 00
Straw, bale	35 @ 50

GRAIN, ETC.	
Barley, feed, chl	75 @ 80
Do good	81 @ —
Do choice	82 @ —
Do brewing	92 @ 93
Do do Giltedged	95 @ —
Do Chevalier	82 @ 90
Do do Giltedged	1 15 @ —
Buckwheat	1 75 @ 2 00
Corn, white	1 35 @ 1 50
Yellow, large	1 05 @ 1 07
Do small	1 05 @ 1 07
Oats, milling	1 40 @ 1 50
Feed, choice	1 37 @ —
Do good	1 35 @ —
Do fair	1 30 @ —
Do common	1 10 @ —
Surprise	1 50 @ —
Black feed	1 05 @ 1 12
Gray	1 25 @ 1 30
Rye	1 10 @ 1 13
Wheat, milling	1 30 @ —
Giltedged	1 37 @ —
Good to choice	1 37 @ 1 38
Do fair to good	1 27 @ 1 28
Shipping choice	1 22 @ 1 25

Fruits and Vegetables.

Choice selected, in good packages, fetch an advance on the quotations, while very poor grades sell less than the lower quotations.

Limes, Mex	
5 00 @ 6 00	
Do Cal.	— @ —
Lemons, box	2 50 @ 3 50
Do Sicily choice	5 00 @ 5 50
Apples	35 @ 65
Do Good	75 @ 1 25
Do Extra choice	1 57 @ 1 75
Peas	25 @ 1 00
Do Winter Nelsa	1 00 @ 1 50
Parimmoos	50 @ 1 00
Oranges, pr bx	Navel, River de 2 50 @ 3 00
Do, Butte Co.	2 00 @ 2 50
Seedling, River de	1 25 @ 1 50
Do, Fresno	1 25 @ 1 50
Do, Butte Co.	1 25 @ 1 50
Extra choice fruit for special Green Peas	— @ 8
purposes sells at an advance	
on outside quotations	
Beets, sk	— @ 60
Carrots, sk	50 @ 60

Live Stock.

BEEF.	
Stall fed	64 @ —
Grass fed, extra	61 @ —
First quality	62 @ —
Second quality	60 @ —
Third quality	58 @ —
Bulls and "hip cows"	2 @ —

VEAL.	
Range, heavy	6 @ 7 1/2
Do light	8 @ 8 1/2
Dairy	8 1/2 @ 9

MUTTON.	
Wethers	84 @ —
Ewes	82 @ —
Do Spring	15 @ 18

HOGS.	
Light, 20 lb. cwt.	61 @ —
Medium	58 @ —
Heavy	55 @ —
Soft	6 @ —
Feeders	64 @ —
Stock pigs	6 @ 6 1/2
Dressed	10 @ 10 1/2

Dried Fruits.

The quotations given below are for average prices received by commission merchants for consignments to growers. Something very fancy fetches an advance on the highest quotations, while poor sells slightly below the lowest quotations. Prices, unless otherwise specified, are for fruit in sacks; add for 50-lb. boxes 1c per lb. and for 25-lb. boxes 1/2 to 1c per lb.

APPLES—1892.	
Sun-dried, 1's	4 1/2 @ 5 1/2
Do sliced	5 1/2 @ 6 1/2
Evap. bl. ring, 50-lb. bx	8 1/2 @ 10
Fancy, higher	— @ —

APRICOTS—1892.	
Do bleached	13 1/2 @ —
Do do fancy	15 @ 16
Evap. choice, in boxes	15 @ 16
Do fancy, do	15 1/2 @ 17

FIGS—1892.	
Sun-dried, black	4 @ 4 1/2
Do white	3 1/2 @ 4

GRAPES—1892.	
Sun-dried, stemless	2 1/2 @ 3
Do unstemmed	1 1/2 @ 2

NECTARINES—1892.	
Red, sun-dried	7 @ 8
Do Evap., 1-lb. boxes	14 @ 12
White, sun-dried	8 1/2 @ 11
Do evaporated	12 1/2 @ 13

PEARS—1892.	
Sun-dried, quarters	2 1/2 @ 3
Do sliced	4 @ 5
Do Evap., 1-lb. boxes	7 @ 8
Unpeeled, g'd, b'ch'd	5 @ 6

PEACHES—1892.	
Sun-dried, unpeeled	7 @ 7 1/2
Do do choice, do	11 @ 11 1/2
Sun-dried, p'd, b'ch'd	10 @ 11
Do do prime	14 @ —

PLUMS—1892.	
Do do choice	15 @ 16
Do do fancy	16 @ 17
Evap., peeled, in box	18 1/2 @ —
Do do fancy	20 @ 21

PRUNES—1892.	
Cal. French, ungraded	7 1/2 @ 8
Do graded, 50 to 100	3 1/2 @ 4
Do do 40 to 60	11 @ 12
Fancy sell for more money.	

RAISINS—1892.	
Do choicest do	1 50 @ 1 60
Do prime or bx.	1 25 @ 1 40

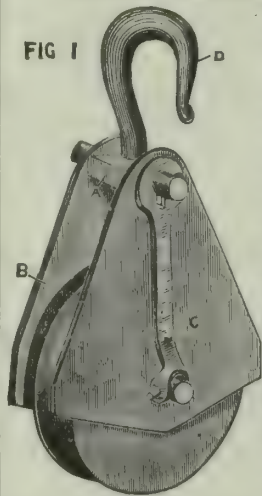
LARGE MUSCATELS.	
2-crown pr bx.	75 @ 1 00
Do 3-crown do	1 10 @ 1 20
Do do do faced	1 20 @ 1 25

UNSTEMMED MUSCALS.	
2-crown pr bx.	2 1/2 @ 3
Stemmed 2-crown	3 @ 4
Evap. a'ch'd, in boxes	7 @ 8
8 1/2 lb. Muscals	4 @ 5

DODOS IN BOXES.	
Do do	21 @ 22
Do do Sultan's, aka	6 @ 7
Do do do	— @ 7
Do do choice, do	11 @ 11 1/2
25, 50 and 75 cents higher	
Do do prime	14 @ —
spectively than whole boxes	

Harvey's Improved Steel Snatch Block.

Patented December 13, 1892.



Our improved steel snatch block, a cut of which we here give, is admitted by experts wherever tested to be the best block of the kind in existence for the following reasons: Being made of the best quality of refined steel it gives greater strength in proportion to its weight, and the opening side being a solid piece does not detract from its strength as in other blocks. In using wire cable the great damage to which the cable is subject in other blocks by becoming jammed between the cheek plate of the block and rim of the pulley is entirely overcome in ours, as the guiding ribs B which are shown in the cut are snugly fitted to the inner surface of the cheek plates and completely cover the rim of the pulley, making accidents of this kind impossible. For bridge or wharf building, on board ship, in mines or lumber woods, for stump pulling, house moving or anywhere that a first-class block is required, it is superior to anything that has ever been placed on the market. I will send this block to responsible parties anywhere on the Pacific coast and if after a fair trial it fails to give satisfaction, it can be returned at my expense. Also patentee and manufacturer of the California Stump Puller which is now in general use from Arizona to British Columbia and successfully removing all growths of timber from chaparral to redwood stumps 20 feet in circumference. I make a specialty of hooks, blocks, chain cable and all appliances used in stump pulling, and orders large or small shall have prompt and careful attention. Catalogue and price list sent free on application. Address, Geo. Harvey, 82-84 Zoe St., San Francisco, Cal.

Trumble & Bebee's Seed Catalogue

This old reliable seed house sends its illustrated catalogue for 1893 to all who desire it. Their stock is new and of the highest quality that can be obtained. The firm reports business for the past year satisfactory, and the outlook for the coming season very encouraging. It is hoped that the patronage of old friends will be continued, and that many new patrons may be added.

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The Dandy Steel Windmill.

The Challenge Windmill Co., Batavia, Ill., is one of the oldest and most reliable windmill concerns in existence, and for over a quarter of a century has made a specialty of building windmills and water-supply goods, their manufactures being found in all parts of the civilized world, and at present they have large orders from South America. But they do not care for foreign trade, as they are having all they can do to keep up with home trade, and have been running their shops for months past 15 hours per day. They have the largest windmill factory in the world run by water-power, lighted throughout with the latest and best system of electric light, and they claim to turn out goods at a lower price than can be done by competitors, quality considered. The Dandy mill is simplicity itself and of great strength and durability, and one of the most tasty and beautiful mills of the many before the trade. It is made in two styles—the single motion and the geared. The single motion gives one stroke of the pump to each revolution of the wheel, whereas with the geared mill it takes two and one-half revolutions of the wheel to make one stroke of the pump. The Dandy steel tower is made with four corners, very heavy angle steel being used to withstand severe storms. The girts also are made of heavy angle steel and the braces of heavy flat steel rods. The ladder is a genuine ladder, with regular steps and is easily climbed, but if the mill be furnished with graphite bearings that is unnecessary. This wide-awake and progressive company also furnishes both mills and towers galvanized so that mill and tower will last 25 years without painting. They claim to be the first to bring out a galvanized tower and mill. It would seem that dealers and users of other windmills could desire no more than what this company offers, viz.: A windmill that never needs oil and a windmill and tower that never needs painting. They offer to send the outfit on 30 days' test trial. The Challenge Windmill and Feedmill Co. also manufacture the celebrated Challenge geared and pumping windmills, the Challenge "double header" geared windmill—the only double header in the world—and the O. K. and Daisy solid wheel windmill, known the world over for their many superior qualities.

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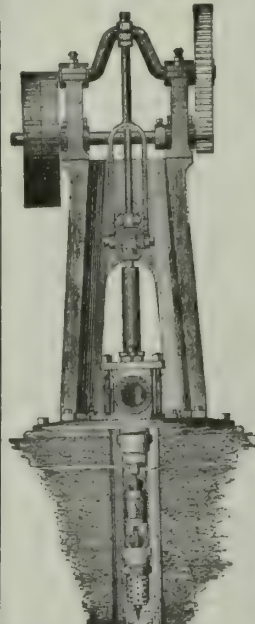
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Electricity in the Kitchen.

Electric cooking is now coming into a commercial stage, says the *Electrical Review*. We must, of course, in electric heating, allow for all the waste in converting the coal at the central station into heat and the heat into steam and the steam into current and the incidental heat losses of line transmission. But let us suppose we are waiting for a simple breakfast, and score down the items rolled up on our accounts current by Chloe, in the kitchen, while she is converting the raw material of the butcher and grocer into manufactured product that will meet the approbation of our palates.

First, let us suppose she is operating the coal range. Item—One bundle of kindling to start her fire, two cents; item, one-half of daily coal outgo (one ton per month), ten cents; item, twelve cents. Let us thrust out of view for the present why she uses so much coal, remembering only the cardinal and imperious fact that she gets away with one ton of coal in one month to operate her range, for which our good cash falls with a cold, dull plunk into the pockets of the coal barons. Now let us use electric utensils for the same work. We are having chops, soft-boiled eggs, griddle cakes and coffee—a simple, wholesome and frugal diet if Chloe can cut down the heat tariff. We will first heat two quarts of water, which will fix matters for the coffee and the eggs. Item, four amperes at 110 volts, ten minutes, 1½ cents; item, chops, seven amperes at 110 volts for ten minutes, two cents; item, 15 griddle cakes, five amperes at 110 volts for ten minutes, 1½ cents, making the aggregate cost for heat 4½ cents, at the end of which time off goes the current and the expense stops.

The figures here used are based on the use of the coffee-pot, boiler and griddle, electric utensils, and are substantially correct. Their import is simply this—that there are two sides which must be considered in the matter of electric heating. An oven will furnish for nine cents the heat necessary to send to the table a five-pound roast of beef in 35 minutes, or a twelve-pound turkey in 45 minutes—that is to say, the current is flowing for those periods. The actual baking or roasting goes on longer because, after the oven is heated to 300 degrees or more, as required, the current may be cut off and the process of cooking will continue until the roast is "done."

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Why Lost People Walk in Circles.

The fact that people lost on a desert or in a forest invariably walk in a circle is due to a slight inequality in the length of the legs. Careful measurements of a series of skeletons have shown that only 10 per cent had the lower limbs equal in length; 35 per cent had the right limb longer than the left, while in the other 65 per cent the left leg was the longer. The result of one limb being longer than the other will naturally be that a person will, unconsciously, take a longer step with the longer limb, and consequently will tend to the right or to the left, according as the left or right leg is the longer, unless the tendency to deviation is corrected by the eye.

The left leg being more frequently the longer, as evidenced by measurement of the skeleton, the inclination should take place more frequently to the right than to the left, and this conclusion is quite borne out by observations made on a number of persons when walking blindfolded. Further, on measurement of the arms, it is found that in 72 per cent the right arm is longer than the left, while in 24 per cent the left arm is the longer, showing that a considerable majority of persons are right-handed and left-handed. The inequality in the length of the limbs is not confined to any particular sex or race, but seems to be universal in all respects.—*Pearson's Weekly*.

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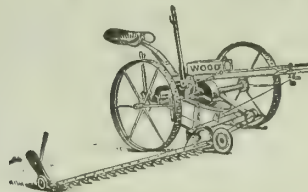
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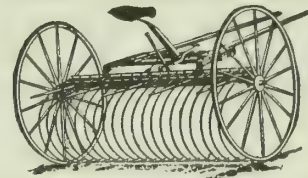
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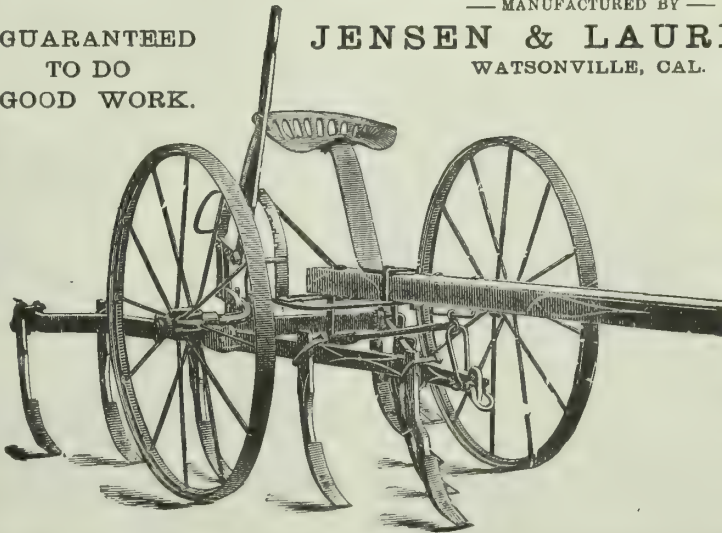
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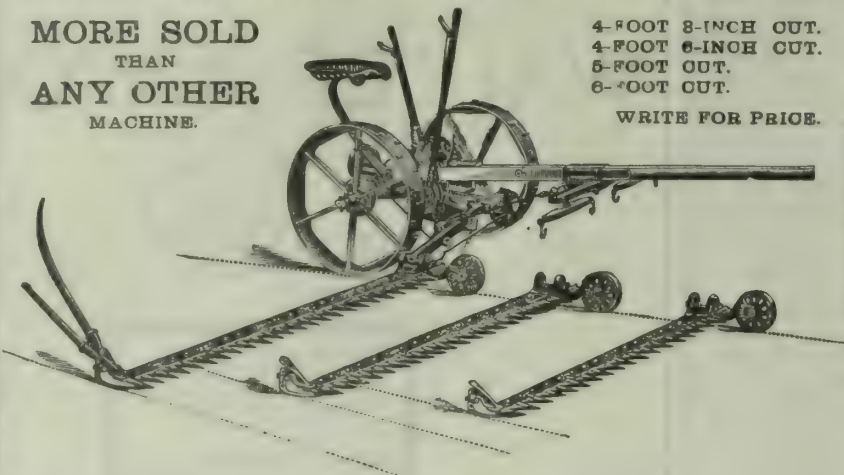
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ANY OTHER
MACHINE.

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4-FOOT 6-INCH CUT.
5-FOOT CUT.
6-FOOT CUT.

WRITE FOR PRICE.



America's most valuable crop is not wheat or corn, but hay. Hay-cutting demands the best mechanism. The Buckeye is the great hay-maker of the world. It was invented by Lewis Miller, and the claims of all other persons to origination and invention are false and spurious.

POINTS OF SUPERIORITY.

Long Shafting, obviating jar and wear.
Slow Bevel Gear and Fast-Moving Spur Gears.
Only Four Cog Wheels.
All Gears and Bearings Protected from Dirt.
Solid, Double-Hook Pitman, and
Perfect Adjustable Pitman Box.
Holds Knife Down upon Cutters
Making Perfect Shear Cut.
No Toggle-Joint on the Buckeye.
Knife Removed Instantly Without Tools.

Perfect Foot-Lift on Wide Out Mowers.
Smooth Cutting over Uneven Surfaces.
Has Wheels on Both Outer and Inner Shoe.
Direct Draft from Hames to Cutter Bar.
Brass Bushed and Adjustable Bearings.
Lightest Draft, Unequaled Durability.
Adjustable Seat, Perfect Balance.
Noiseless Action, a Perfect Self-Oiler
Folding Cutters over the Tongue.
Out of Danger, and Out of the Way.

Send for circulars and full description of the Buckeye Frameless Binder and Buckeye Table-Rake Reaper. Finest Machines in the World.

Send us \$17.50 and we will ship you set of NOVELTY HARNESS on trial. If not satisfactory you can return it and we will return you the money and freight paid by you. TRUMAN HOOKER & CO., San Francisco.

VEHICLES AND AGRICULTURAL IMPLEMENTS OF EVERY DESCRIPTION.

Over 50 different styles of Carts, ranging in price from \$14.00 upwards. If your dealer does not handle our PACIFIC MAPPER write direct to us for full particulars. You can't afford to be without one. Our GOLDEN SHEP BINDING TWINE is cheaper and gives better satisfaction than any twine on the market. EVERY BALL GUARANTEED. If any is found defective, return to us and we send other in its place. Send for No. 1 Catalogue.

TRUMAN, HOOKER & CO., San Francisco and Fresno.

THE MORGAN SPADING HARROW.

The Best Pulverizer in the World.

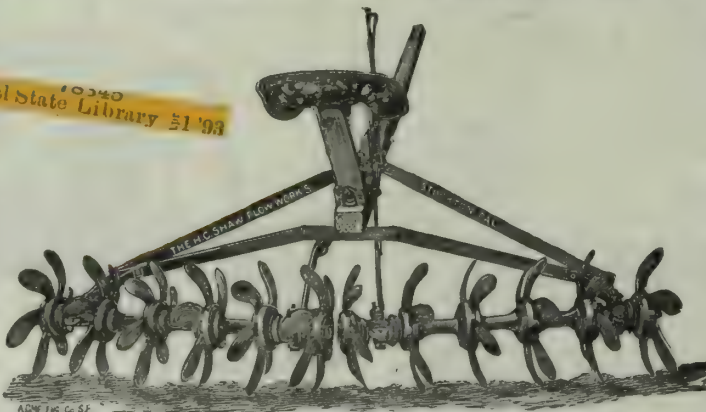
HORTICULTURISTS AND FARMERS, TRY IT.

NOTE THE FOLLOWING TESTIMONIALS FROM OUR OWN PEOPLE.

GRANOVILLE, CAL., Dec. 25th, 1891.
Mr. James Porteous, Fresno, Cal. - Dear Sir: Your favor of 22d, asking me how I liked the Morgan Spading Harrow I used on the "Oothout Vineyard and Orchard" received. In reply would say that I have used almost all the modern implements, but as a pulverizer and cultivator combined I never saw anything to equal them. I used two two-horse and one four-horse. Yours truly, H. H. CLARKE, Formerly Supt. and Manager of the "Oothout Vineyard and Orchard," at Fresno, Cal.

STOCKTON, August 15, 1892.
H. C. Shaw Plow Works - Gentlemen: I have used exclusively a Morgan Spading harrow purchased from you, in cultivating an orchard of 40 acres planted to apricot trees in February of this year, near Brice's Landing, in this county. By the use of this harrow the ground has been kept free from weeds and well pulverized, thereby causing a retention of moisture and a rapid and healthy growth of the trees; the branches of some of them having grown nearly six feet within six months after planting. I consider the Morgan Spading Harrow the very best implement in use for tree and vine culture. The work is much better done than it can be done with a plow and at one-fourth of the expense. JOSEPH H. BUDD.

FRESNO, CAL., Jan. 20th, 1892.
Mr. James Porteous, Fresno, Cal. - Dear Sir: In reply to your inquiry regarding the Morgan Spading Harrow will say that it is by far the best tool I have ever seen used in a vineyard. I had the Disc Harrow, the Draper Spading, the Clark Cutaway and the Morgan Spading Harrow all at work in our vineyard last year and soon discovered that the Morgan was the best of them all. The draft is much lighter and its work more complete, besides being the easiest handled of all others. The Morgan will be the only cultivator seen at work in our vineyard during the coming season. All others will be found at rest in the fence corners. Yours truly, S. K. LEMMON, Supt. Oakland Vineyard Co.



Especially Adapted for Orchards and Vineyards.

CONSIDERING THE IMMENSE AMOUNT OF LABOR DONE
THE DRAFT IS VERY LIGHT.

NOTE THE FOLLOWING TESTIMONIALS FROM OUR OWN PEOPLE.

FRESNO, CAL., Dec. 10th, 1891.
Mr. James Porteous, Fresno, Cal. - Dear Sir: Last winter I purchased a ten-foot Triumph Spading Harrow, and am pleased to say that I found it a most satisfactory tool. I used it in both my nursery and orchards and found that it left the ground in better shape than any cultivator I had ever used. For pulverizing rough and cloddy ground I don't believe there is an implement superior to it in the market. Yours truly, GEO. G. HOEDING, Manager for the Fancher Creek Nursery, Fresno, Cal.

FRESNO, CAL., Dec. 19, 1891.
Mr. James Porteous, Fresno, Cal. - Dear Sir: Having used the Morgan Spading Harrow last season I can well recommend same for vineyard use; it is economical and does its work well. In heavy ground it is the best tool I have used for a pulverizer and it leaves the ground in good condition. Respectfully yours, E. I. BABER, Manager for Eisen Vineyard, Fresno, Cal.

SACRAMENTO, CAL., Dec. 31st, 1891.
Gents:—In reply to your inquiry concerning the Morgan Spading Harrow purchased by me last spring, would say that I ordered it for the purpose of experimenting in my orchard to ascertain whether or not I could get an implement that would combine the qualities of the disc and cultivator. I find upon trial that the harrow above referred to is the most complete tool that can be used in an orchard. As a pulverizer, leveler, and cultivator, I do not hesitate to say it is the best I have ever seen. It thoroughly stirs the ground beneath the surface without opening it to the sun's rays and keeps the ground loose of sufficient depth to retain necessary surface moisture. I do not hesitate in recommending it. Very truly, EDWIN F. SMITH, Secretary State Agricultural Society.

BERRENDA, CAL., Dec. 17th, 1891.
Dear Sir:—Enclosed find check to pay for Morgan Spading Harrow. It is the best implement ever invented for the cultivation of the soil. Respectfully, J. F. WARD.

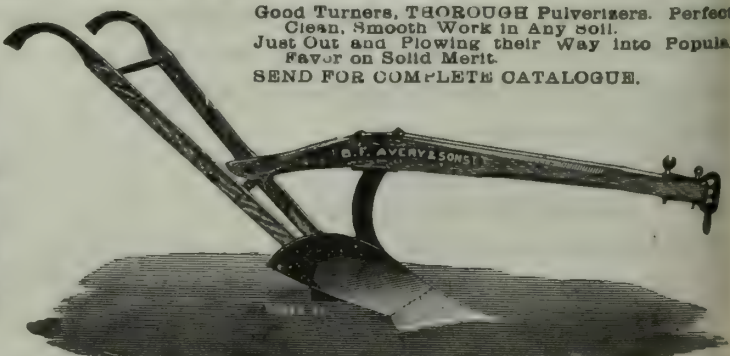
AVERY GRANITE CHILLED AND STEEL PLOWS.—BEST ON EARTH.

Straight Landside and Renewable and Adjustable Slip Beel. Reinforced Moldboard. Better and Stronger than Any Other Chilled Plow Made. MADE IN ALL SIZES.



ASK FOR
AVERY
PLOWS,
HARROWS
AND
Cultivators.

If your dealer does not keep them send to us.



Good Turners, THOROUGH Pulverizers. Perfect. Clean, Smooth Work in Any Soil. Just Out and Plowing their Way into Popular Favor on Solid Merit. SEND FOR COMPLETE CATALOGUE.

PLEASE SEND FOR CIRCULARS AND DESCRIPTIVE CATALOGUES.

ADDRESS.....H. C. SHAW PLOW WORKS, General Agents, Stockton, Cal.



Vol. XLV. No. 12.

SAN FRANCISCO, SATURDAY, MARCH 25, 1893.

THE DEWEY PUBLISHING CO.
Office, 220 Market St.

The New Road Law.

The RURAL PRESS publishes complete in this issue the new road law passed by the late legislature. It changes in several important particulars the law enacted by the legislature of 1891, which went into effect Jan. 1, 1893, and which had therefore been in operation but a short time. As a matter of fact, the workings of the law of 1891 have not been tested at all, inasmuch as material amendment was expected by the legislature of 1893 and delay was generally experienced in that expectation.

The leading features of the new law are that road commissioners are ex-officio supervisors in their own districts and have direct charge of the roads therein, and shall employ men, teams, etc., to maintain or construct new roads in accordance with the direction of the Board of Supervisors. In other words, the supervisor is the executive officer of the board in the district from which he was elected. The office of Road Inspector for the whole county, created by the act of 1891, is abolished. Owners or occupants of land along a highway may plant trees thereon, under certain requirements. The supervisors are vested with large powers in the construction and maintenance of roads and may devise ways and means for watering.

The provisions of the law should be understood by all.

FIVE THOUSAND PEOPLE took part in a rabbit drive at Fresno last Saturday, and the day's work netted from 5000 to 20,000 of the bob-tailed pests. Arriving at the ground selected for the drive, the people, some on horseback, some in buggies and others on foot, extended their line several miles in the form of a semicircle, and, as they advanced, drove the rabbits toward the pen prepared for them. No guns or dogs were allowed, and the rabbits were not molested so long as they moved toward the pen, where they were to meet their death. Very few broke away, and the balance entered the pen, where the people closed in upon them and the slaughter began, lasting for nearly an hour. The rabbits will be scalped and then the exact number will be known. The men who make the pens and arrange for the drives do it for the money they can realize from the sale of the ears. The county pays three-quarters of a cent for each ear, and when 10,000 or 20,000 rabbits are killed, 1½ cents each amounts to a considerable sum. But

the main body of the people who kill rabbits do it for sport and with no expectation of reward. The opinion of the rabbit as to the nature of the sport is not considered worth noting.

KERN is one of our counties that proposes to be fitly represented at the World's Fair. A fine variety of agricultural, horticultural and other products will be shown in the most advantageous manner possible. It is proposed to make a fruit bridge—a miniature representation of the Rialto at Venice. It will be equipped in a very ornate manner, and various artistic figures will be created.

The California Building.

We present herewith an engraving from a recent photograph showing the California building at Chicago as it approaches completion. A California building, surrounded by snow, will strike the dwellers in the greater part of the State as something of an anomaly: only in Chicago and on the Sierra Nevada is California property thus envired.

The view of the building will give a better conception of its size and impressiveness than sketches previously presented. It certainly promises to give the Californian visitor to Chicago a patriotic thrill on approaching it.

We must acknowledge, however, that we are a little disappointed at the prominent intrusion of the Greek style upon the nearer end of the building. What harmony there can be in this comingling of unrelated styles we cannot see. Perhaps some comfort can be derived from considering it prophetic and indicating that California is to engraft Greek culture and refinement upon *padre* piety and devotion. If so, perhaps the idea is good enough to go to the World's Fair.

THE trial shipment of oranges from California to England was a complete success. Fair prices were secured (\$3.50 per box) and the grower will net from \$1 to \$1.50 per box. A second carload



THE CALIFORNIA BUILDING AT THE CHICAGO WORLD'S FAIR.

Among other things will be shown a pair of scales. In one of the balances will be the world; in the other, Kern county's products weighing it down. Kern county will be abreast with the procession.

COLLECTOR BERRY at San Diego has received a decision from the Board of General Appraisers at New York sustaining his action in levying a tariff duty on 600 Mexican lambs sold one year ago in the United States by Andrew Berecochea. The latter protested against the duty payment, holding that they were an American product. The methods practiced on the international line by running sheep into Mexico to escape the Assessor and then returning them for clipping and lambing may be expected to receive a set-back by this decision.

SANTA ANA has organized a chamber of commerce. With a \$400,000 beet-sugar factory to be built at Anaheim, a cannery at Orange and the San Joaquin ranch to be irrigated, Orange county has a prosperous outlook.

was sent to London March 3, and was due to sell there yesterday (Friday). The oranges created a favorable impression and the conviction is generally felt that no trouble will be found hereafter in disposing of large consignments of our product. The main question is in shipment. If secure, speedy and reasonably cheap methods of reaching the market can be found, sale of the oranges will take care of itself. From an experimental carload, the way now seems clear to a shipload; and we confidently expect that the enterprise of making up a cargo at New York and forwarding it to England will be undertaken before the season closes.

THE Pomona Progress estimates that the present crop of oranges in southern California is worth from \$3,800,000 to \$4,200,000. The estimate is, we think, too high. The true test of the worth of the yield is what it will bring. It is not likely that top prices will prevail this year, though there are indications that the market will later on be in a much more satisfactory condition than at present.

PACIFIC RURAL PRESS.

By THE DEWEY PUBLISHING CO.

Office, 220 Market St.; Elevator, 12 Front St., San Francisco, Cal.

ANNUAL SUBSCRIPTION RATE THREE DOLLARS a year. While this notice appears, all subscribers paying \$3 in advance will receive 15 months' (one year and 13 weeks) credit. For \$2 in advance, 10 months. For \$1 in advance, five months. Trial subscriptions for twelve weeks, paid in advance, each 50 cents.

ADVERTISING RATES.

	1 Week.	1 Month.	3 Months.	1 Year.
Per Line (agate).....	\$.25	\$.50	\$ 1.20	\$ 4.00
Half Inch (1 square).....	1.00	2.50	6.00	22.00
One Inch.....	1.50	6.00	13.00	42.00

Large advertisements at favorable rates. Special or reading notices, legal advertisements, notices appearing in extraordinary type, or in particular parts of the paper, at special rates. Four insertions are rated in a month.

Our latest forms go to press Wednesday evening.

Registered at S. F. Post Office as second-class mail matter.

ANY subscriber sending an inquiry on any subject to the RURAL PRESS, with a postage stamp, will receive a reply, either through the columns of the paper or by personal letter. The answer will be given as promptly as practicable.

ALFRED HOLMAN.....General Manager

San Francisco, March 25, 1893.

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The Week.

Winter is displaying his old fondness for the lap of Spring. March is proving one of the most boisterous of his race. Water has fallen far in excess of immediate requirements and has yielded little satisfaction except to those who are content to value distant comforts. The fruit grower who has seen his blooms bedraggled day after day and so many falling as to apparently leave nothing for the "June drop" wonders where his crop is coming from this year. Fortunately most such apprehensions are usually too dark but it seems certainly even thus early that some localities will have to get a good deal in size to make up for leanness.

In some parts of the State both north and south, there has been much inconvenience and some loss from swollen streams and overflow, but no calamity has resulted and present clearing seems likely to be reasonably enduring.

What the Department of Agriculture Does.

Last week we attempted a little sketch of the up-rising of the U. S. Department and its evolution from protoplasmic state in a back room in the Bureau of Patents of the Department of the Interior until it became itself a bureau, and still later a department under a commissioner, and more recently a department under a secretary, equal in dignity, if not in appropriations, with the Departments of the Interior, the Treasury, War, the Navy and the like. It is now suggested that information as to what this one of the main divisions of the public service does, would be acceptable. It is interesting to note that the conception of the services of the department in the minds of those who secured its establishment was a high one, but the realization has been long deferred, probably owing, in the main, to the subordination of the work to political considerations. In his last report submitted in December, 1892, ex-Secretary Rusk gave the sketch of the scope of the work:

In order to fulfill its mission, this Department must be prepared to do with reference to agriculture all that our individual farmers are unable to do for themselves. * * * The work of the Department must be broad enough to meet the wants of the entire country. Not only must the diseases of animals and plants and the ravages of their insect enemies be studied

and investigated with a view to prevention or remedy, but the condition of soil and climate, rendering various sections specially adapted to this or that crop, must be thoroughly studied and understood. This Department must be prepared to encourage agriculture on certain lines in certain sections which are especially adapted to them, and, on the other hand, to discourage certain lines in other sections. Again, the farmer must always depend upon this Department for information in regard to what may be termed the commercial side of agriculture, the condition of crops at home and abroad, the question of the demand, and the question of the supply of all great staple crops, not only as to extent, but as to character. Only a thoughtful man, familiar with the conditions of agriculture in the country, can fully appreciate the vast breadth and scope of the work required to enable this Department to adequately fulfill its mission.

It has always been the plan of the Department to have its work subdivided, and each branch in charge of a specialist. During the last decade, this specialization has been notably advanced, and at present it is reasonably complete. The following are the subjects which are counted "Divisions":

Statistics.	Ornithology.	Pomology.
Chemistry.	Forestry.	Microscopy.
Entomology.	Vegetable Pathology.	Garden and Grounds.
Botany.	Experiment Stations.	Records and Editing.

Each of these Divisions has a chief and a corps of assistants and special agents, and in some Divisions there are Sections for the closer classification of work.

There are in the Department two Bureaus which are vastly greater in their equipment and expenditure and numerical force of assistants than the Divisions. These are the Bureau of Animal Industry and the Weather Bureau. The former is charged with the detection and eradication of contagious diseases of animals and in this effort it has plenary powers of slaughter and quarantine, the owners of slaughtered animals being compensated for their loss by the government. During four years prior to September, 1892, when the eradication of pleuro-pneumonia was announced by proclamation, the expenses of inspection, quarantine, slaughter, etc., amounted to \$1,509,100.72, and this was counted a low cost considering that during seven years ending with 1890 the British government expended \$1,624,737.06 for the single item of diseased cattle purchased for slaughter. The advantage of this enterprise on the part of the government in stamping out this disease is seen in the marked increase of cattle exports during 1892. The Bureau of Animal Industry has an eye on all branches of live-stock farming. Because of its system of inspection, forty million pounds of American pork was sold abroad; without such inspection foreign nations would not admit it to their territory. This action of the Department is claimed to have added an average of \$2 to the value of each hog sold and is to be credited in good part at least with advanced prices which hogs now command.

The transfer of the Weather Service to the Department of Agriculture has resulted in its great extension and improvement, and with contemplated equipment of voluntary weather observers and crop reporters in every locality in the country, we bid fair to have far greater knowledge of conditions which affect yields and prices than has heretofore been considered possible.

Each of the divisions of the department named above pursues original investigations in its own line and at the same time compiles the facts secured by other investigators. The results are published in series of special pamphlets and bulletins, which are still further disseminated by the agricultural journals and are thus added to the stores of knowledge in accordance with which agriculture is improved, advanced and made more profitable. It may be said, then, in a general way, that, as now specialized and equipped, the Department is doing something for all classes of farmers, and is thus truer to the ideals of its founders than it has ever been before.

There has been much talk during the last few days concerning the establishment of a branch of the Department upon this coast, and presumably in this city. There are many reasons why this would be very desirable. Our climatic conditions, seasons, soils and products are essentially different from those east of the Rocky mountains. The Department of Agriculture has seemed, during the last few years, to have appreciated these facts, as it did not formerly, and the result has been an improvement of its work out here. There is still room for improvement and extension. The Government should certainly have its own sources of information in a portion of its domain which is so far from the seat and so different in its characteristics and industries.

An Important Meeting on Fruit-Marketing.

All fruit-growers should know what the Santa Clara producers are endeavoring to accomplish in co-operative marketing. Recognizing this fact, the State Horticultural Society has decided to give its next regular meeting wholly to this subject, and all are invited to attend. It is hoped that all local societies of fruit-growers will send representatives.

The meeting will be held on Friday, March 31st, at 1

o'clock P. M. Col. Hersey and E. F. Adams, of the Santa Clara Fruit Exchange, will address the meeting on the following subject: "How and how far can growers profitably co-operate in marketing fruit?" Especial attention will be given to the marketing of dried fruit. There will be opportunity for full discussion of all points advanced.

Why Danish Butter Belts the World.

Why is it that the butter from Copenhagen and adjacent points of Europe can be successfully marketed in most distant parts of the world? Why is it that cans of this butter, though crossing and recrossing the tropics and being subjected to all the extremes of heat and cold that its carriers can endure, exhale an appetizing odor when opened, even at a year or more after sealing? This is a question which American butter-makers have for some time puzzled over. Usually such efforts as Americans and especially Californians, perhaps, have put forth to supplant the North Europe butter in the tropics or trans-tropical countries have ignominiously failed. Butter which is delicious at packing, and which will be fairly enduring for months, perhaps, under favorable conditions of storage, becomes hateful when subjected to sea voyages in low latitudes. Californians have for years figured upon the chances of extending local dairying by finding markets on the east coast of Asia, the great islands south of Asia, and the west coast of Central and South America. Occasionally, trial shipments have been made, but so far as we have heard, always with loss and vexation of spirit. Still the European butter cans are rolled in to these distant parts with uniform success. Sometimes it is thought that these Danes and Swedes, Dutch and French butter people have mysterious preservatives which they introduce into milk or butter, and thus defy fermentation. This seems to be an altogether unnecessary suspicion; it is more likely that these careful manufacturers rely wholly upon the fact that pure butter—that is, butter which is wholly free from the germs of fermentation and putrefaction and is wholly protected against such contamination—is really a product capable of maintaining its integrity for an indefinite period.

It must be remembered that in the parts of Europe to which we allude, the character of milk and its proper manipulation has been more closely scrutinized than in any other part of the world. It is there that higher dairy science had its birth, and there the most exact mechanical appliances have been devised. There, too, the best achievements of scientific investigators and practical dairymen in all parts of the world have been scrutinized and utilized when found valuable. The result is that every item of dairying from the pasture to the package is conducted with exactness and understanding which American dairying, even with its wonderful achievements, cannot yet equal.

Prof. G. C. Georgeson as special agent of the U. S. Department of Agriculture, has been making this winter a personal examination of Danish dairy methods with a view to giving American producers an insight into their work. A preliminary circular has just been issued which hints at the exactness and scientific excellence to which we have alluded. We expect to find space in our next issue for the leading parts of Prof. Georgeson's descriptions. We doubt not some of our readers may think their practices are ultra-refined and yet such seems to be essential to the highest quality and greatest durability in milk products. With the marked advantages in climate which we possess in some parts of our State we can probably outstrip the Danes in results, but it can be only done by adding their methods to our natural advantages.

THE State Citrus Fair at Colton awarded the following premiums this morning: Best county exhibit, San Bernardino, \$250; Riverside, second prize, \$150; San Diego, third, \$100. Best locality, Ontario, \$150; Redlands, second, \$100; Highlands, third, \$75; Colton, fourth, \$50. Lemons—J. W. Freeman, Ontario, first prize, \$100; W. C. Fuller, Colton, second, \$20. Raisins—Escondido, first premium, \$200. Pickled olives—Howland, Pomona, first prize. The fair closed Wednesday night.

A MONTEREY DAIRYMAN, in criticism of the recent short-weight butter law, writes to a local paper and wants to know "why a roll of butter should weigh two pounds and not one pound and a half." There is no reason. But there are excellent reasons why a two-pound roll of butter should weigh more than a pound and a half. It is to prevent misrepresentation—not by dairymen, but by dealers—that the new law was devised.

A CALL for a meeting of orange growers at Colton, for March 21, to organize a State fruit marketing association, was somewhat poorly responded to, owing to inclement weather. The meeting was postponed till March 28.

From an Independent Standpoint.

It is now definitely certain that President Cleveland's policy respecting the Government patronage will be a direct departure from the practice of the last half-century. Our readers will remember that he announced two weeks ago that office-holders under his former administration would not be reappointed; that present incumbents of offices would not be turned out excepting for demerit, but would be allowed to serve the terms for which they were appointed; and that all office-holders would be required to give their whole time to their public duties. Another announcement now notifies Senators and members of Congress that in the naming of appointees their support will equal that of other citizens and no more. In other words, they will not be allowed to name the customs collectors, the U. S. marshals, the U. S. attorneys, the postmasters, etc., etc., as has so long been the fashion. In letting it be known that the indorsements of the Congressional delegations would not influence his appointments, Mr. Cleveland made a reservation as to individual Congressmen and Senators to the extent that a well-indorsed candidate who had the support of a Congressman would perhaps be better off than one equally indorsed who had no Congressman to back him.

Naturally enough, the Congressmen don't like the new rule. "As I understand it," said Ryan of Nebraska, and others agreed that they looked at it the same way, "Mr. Cleveland does not propose to give out any offices in such a way that the patronage will strengthen the Congressmen, but intends to eliminate the idea that we are a factor. This is to free the office-holders from any obligation to us in the matter of sub-patronage, and leave them in such a position that they can give their undivided allegiance to Cleveland." It is, perhaps, to be expected that a small man in a bad temper would view the matter in this way, but it looks to the RURAL as if Mr. Cleveland was attempting, not to belittle members of Congress and to magnify himself, but to establish a new and better rule in the matter of public patronage by divorcing it, so far as possible, from practical politics. At least, we may venture to hope that this is his purpose, in the meanwhile reserving judgment until such time as it may be able to base itself upon actual results.

By those whose interest in politics is, like that of the RURAL, founded wholly upon a desire for good government, the attempt to put the civil service on a business footing (if, indeed, it shall be proved in practice to be a genuine attempt to that end) will be warmly approved. But the average Congressman is more concerned about his personal political fortunes than the real interests of the country; and in his view the reservation by the President of patronage hitherto allowed to congressional privilege, is to "rob" him of an important source of political power in his own State. All those like the Nebraska representative above quoted, who regard the spoils system as legitimate and who deem themselves the proper channels for spoils distribution, are in a state of discontent which portends open rebellion; and in our judgment Mr. Cleveland will, in December next, have to face a very indignant Congress. We believe that we voice the sentiment of the great mass of citizens outside of the office-holding class, in expressing the hope that Mr. Cleveland will stand to his pledges; that he will teach the Congressmen that public office is not a private privilege and that he will set in motion a wave of moral sentiment that will overwhelm and destroy the whole "boss" system of politics.

The proposition to move the State capital from Sacramento to San Jose meets with decided opposition in the southern counties where it was supposed it would be popular. In that district there is an almost universal sentiment favorable to independent Statehood and the whole influence of this feeling is against the San Jose proposition on the ground that it would postpone if not defeat the project of State partition. Of 104 local papers (representing all parts of the State) which we notice as having rendered judgment on the question of removal, 56 are for Sacramento and 48 for San Jose. The list for Sacramento is as follows: *Anaheim Gazette*, *San Benito Advance*, *Placer Argus*, *Benicia New Era*, *Ontario Record*, *Santa Ana Blade*, *Redlands Citograph*, *Woodland Democrat*, *Stockton Independent*, *Oroville Mercury*, *Red Bluff Sentinel*, *San Diego Sun*, *Fresno Republican*, *Colusa Sun*, *Rodeo Daily News*, *Red Bluff People's Cause*, *Fresno Expositor*, *Visalia Delta*, *Marysville Appeal*, *Kern County Gazette*, *Sonoma Democrat*, *Yreka Journal*, *San Diego Union*, *Eureka Standard*, *Chico Chronicle-Record*, *Woodland Mail*, *Ukiah Dispatch-Democrat*, *Santa Barbara Independent*, *Downieville Mountain Messenger*, *Amador Ledger*, *Santa Cruz Blade*, *Visalia Times*, *Sutter County Farmer*, *Bodie Miner*, *Marysville Democrat*, *Los Angeles Herald*, *Vallejo Chronicle*, *Redding Free Press*, *Sacramento Record-Union*,

Sacramento Bee, *Sacramento News*, *Calaveras Chronicle*, *Sonoma Index-Tribune*, *Winters Express*, *Truckee Republican*, *Williams Farmer*, *Riverside Press*, *Placer Herald*, *Petaluma Argus*, *Weekly Orange Post*, *Paso Robles Independent*, *Los Angeles Express*, *Willits News*, *Monrovia Messenger*, *Sacramento Wonder*, *Ione Valley Echo*—in all 56.

The list for San Jose is as follows: *Gilroy Gazette*, *Watsonville Rustler*, *Haywards Journal*, *Downey Champion*, *Antioch Ledger*, *Santa Cruz Sentinel*, *Oakland Times*, *San Jose Times*, *San Jose Record*, *Alameda Argus*, *Petaluma Courier*, *Napa Register*, *Hollister Free Lance*, *Grass Valley Tidings*, *Inyo Independent*, *Stockton Mail*, *Ventura Democrat*, *Salinas Index*, *San Bernardino Times-Index*, *Modesto Herald*, *Los Angeles Times*, *San Luis Obispo Tribune*, *San Jose Mercury*, *Santa Rosa Republican*, *Redwood City Democrat*, *Lakeport News*, *Marin Journal*, *San Mateo Leader*, *Redwood City Times*, *Santa Monica Graphic*, *Gilroy Advocate*, *Ventura Free Press*, *Madera Mercury*, *Mountain View Register*, *Watsonville Transcript*, *Arroyo Grande Herald*, *Pleasanton Times*, *Paso Robles Moon*, *Banning Herald*, *Arcata Union*, *Lompoc Record*, *Sierra Valley Leader*, *Kern County Californian*, *Santa Clara Journal*, *Eureka Times*, *West Coast Alliance*, *Vacaville Reporter*, *San Bernardino Courier*, *Santa Cruz Record*—in all 48. It is a notable fact that not one of the great San Francisco dailies has taken sides either way. The *Chronicle*, the *Bulletin*, the *Post* and the *Report* have said nothing at all editorially. The *Examiner*, while not espousing either side of the issue, has simply remarked that it was a great question, and that it should be determined on more important considerations than mere personal resentment on the part of legislative representatives.

It has been finally determined that the World's Fair shall close its doors on Sunday. The weight of sentiment among those entitled to vote on the question was favorable to keeping open, but, before the matter was decided, the managers accepted and spent a Congressional appropriation given upon condition that the fair close its doors on Sunday; and even those favorable to Sunday opening felt that, in view of this circumstance, it would not be common honesty to go back on an engagement thus tacitly if not positively made. During the whole of this discussion it has seemed to us that there was a reasonable middle ground; that all consciences ought to be satisfied by a policy which would open the doors of the great buildings on Sunday, but stop the machinery, leaving the opportunities for observation the same on Sunday as on other days, but hushing the noise. In our view, such a policy would conform reasonably to the decorum of Sunday and do no violence to any rightly organized religious sentiment. On every Sunday during the period of the fair there will be tens of thousands of strangers in Chicago, most of them unprovided with any source of domestic entertainment. It would be absurdly idealic to suppose that all or even a large proportion of these tens of thousands will resort to the churches for worship. If they are not allowed to go to the fair, the vast majority are likely to go to other places not so good. It is notable that the saloon and gambling element, which is commonly supposed to have the wisdom as well as some other qualities of the serpent, has been active in support of the Sunday-closing movement. We believe that before the fair is far along the necessity for providing a decent place of resort on Sunday, as a counter-attraction to the saloon, the beer-hall, the gambling-house and the brothel will compel the doors of the art galleries, at least, to be thrown open.

The late Secretary of Agriculture, Hon. Jeremiah Rusk of Wisconsin, takes a hopeful view of the future of American farming. He thinks that the methods of tillage and the conditions of rural life are bound to advance as time goes on. In the *North American Review* for March he undertakes to lay down the lines of future development leading up to a picture of "American Farming One Hundred Years Hence."

The changes in the methods of farming, Mr. Rusk thinks, will be brought about by a wide knowledge and application of scientific principles. He does not look for much improvement in farm implements, but thinks that great advances will be made in adapting particular crops to special soils, in the methods of feeding so as to secure the maximum for the minimum feed, in the utilization of waste and in all the processes to which scientific knowledge may be applied to practical farm operations. Irrigation, he thinks, will be universally practiced, with the result of promoting a variety of crops now unknown to our agriculture. Mr. Rusk has no faith that rainfall can be controlled at will by explosions; he expects no revolutionary change from the natural order of things. What he does expect is such use of the resources of nature as to get the best possible results at the least possible cost

of labor. He looks forward to a time when (even outside of California) strawberries and lettuce in mid-winter will not occasion surprise. He says:

Such methods of tillage demand the best kind of labor and the constant, personal supervision of the owner or farmer himself, and this, of necessity, means farms of a few acres. On the other hand, the large farms will no longer be conducted by men who, with their own hands, feed the stock and milk the cows, and follow the plow or cultivate the corn. The exigencies of farm life in those days will tax all the brain power and business qualifications of a man whose life work will demand a better education, in the scientific branches at least, than that of the merchant or banker, or even the lawyer. The man who farms a large farm successfully in 1993 must be such a man as would be successful in any career, whether professional or mercantile, and who, like the merchant or manufacturer, must command some capital, and be capable of utilizing profitably the labor of his fellows.

But in presenting this picture, Mr. Rusk does not attempt to conceal that there will be another side to it. He adds:

The natural evolution of agriculture, under its changed and changing conditions, involves a survival of the fittest, which will necessarily relegate poor farmers—I use the word "poor" in the intellectual sense—not, let us hope, and I truly believe, to the level of the English agricultural laborer, but to the condition of a thrifty peasantry, owning their own homes, with perhaps a few acres of land, but depending principally for support upon wages earned by laboring for others.

Coming to the future of transportation and commerce, as related to the interests of farming, Mr. Rusk assumes (without being able to see just how) that ways will be found to reduce the cost of carriage with corresponding facility and ease in transportation. In his judgment, our National trade relations will probably not exercise so great an influence in the future as they have in the past, since before many years we shall cease to export food to foreign countries, with the exception of a few products in concentrated form. Our trade in farm products will hence be interstate and not international, and will be regulated by the growth of our population and the contingent extension of our home markets.

It is in the conditions of rural life to which Mr. Rusk looks for the greatest change—for a change, in fact, which will amount to a transformation in the future of agriculture in this country. We quote:

In the first place, the average size of our farms will be considerably less than now. There will be large farms, no doubt; but under such a modernized system of agriculture as will unquestionably prevail a hundred years hence, what will be a large farm then would not be regarded as a particularly large farm at the present day. Moreover, for reasons which I have already indicated, there will be a very much greater number of small farms than now, not only in the neighborhood of cities, but in all those sections where irrigation is practiced. The result of this will be a greater concentration of population even in rural districts, and hence far less isolation than exists at present, and this isolation will be still further diminished by good, smooth, well-kept roads, bordered with handsome shade trees, and available for travel at all seasons. With such a dense population as we shall then have, electric motors will be established, without a doubt, along many of the principal roads, extending out several miles into the country from every town or city of any consequence. The telephone will be found in every farmhouse, and, should the present Postmaster-General be privileged to revisit the scene of his earthly labors, he will find his dream a reality, with a rural mail delivery which will carry mails to every farmhouse in the land. The residents in the country will vie in culture and education with the corresponding classes in the cities, while, with the disappearance of the many inconveniences which now prejudice the wealthy against country life, the business and professional men will look forward to the acquisition of wealth as a means for securing a home in the country, where they can end their days in peace and comfort. No one questions the healthfulness of country life and its many advantages, so far as physical well-being is concerned, over the city; and, when the country home is equal in comfort and culture to that of the city, no argument will be needed to prove its superiority to the latter.

Mr. Rusk has certainly not painted an extravagant picture. Indeed, many of the things which he predicts for the "good time coming" have already been attained in California. The districts of large population established upon small holdings, where "well-kept roads are bordered with handsome shade trees," where electric motors run through the country, where the convenient telephone is frequently, if not universally, in use, where "residents in the country vie in culture and education with the corresponding classes in the cities," and where the "country home is equal in culture and comfort to that of the city"—districts in California where all these good things are now existent—are too many to be named. It is a striking illustration of the pre-eminent progress made in rural industry and rural life in California that we have here in present existence many of the things which in other and less favored States are only regarded as future possibilities.

We expect more for "American farming a hundred years hence," than Mr. Rusk seems to; we look forward to the time and expect it to come within the next twenty years, when two-thirds of the muscular labor now performed by man and horse, will be done by electric power. We expect to see houses and out-buildings lighted and warmed by electricity; to see not only the plow, but the

family carriages driven by the same subtle force. We are led to these expectations by recent study of electricity in its possible application to rural industry, and have now in preparation for the columns of the RURAL a series of articles (to be fully and handsomely illustrated) showing the ways in which such application may be made. In our judgment, electricity is destined to make such changes in farm labor and country life as no man could now foretell without being set down as an enthusiast and a dreamer.

The Horse Show at Livermore.

The eleventh annual stallion and stock exhibition was held at Livermore last Saturday, and attracted to that enterprising little city quite a large crowd. The exhibition had been delayed from the previous Saturday by inclement weather, and the few days previous to the postponed exhibition had been so threatening that many exhibitors who expected to be present did not come. The number of horses shown, therefore, was not large, but there were nevertheless several fine animals on parade.

The pretty town of Livermore had assumed a holiday appearance in anticipation of the event. Notwithstanding the gloomy skies, the streets were thronged with people, who came from the surrounding country and some even from San Francisco. The parade was advertised to begin at 10:30 A. M. sharp, but, of course, like all other great bodies, the procession moved slowly; in fact, it was 11:30 before strains of music from the Livermore band—an excellent organization, by the way—announced that the horses had at last gotten under way. The order of march was as follows: First division—thoroughbreds, trotters and roadsters will stand on L street facing First; second division—horses of all work, Normans and graded Normans will stand on K street facing First; third division—Clydesdales, graded Clydesdales and jacks will stand on J street facing First; fourth division—cattle and other stock will stand on Lizzie street facing First. The principal streets were traversed, and much favorable comment was excited by the fine appearance of the stock.

It was in the afternoon, however, that the real test of the merits of the several horses occurred. The animals were then brought before the judges—Messrs. T. J. Righter, E. S. Allen, John Poblit, T. D. Coffman, A. A. Fargo, Thos. E. Knox and Simon Hansen—and their points noted and passed upon. This part of the show occurred in an open space off the main street and attracted a large majority of the visitors and townspeople. There were no money prizes, but the winners were decorated with a ribbon that was to the owner of the horse sufficient testimonial to his animal's worth. The prizes awarded for the various breeds, of different ages, were the following:

Thoroughbreds—Whalebone Jr., age 3 years; owned by D. E. Lamb. Merimer's Daughter, age 2 years; owned by B. F. Brannan. Sid Stevens, age 1 year; owned by B. F. Brannan.

Trotters—Majestic, age 6 years; owned by C. C. Clay. Exmoor, age 4 years; owned by M. Mendenhall. Anna Laura, age 3 years; owned by B. F. Brannan. Hector, age one year; owned by Geo. Galway.

Pacers—Warren, age 2 years; owned by Dutcher & Cropsey. Roadsters—Stattie Dan, age 6 years; owned by J. J. Silva.

Cleveland Bays—Lord Cardigan, age 7 years; owned by R. R. Veal.

Percherons—Raglan, age 8 years; owned by Block & Blondin. Oregon, age 6 years; owned by Fallon & Martin.

Graded Percherons—Ledar Jr., age 5 years; owned by H. M. Christensen.

Normans—Distingue, age 8 years; owned by M. F. Boyce.

Graded Normans—Duke Vienot, age 6 years; owned by Silva Bordes. Rock Vienot, age 9 years; owned by John Carroll.

Clydes—Prince, age 6 years; owned by John Coakley.

Graded Clydes—Dublin Bay, age 10 years; owned by Leander Joseph.

Jacks—Young Prince, age 7 years; owned by Albert Clark. Big Tom Jr., age 4 years; owned by D. E. Lamb.

Races had been arranged for a part of the afternoon's entertainment, but owing to bad weather only a part of them took place. A running race was won by Harry Wilkes, owned by Hugh McMurray, and a trotting race by Stattie Dan, owned by J. J. Silva.

As a whole the show was meritorious and gave general satisfaction. These exhibitions have become an annual event of much importance among the citizens and horsemen of Livermore valley. Complete preparation for the entertainment of visitors and exhibitors and for a display of the best stock of the valley—which abounds in fine animals—is always made by the people of Livermore, and, as a result, the response on the part of the public and owners of horses is appreciative and quite general. The awards are made by practical stockmen who know good horses and their most valuable qualities, and the prizes are esteemed of value by the exhibitors.

A RURAL PRESS representative who was at Livermore is indebted to Mr. Theo. Gorner and to Mr. J. H. Dungan, editor of the *Herald*, for attentions shown.

California Oranges in London.

The carload of Azusa Washington Navel oranges shipped from Southern California February 23d by the Earl Fruit Company, arrived in London in good condition, and was sold last Friday at prices averaging \$3.50 per box. The result is considered most satisfactory, in view of the fact that these are the first California Washington Navel oranges offered in the English market, and, naturally, the buyers were timid, as the fruit is entirely unknown outside of America. The sizes in this car were mostly 96s, 112s and 126s, all of which, with the exception of the 126s, are very undesirable sizes for the American markets.

This fruit made very quick time to New York, arriving there on the morning of Saturday, March 4. It just missed connection with the steamer sailing on that date, the car having been delayed a few hours between Chicago and New York; the car, in consequence, was not transferred to the steamer until Tuesday, the 7th, and went forward on the

flyng Teutonic on the morning of the 8th, arriving in Liverpool on the 15th.

It was, practically, three weeks from the time it left California to the date of selling.

A second car of Washington Navel oranges left Riverside on March 3, and went forward on steamer Britannic from New York on the 15th. It was due to sell in Liverpool Friday, the 24th.

This car was made up with oranges from Riverside, Redlands and Colton. Mr. Earl said:

"We are not fully advised in regard to the expense of shipping to Liverpool, but we estimate that the expense will not exceed \$2.50 per box, including cost of picking, packing, freights, commissions and all other charges. On this basis, the car which was sold at an average of \$3.50 per box will net the owner \$1 per box on the trees. We think the expense will be nearer \$2.25 per box, which will leave \$1.25 per box net for the fruit on the trees. This is certainly a very good price for large sizes, and better than can be realized in American markets."

Duroc or Jersey Red Swine.

TO THE EDITOR:—Are there any thoroughbred Jersey red hogs in California for sale? If so, will the owner of same please write me at Burbank, Los Angeles County, California. S. D. NEWBILL.

A few years ago there was considerable interest in these swine in this State, but of late we have heard nothing of them. If any reader of the RURAL PRESS has pure breeds, we trust he will do as requested above. Breeders who have good stock consult their own interests by advertising in our Breeders' Directory.

Dried Persimmons.

TO THE EDITOR:—Do Japanese persimmons make a salable dried fruit? If so, what varieties are used and how are they handled? WILL J. BELCHER

A few dried persimmons are occasionally brought here from Japan and sold as a sweetmeat, but we do not imagine any quantity can be disposed of. They are, to our taste, inferior to our dried figs. If any reader can give the method of drying them, we would like to publish it.

THE best evidence that there is money for the farmer in growing sugar beets, is to be found in the fact that since the establishment of the Western Beet Sugar Company's factory in this city, says the *Watsonville Rustler*, each year has witnessed an increased acreage devoted to beets—not only in this valley, but in the adjoining county of Monterey. While a straight price of \$5 per ton is paid for beets at the factory, improved methods of planting and cultivating have materially reduced the cost of production. The Western Beet Sugar Company has experienced no difficulty in securing beet contracts this year. On the contrary, the farmers, knowing from experience, that the sugar-beet was classed with the best paying crops last year, are anxious to secure contracts for next season. The result is that Superintendent Waters expects to have the factory operating at its full capacity before the middle of July.

THE Oroville *Register* sizes up the situation in this manner: From present prices in California, the two most valuable animals on the farm are the sheep and the hog. Prices for pork and mutton are higher than known for many years. Lard has advanced one-half in price during the past year, bacon has jumped from four to five cents a pound and hams are luxuries. Mutton chops are no longer pushed by the butchers, and the farmer who has hogs or sheep to sell this year is in luck. Taken year after year, these two animals bring in more ready cash in proportion to the money invested than any other animal on the farm. The sheep that will not pay for herself in a year from her wool and her lambs is an exception, while the breeding sow is renowned as a money-maker the world over. The farmer who wants to succeed should keep as many sheep, hogs and hens as possible.

CALIFORNIA CITRUS FRUIT GROWERS will be allowed increased space for their exhibit at the World's Fair. Word has been received by the State Commission that the request for an increase of space from 1000 to 1500 square feet had been granted. Shipments of various articles are fully under way, and from now on they will be very heavy. The interior counties have been prompt in preparing their exhibits, and the indications are that California will be well represented on the opening day.

DEFINITE REPORTS from Nevada state that the stock has been wintered with little or no loss, except in White Pine county, where there was some loss of sheep. The Humboldt ranges have yet from one to two feet of snow and ice; but the winter started in late and no uneasiness is felt among stockmen.

SECRETARY CARLISLE has issued a circular making the regulations governing the importation of animals for breeding purposes less stringent. Collectors of Customs are given some discretion about the admission of animals which they have reason to believe are entitled to free entry.

THE Gilroy Ladies' Auxiliary Association is packing 10,000 boxes of dried fruits, grown and cured in that vicinity. These are to be distributed gratuitously at the Chicago fair.

The farmer who is too careless to give sheep good care will do better with some other class of stock.

THE recent bad weather put a stop to Riverside orange shipments for a time.

Gleanings.

SAN JACINTO is moving in earnest in regard to organizing a fruit-canning company to utilize the magnificent fruit grown so extensively there.

RIVERSIDE so far has sent 460 carloads of oranges East. The crop is the best ever raised there. About one-quarter of the crop has been shipped.

PEOPLE at Nordhoff are to hold an election to select a new postmaster. They will, however, very considerably leave to Mr. Cleveland the right to confirm or reject their choice.

MODESTO has received a load of freight by steamer from San Francisco. The steamer will make regular semi-weekly trips if the business men of Modesto will furnish freight.

TWO Tulare hunters started to the mountains after bears with a small arsenal and four cakes of Limburger cheese. They thought the bear might escape their bullets, but he never could survive a whiff of that cheese.

ON St. Patrick's day the Marysville *Democrat* was printed in green ink. Much of California, however, was orange as usual. Some patriotic citizens are said to have honored good St. Patrick's memory by swallowing the serpent when it was red within the cup.

THE thirtieth session of the California legislature passed in all 301 bills and 39 resolutions and constitutional amendments. Of this number 103 bills and 6 constitutional amendments and resolutions were sent to the executive office the day following adjournment.

A "COUNTRY POTATO" PARTY is the latest. Each young man is required to bring a lemon, each blushing damsel a potato. There seems to be a slight incongruity about the arrangement. The lemon should represent the young lady. No right-minded youth likes to squeeze a potato.

THE Board of Directors of the California State Prisons, acting under a law enacted by the late Legislature, have reduced the price of grain bags manufactured at San Quentin to \$5.73 per 100. The bags will be sold to actual farmers in lots of not to exceed 5000. A ten per cent deposit must accompany all orders.

THE Assessor of Fresno county writes that he proposes to assess fruit trees and vines as follows: "Trees and vines, two years old, \$10 per acre; three years, \$15; four years, \$20; five years and over, \$40—which is a reduction on our last year's assessment of a half up to five years and one-fifth reduction on others."

THE decision in a late chicken-shooting case in Los Angeles may be of interest. The defendant, who had shot his neighbor's trespassing chickens, was fined 50 cents, while the carcasses of the defunct fowls were awarded to the prosecuting witness. And, on the same subject, the *Pomona Progress* remarks that a large proportion of all the law business of that town originates in neighborly quarrels over the same subject.

THE Fish and Game Commission has made arrangements to bring from Oregon 100 Mongolian pheasants. They will be placed on Goat Island, which is said to be a fine place for purposes of propagation. These pheasants multiply very rapidly, and, if protected by law, there is no good reason why they should not be as plentiful here as in Oregon. There is another commendable feature about this enterprise: Some use has at last been found for Goat Island.

It has been stated in some of our exchanges that San Bernardino, says the *Times-Index*, is the largest county in the United States. Such is not the case, as there are five counties with larger areas, viz.: Yavapai county, Arizona, 29,236 square miles; Chouteau county, Montana, 27,280; Custer county, Montana, 26,580; Dawson county, Montana, 26,680; Apache county, Arizona, 21,060; San Bernardino county, Cal., 21,000.

THE great Hemet dam near San Jacinto, San Bernardino county, is finished to a height of 110 feet and is filled with water to a height of 90 feet. The lake is nearly two miles long, the widest place being three-quarters of a mile, making a surface area of nearly 750 acres. It is now five weeks since the outlet was closed, and this enormous body of water has been collected in the last two weeks. There is enough now impounded to irrigate 20,000 acres during the coming dry season.

THE *Sacramento News* thus describes the California girl: "See the glow upon her cheek, the audacious, self-reliant, independent flash of fire in her eye, the rosy hue of health upon her lips, the gorgeous contour of her form, the look of innocence undefiled and all the glory of womanhood predicted in her wealth of sentiment and the nobility of her heart—then tell us we have no 'type of beauty' in California." Oh, yes. We have lovely types of beauty in California, and a few—just a few—wrong fonts.

FOLLOWING is a review of the orange shipments from Riverside for the current season:

Crop of 1892-93.	Boxes.	Cars.
January shipments.....	37,466	131
February.....	57,772	208
To March 16.....	64,350	225
Totals.....	599,558	564

ASSEMBLYMAN VANN, the Colusa Populist, says the Oakland *Tribune*, is about as woolly as they make them. The other day that well-whiskered bill to provide a State system of drainage was up and Jacobs of Yolo denounced it as a monstrous swindle, a double-trigger, double-action, percussion concern. Vann was full of wrath and stigmatized the man from Yolo as an obstructionist. "If," said he, "the member from Yolo had been present when God created that grandest of all creatures, woman, from the rib of Adam, he would have said: 'Oh, she cannot work!'"

THE *Sutter Independent* tells the following story: "A couple of Sundays ago two young ladies who reside with their parents about four miles west of Yuba City, went in a piano-box top-buggy to Sutter City to church. Arrived there a young man who thinks one of the sisters is mighty nice, was on hand to assist them with the buggy and hitch their horse. So far everything went all right. When preaching was over and the young ladies came out the same young man brought around their rig, assisted them in, snugly tucked the robe and then went behind the buggy and raised the leather covering to put away the hitching strap. At that moment he was surprised. An old hen had made her nest in the back part of the buggy, and being thus disturbed she flew screaming into his face."

L. L. GALE, a Healdsburg cattle-buyer, who has just returned from Round valley, reports cattle in abundance, but the weather and snowdrifts prevent herders from rounding up. The United States commissioners are in camp 22 miles north of Covelo, in what is known as Kit Carson's cabin, which was built in 1863 by Frank Asbell, a famous trapper of those days. The report is current that the commissioners will place on the market half of the Round Valley Indian reservation, 66,000 acres, at from \$1.25 to \$4 an acre.

Now doth the busy Sacramento Bee,
To frenzy by much growling goaded,
Improve the darksome hours and say,
"We didn't know it was loaded."

A CONTRA COSTA FARMER has been doing some figuring on the cost of hay production, and this is what he finds:

Rent of land per ton.....	\$1 25
Cultivating, cost of seed and putting in.....	1 25
Cutting, raking and stacking.....	1 25
Pressing (which cannot be reduced).....	2 00
Hauling to landing or warehouse.....	1 25

Cost at the landing.....\$7 00
Now add freight, \$1.25 or more, and commissions and other expenses 50 cents.....1 75

And you have.....\$8 75

The Southern Citrus Fair.

Reported for the RURAL PRESS by CLARA SPALDING BROWN.

Three of the annual citrus fairs of Southern California, under the auspices of the State Agricultural Association, were held in the city of Los Angeles. The fourth and present one, was secured by the town of Colton, in San Bernardino county, through commendable zeal and promptness in being the first claimant for the privilege.

Riding through the country between Los Angeles and Colton, a distance of 55 miles, past young vineyards, lush grain fields, orange orchards in their golden fruitage, blushing apricot trees, fields strewn with gay wild flowers, and rounded hills clad in vivid green, one is reminded that it is the winter season only by the snow-covered mountain tops that guard the beautiful valley. On the other side of the continent the March wind doth blow, the snow is yet piled high, and poor, freezing Mother Nature awaits the warm breath of spring before revealing her latent powers. But here on the sunny Pacific slope, both seed-time and harvest come in the winter months, and the best exposition of the climate's geniality and the soil's productiveness, is the State citrus fair held in March of each year. The pavilion erected by the residents of Colton for this and succeeding exhibitions is the largest and best arranged building of the kind on the coast, outside of San Francisco. It is nearly 200 feet square, and has 20,544 square feet of exhibition space, besides a central auditorium which will seat 1200 people, an art room 48 feet square, and a dining-room which will accommodate 150 persons at once. The auditorium may be enclosed by movable screens, and has a stage 23x43 feet in size. A gallery extends around it and also around the sides of the pavilion. It is too narrow for exhibition purposes, but there is no necessity of having more space than the ground floor affords. The committee and directors' rooms, offices, etc., complete a most satisfactory exposition building, though not a very expensive one, the cost being \$14,000. It was designed by L. M. Holt, of Rialto, manager of the Fourth Annual Citrus Fair for Southern California. On all sides one hears the people of Colton praised for their energy in putting up such an extensive structure.

It had been intended to open the fair on Wednesday, March 15th, but a long continued rainstorm rendered this impossible and so retarded orange picking that all the exhibits were not in place until Saturday, the 18th. The scene on Thursday was one of great confusion and incompleteness—carpenters, orchardists, officials, and the public-spirited women of Colton and vicinity, were busy endeavoring to get everything in place. The pavilion was handsomely decorated with red, white and blue bunting, ropes and wreaths of evergreen, and flags, this alone requiring much labor, with the immense space of bare boards and rafters to be covered.

THE OPENING.

The opening exercises took place Thursday evening. Ahrend's orchestra, of Los Angeles, which had been engaged for morning, afternoon and evening concerts throughout the fair, gave some excellent music, and then Mr. Holt, in a brief speech, introduced the speaker of the evening, Prof. C. H. Keyes, principal of the Throop University at Pasadena, formerly superintendent of the schools in Riverside.

Prof. Keyes, a man of unusually fine physique, delivered a scholarly and highly poetic address with marked oratorical ability. He went back to the favored race who dwelt at the base of Mount Olympus until they entreated to be sent forth to beautify other lands. To reward them for their toil and the loss of their beautiful homes, the great Jove promised that wherever they should abide they, or their descendants, should have power to transform the earth. He traced the wanderers through one country after another, each land yielding up its fruitage to them until they found themselves in the great valleys of Southern California.

Here Spanish breezes fanned new hope into heart and brain; Italian sunsets reflected ancient glories; Alpine mountains inspired to grander thought. They smote the dull, brown rocks and forth gushed sparkling waters which they led over all the valley, and lo! dark groves of glistening green sprang up and clothed the naked earth. Every bough hung out chaste clusters of snowy fragrance till it seemed the sea of green had been beaten into whitest foam, the mists of which filled all the earth with sweet intoxication. Then came the golden apples, transmuting the riches of the earth and the purity of the waters into the ambrosia and the nectar of the gods; and lo! the pledge of Jove was fully redeemed in California—the best, the last, the fairest of the Edens of the race.

Was ever written a more beautiful description of the orange than this? The professor declared that irrigated lands were a benefit to the Republic, stimulating people to exercise their brain functions, pointing to the fact that where citrus fruits grow spontaneously you do not find a population of intelligence. He spoke of the churches and schools of the State, the wide-reading of the people, and the generally enterprising character of those who had taken the long journey across the continent, and often from foreign shores, in order to make new homes on the Pacific Coast.

The attendance of paying visitors on Thursday was small during the day, but a goodly number assembled for the evening exercises, considering the distance of Colton from any large town.

THE EXHIBITS.

COLTON TERRACE occupies the most conspicuous position, in front of the main entrance. In the center is the largest architectural exhibit in the pavilion—an Eiffel-tower design, covered with 18,000 oranges. It is 33 feet 9 inches in height and 14 feet square at its base, with arches opening into a good-sized room. The first tier is of Washing-

ton Navel oranges; the second of Mediterranean Sweeties; the third of Seedlings, and the fourth of St. Michaels. It is tastefully trimmed with Pomelos and Malta Blood oranges and festoons of green bunting, and was the work of Fox Bros. and Jas. Barnhill.

At the left is a strawberry basket, just ten feet square, heaped with choice oranges to the height of eight feet. The trimmings are honeysuckle and ivy, and the owner—Mr. E. S. Van Leuven—may well feel proud of his exhibit. On the right of the tower is the most original design of the fair—a "Fountain of Fruit"—presided over by no less a personage than the Venus de Medici. The pedestal is ten feet square, the basins are filled with oranges and the table is covered with the fruit piled in cubes and squares. Long sprays of English ivy, with their dark green foliage, contrast beautifully with the golden fruit and show the artistic eye that Mr. W. C. Fuller possesses in their arrangement. Mr. Fuller shows some extra fine Mediterranean Sweet oranges.

The next table also belongs to the Terrace; it is eight feet square and holds a pyramid of oranges and lemons grown by M. Archibald. His St. Michael oranges are the largest of the variety in the house.

COLTON'S most conspicuous exhibits are the canned goods of the Colton Packing Company; flour, meal and grain from the Colton Roller Mills; the gasoline stoves of Wilcox & Rose, and the beautiful display of granite, onyx, etc., from the Slover Mountain quarries, made by U'Ren & Hubbard. This firm has a large mill, 130 feet long by 80 feet wide, running six gangs of saws, turning lathes, a rubbing bed 14 feet in diameter, and polishing machinery, and having blacksmith and carpenter shops attached. The Academy of Sciences building at San Francisco and the telephone buildings of Los Angeles and Stockton were made of stone from these quarries, and a free library building is now being constructed of it at Stockton.

Geo. H. Ferguson, of Colton, displays honey in glass. Mrs. A. Thomas shows Seedling, Blood, Konah and Navel oranges, lemons, walnuts, and twigs cut from fig trees, with leaves and fruit bursting from the bare stems simultaneously. Navel freaks are exhibited by Mrs. McIntosh.

ONTARIO comes next to Colton Terrace on the right. A table 25 feet square and another 30 feet in circumference, are entered as a locality exhibit. On these are three competitions for the most artistic design, by W. Friend and J. W. Freeman, Wood & Hatch, and B. A. Woodford. The tables are covered with dark green bunting, forming an effective background for the neatly arranged piles and rows of oranges and lemons, simulating a landscape garden. Mr. Freeman displays Lisbon, Eureka, Genoa and Villa Franca lemons. E. M. Hatch has these varieties and the Milan and Sicily in addition; and on another table shows several varieties of oranges. There was a pile of Genoa freaks, curiously ribbed. All the Ontario lemons are remarkably fine and attract much favorable comment. An authority in citrus culture told the writer that Mr. Hatch's lemon exhibit is the finest ever made in this State. Every lemon is perfect—smooth, thin-skinned, polished, well-shaped. The crop was cured in November. Mr. Hatch wraps them in papers and puts them away soon after picking them. This process, he said, does not work well with all persons; if put into a very close building, wrapped, they sweat too much. The Lisbon is his favorite lemon, on account of its superior bearing and keeping qualities. The round table represents a wheel, made of twelve varieties of oranges, among them the Golden Gem (a Florida orange), Parson Brown (also from Florida), Hart's Tardiff, Rio, Jaffa, Satsumas and Mandarins. The design is by B. A. Woodford.

Ontario also shows a large quantity of olive oil made by Conant & Co.; olive trees raised by J. S. Calkins, whose recent address on olive culture is printed as a standard treatise; orange and lemon juice put up by H. J. Rose; raisins and prunes dried by B. S. Denison.

RIALTO has a table 10 by 20 feet in dimensions at the right of the auditorium, on which the name of the settlement is spelled with lemons in a background of oranges, and placards announce that it is in the frostless belt. As proof of the geniality of the weather this winter, a story is told of a tomato tree which has kept on growing during the season until it is 19 feet high and now has ripe fruit upon it, untouched by frost. The lemons for which Rialto is acquiring fame (she is only a three-year-old), have most of them been shipped away, and those on exhibition are not fair specimens.

HIGHLAND is a new settlement that may well feel proud of the exhibit made at this fair. It comprises about 80 boxes of fruit, covering, in terraces, a table to by 40 feet. The varieties of oranges are St. Michael, Malta blood, Washington navel, seedling and Mediterranean sweet. Lisbon lemons extend in a bank the whole length of the table and were grown by W. S. Corwin. Some fine specimens of the citron of commerce were shown by T. S. Ingham, who took the premium for this fruit last year. He will send them to the World's Fair. R. R. Sutherland exhibits 16 boxes of choice raisins which will go to Chicago. Mrs. D. F. Barritt has three boxes of raisins. A watermelon picked this week by W. S. Corwin attracted attention. This gentleman has raised the largest watermelon in the world—a 132-pounder—requiring two men to handle it comfortably. It is now in Chicago. The other exhibitors of fruit on this most creditable table are D. R. Seely, R. A. Boyd, Chas. Hidden, W. H. Randal, L. C. Waite, C. H. Rohrer, S. W. Godbold, E. C. Winslow, E. F. Pierce, E. S. Fry, Miss Travalli, H. E. Barker and R. W. Henderson.

OLD SAN BERNARDINO has a pretty arrangement of a variety of products on a table 10 feet wide by 20 feet long. Down the center is a row of ornamental shrubbery from the nursery of F. T. Mason. C. G. Pierson shows Navel oranges, limes and almonds; Doran & Caldwell, limes, pomelos and walnuts; Mrs. Lewis Van Leuven, large lemons; J. M. Cole, curious egg blood oranges, also Malta bloods; Wm. F. Ballman, Washington navels from four-year-old budded trees; Drew & Fairbanks,

navels. E. Vache & Co. make a display of wine and brandy in bottles and casks. Lewis S. Davis of Mound city, shows Navel oranges on this table.

SAN BERNARDINO proper is represented by the Holstein Dairy with a lot of fine butter; Stone Bros., cemetery goods; William Manson, gasoline engines; Robert Killefer, patent cultivator.

REDLANDS was late in entering her exhibit, and when the RURAL PRESS representative left the pavilion Friday afternoon, her table was just being arranged. It is 20x30 feet in dimensions, and was being covered with a flag of oranges and lemons, with trimmings of cypress. The exhibitors are Wm. Craig, G. S. Gay, O. W. Harris, C. A. Kingsbury, Jas. Garrison, Wm. Fowler, Truman Reeves, A. O. Child, I. N. Hoag, J. H. Stewart, C. R. Paine, E. B. Cuts, Geo. E. Ois, N. and H. Garstin, John Haskins, V. L. Mitchell, J. V. A. Love and Geo. H. Lea. The fruit is of course of the best quality, as Redlands is known to be unexcelled as an orange-producing district.

RIVERSIDE, also, was tardy, and did not cover her long table until Friday. This display of 12x40 feet shows a greater number of varieties of the orange than is exhibited by any other locality. Besides the kinds found on many other tables, there are the Acapulco, Sweet Saville, Homasassa, Wilson's Best, Jaffa, Queen, Rio, Tardiff, ornamental Chinese and Florida sour orange. The exhibitors are the Arlington Heights Company, Major Crafts, Geo. Duncan, W. S. Wilson, Jas. Boyd, P. K. Klinefelter, K. D. Shugart, J. W. Kishler. The fruit is very choice and is arranged effectively in pyramids and various designs rising from a bed of oranges solidly covering the table. Robb Bros. and Wilder on another table make an extensive display of pickled olives and olive oil. Jas. Boyd also shows olive oil. D. H. Correll, publisher of a new literary magazine called "California" has upon his table a pile of unusually choice Navel oranges. They are not remarkable for size, but are perfect in coloring, texture and shape. O. Patty entered some large grape fruit.

SOUTH RIVERSIDE has a table 8x12, covered with dark green cloth on which is arranged a circle of fruit with solid centre. The fruit was contributed by the Boston Fruit Company, R. B. Taylor, Joy Bros., Wm. Dyer, N. C. Hudson, Dr. Barber, Leo. Kronnen and the South Riverside Land and Water Company. The Pacific Clay Manufacturing Company displays pipes, vitrified fluming and terra cotta chimneys and fluming on the next table.

PERRIS VALLEY, "the most beautiful section in the new county of Riverside," according to posters, shows up well with a bank of oranges in front of the auditorium. There is also fruit in glass, grain from Wm. Newport's 500-acre ranch, also from the ranches of A. Berfeini and E. L. Kimble, a cabinet of mineral specimens from the mines near Perris, tufts of oats and barley showing the vigorous growth made, and immense beets and pumpkins marked "For Cudahy's Hogs."

THE WORLD'S FAIR EXHIBIT prepared by San Bernardino county covered four large tables built up with shelves and were alone worth a visit to the pavilion, even from a considerable distance. One table in particular was a beautiful sight with its handsome glass jars nearly three feet in height full of mammoth specimens of all the kinds of fruit raised in this southern country. It cannot fail to excite the admiration and wonder of all Eastern people who see it at Chicago. The fruit is preserved by what is called "the great French process," by which it is claimed that a housekeeper can put up a year's supply at a cost for preserving of only fifty cents. The agents for this preparation are Cobb & Townsend, of Pasadena. We read that this "French Process" was discovered in Iowa in 1889, and that nothing is equal to it for preserving fruit, vegetable or meat in the natural state. The process is fumigation in a tight box or small room, after which the articles treated are immersed in clear cold water and allowed to remain in unsealed jars until used. Dr. Cochran, president of the State Board of Health, says the ingredients used in this process are not injurious to health, and families using fruit thus treated assert that there is nothing unpleasant to the taste. In preparing both deciduous and citrus fruits for the World's Fair, nothing has been found equal to this process, and the managers of the San Bernardino County Exhibit give it their approval. Mr. T. J. Mellen, of Beaumont, has a large quantity of choice fruit in this exhibit which is in a wonderful state of preservation, even showing the bloom on egg-plum skins, and the green stems of apricots as perfect as when on the trees. The exhibit also comprises marmalade, jam and jelly in unique oval glasses, dried fruit in fancy boxes, honey in the comb and glass, and beeswax in various forms.

SAN DIEGO COUNTY has an exhibit covering three tables 10 feet square. The principal entry is a pyramid of 104 boxes of raisins cured by the Escondido Land and Town Company and designed ultimately for the World's Fair; they are very choice. There are three dozen boxes of dried fruit entered as a county exhibit. Warren C. Kimball of National City shows pickled olives, and Frank Kimball has olives in pickle and a goodly quantity of his famous olive oil. M. L. Webb of Chula Vista exhibits 24 glasses of guava jelly and 13 glasses of guava marmalade. L. E. Allen shows a lot of guava jelly and four varieties of the fruit—strawberry, lemon, pear and mandrake. The three last mentioned look entirely different from the commonly known strawberry guava, being light-colored and very large. The guava attains its greatest perfection at San Diego. There is a pyramid of lemons, contributed by A. G. Stender, rather rusty in color, and a small exhibit of oranges grown by H. L. Story, San Diego; B. S. Colwell, Agua Tibia; Chas. O. Brown, National City; and the San Diego Land and Town Company. The Eclipse tree wash, made in National City, is declared to be the only wash known to destroy the Florida purple and California red scale. The Cogswell patent fruit basket, in the San Diego exhibit, fits into a sack and opens in the middle, letting the fruit through. It is lined, and warranted to preserve the fruit from injury.

LOS ANGELES COUNTY does not exhibit any oranges or lemons, either from the county as a whole or from any lo-

cality. The Howland Bros. of Pomona make a large display of pickled olives and 12 varieties of olive oil, of which four are entered for premiums—the Pendulina, Mission, Picholine and Rubra. Passers-by all stop to look at curious objects hanging on the wall around this exhibit and wonder what they were. They look something like Chinese hats with holes in the center. Mr. Howland explains that they are called *brousses*, and are used for pressing the olives after they have been crushed. They are made of rush, in Italy, are impervious to oil, retain the pulp, and press the olives better than any other way. These enterprising brothers design their own bottles, and have sent to Prussia for fancy stoppers to them. The bearing part of their orchard, five years old, will return them over \$400 an acre this year, the olives being made into oil. Mrs. Shorting of Alhambra exhibits marmalade and jelly; the California Commercial Co., Pasadena, bone fertilizers; O. S. Westover, Santa Monica, shells and curiosities; the Sierra Madre Wine Co., wines; Mrs. G. Parker, East Los Angeles, art pottery. W. H. Maurice of Los Angeles gives away samples of condensed milk and Rex extract of beef in cups of hot coffee, beef tea and soup, and it is needless to say that the counter is well patronized. Gardner & Zellner of Los Angeles show pianos; Marie & Zobelein, lager beer; the Novelty Mfg Co., tree protectors made from yucca, also surgeon's splints, highly recommended by physicians, and hygienic insoles.

THE THIRTY EXHIBIT.

Three large tables are reserved for what is called "The Thirty Exhibit." They are divided into compartments to hold 30 oranges each, of single varieties. The exhibits are made by individuals, regardless of locality, no name or town appearing upon the cards, and premiums will be awarded strictly upon the merits of the fruit.

MISCELLANEOUS.

Jas. Wright, of Los Angeles, shows how the standard tree-suspender works, dispensing with props.

The Williams & Warner automatic fruit-wrapping machine is surrounded by interested spectators as it deftly wraps oranges ready for packing. This is a New York machine, the first ever operated in California, though used a great deal in Florida.

Large irrigating pumps, worked by steam, are kept in operation near the main entrance of the pavilion.

The Bear Valley Mining Company shows beautiful specimens of gold and carbonate ore from mines in the Holcomb Valley district. A valuable cabinet of San Bernardino county ores is entered by John C. King.

Fine, thrifty young citrus trees are exhibited by Robert Gage, of Arlington Heights. Fyfe & Naramore, of Cucamonga, also show good orange and lemon trees from their nursery.

There are but few attempts at architectural display, a feature of the fairs which has been sometimes carried to excess. In this spacious building a few more large designs would be desirable. The quality of the fruit is quite equal to that of previous years, and never before has there been so much display of olive oil made by different parties—evidently a coming industry.

A novel feature of the fair is the children's band of Colton. It is composed of little fellows from 7 to 11 years of age, dressed in pretty uniforms of blue and white. They play quite well considering the short practice that they have had.

The art-room is well filled with pictures, fancywork and curiosities. There is a large collection of birds from all parts of the world, owned by R. C. Herrons, a San Bernardino taxidermist.

We come now to consideration of the fact that the fair does not represent southern California, as was the intention, only two of the six counties having citrus fruit on exhibition. It is extremely creditable for San Bernardino county, and all worth going to see, however. Various reasons are assigned for the defection of the other counties, differing with the point of view taken. I give them impartially: It is "World's Fair year," and there is so much strain upon the time, money and fruit of producers that they did not pay much attention to this local exposition. Riverside was so taken up with county division that she couldn't think of the citrus fair; moreover, Riverside and Redlands have passed the "boom" stage and no longer care to make great exhibits of oranges for the purpose of selling land, but devote themselves energetically to the culture and sale of their fruit. Los Angeles people were provoked because they did not get the fair, and would not send exhibits to Colton. The managers did not appoint any one outside of San Bernardino county on the board of directors, and made no such efforts to secure the co-operation of localities and individuals as has been the custom in Los Angeles. Experience has proved that orange-growers must be written to, visited and persistently urged in order to arouse their interest sufficiently. An unpopular manager is asserted by some persons to be the cause of it all. It seems to an outsider that there is some truth in all these statements and that a combination of them has caused the situation. Prof. Keyes' remarks as to the undesirability of friction between the various sections of the country cannot be too strongly emphasized. It is a hindrance to the general welfare when such lack of harmony as now prevails on account of this fair is noticeable. The people of Colton and vicinity say they will exhibit their fruit hereafter at any place in Southern California but Los Angeles.

The officers of the fair are: L. M. Holt, president and manager; J. S. Wood, secretary; Dr. G. L. Hutchinson, treasurer. Board of Directors—L. M. Holt, president, Rialto; A. Miner, Colton; Col. W. R. Toller, San Bernardino; John A. Cole, Glen Helen; Richard Gird, Chino; I. N. Hoag, Redlands; Geo. L. Joy, Riverside; P. K. Klinefelter, Riverside. Executive Committee—L. M. Holt, I. N. Hoag, Dr. G. L. Hutchinson.

An associate Executive Committee appointed by the Southern California World's Fair Association to select judges is as follows: J. F. McIntyre, Ventura county; W.

C. Kimball, San Diego county; C. L. Lloyd, Santa Barbara county; Geo. H. Crafts, San Bernardino county; M. J. Bundy, Orange county; Philip Stein, Los Angeles county.

On Tuesday, the 21st inst., a convention of orange-growers will be held at the pavilion to consider markets, protective organization, treatment of pests, etc.

There were a large number of visitors Friday afternoon, and the outlook was very encouraging. To-day (Saturday) the Editorial Association of Southern California is expected to visit the pavilion and to be driven about Colton, and it is no doubt a big day. Monday is to be San Bernardino county day, Tuesday Riverside county day, Wednesday Los Angeles county day, and Thursday, the closing day, will be in honor of Ventura, Orange, Santa Barbara and San Diego counties. It has been decided not to open the pavilion on Sunday.

The great register shows visitors from all parts of the United States, and all seem pleased with the exhibition. Although Colton is a small place, it is not difficult for visitors to find accommodations, as private houses are open for guests and the motor roads bring San Bernardino, Riverside and Redlands within easy access.

Los Angeles, March 18th.

HORTICULTURE.

How One Cannery Was Started.

TO THE EDITOR:—In a recent issue of your valuable journal a lady correspondent at Watsonville propounds the query: "How to secure a cannery," and desires to know if the State Grange can help, or suggest a plan by which one can be secured, submitting very excellent and convincing reasons why such an enterprise ought to be inaugurated and prove successful, which is nothing less than an abundance of raw materials in their seasons.

The writer has had several glimpses of the bright, little city of Watsonville and the charming and fertile Pajaro valley, and fully agrees with the RURAL PRESS correspondent as to the utility of a cannery.

Doubtless the Worthy Master of the State Grange will furnish, if he has not already done so, a recipe for a fruit cannery. However, since it is well always, in any contemplated enterprise, to have several plans to choose from, I will submit one that has the merit of having been tried in this vicinity and has proven eminently successful.

The neighborhood of Yuba City began to grow fruit some 10 or 12 years ago, in quantities too large for home consumption in its fresh state. Distant markets were unavailable on account of high transportation charges. The subject of a cannery was first mooted in the Grange. A plan was adopted and at once entered upon. Subscription books were opened and the capital stock was fixed. Every fruit-grower took as much stock as he felt able to. Other public-spirited men and women, too, were induced to help on with the good work. Sufficient was paid in to warrant incorporating, which was the next step; then followed an assessment sufficient to make a beginning and the thing was an accomplished fact, and has been a success ever since.

It caused more fruit to be grown and this has forced enlargements to the cannery to three times its original capacity, and has established an enviable reputation for its products in all of the large cities of the East. The earnings have been consumed by enlargements and improvements rather than in cash dividends, but it has furnished a constant and reliable market for the raw material, which has been of the greatest possible value to our fruit-growers. Now, possibly our Watsonville friends may receive a lesson from the above narrative.

Their excellent natural advantages may secure the introduction of outside capital for the purpose, but if it comes it will not be the property of the fruit-growers and will see that a direct benefit is enjoyed, which may become as grasping as the transportation companies, of whom your fair correspondent complains. We, too, sought outside aid in our projects which never seemed averse to our credit and standing, but would reply uniformly that "if we had such unbounded faith in our proposition we should be willing to put at least a little of our own money into it." This community took the hint and got along very nicely without foreign help.

The limits of a letter preclude further details; these can be secured by a visit to Yuba City, or possibly by a visit of some of the managers to Watsonville Grange.

Yuba City, March 20, 1893.

GEORGE OHLEYER.

Fruit Trees Should Not Be Taxed.

TO THE EDITOR:—It seems to me that the ground that fruit trees cannot be fairly taxed, and that all land, of the same grade, equally favorably situated, no matter what is growing upon it, should be taxed the same, is incontrovertible. The land is taxed every year. The grain-grower gets a crop every year under ordinary circumstances. If he summer-fallows his land and the year following gets a double crop, he is taxed no more than the year the land was lying fallow when he obtained no crop. But the idle year he has to pay taxes just the same.

It is practically so with the fruit-grower. He prepares his land, plants his trees, cultivates them year after year, getting no returns whatever. One block of cherries we have been spending money upon for seven years and the returns so far would scarcely pay for plowing once. The taxes, which are as sure as death, continue with clockwork regularity during the whole of this time. No allowance or deduction is made on account of the non-productive period.

Now, why in the name of all that is fair and just should the land with the trees upon them be subject to greater taxation the minute they show their tops above the weeds, than if the land had been used for purposes which would have produced a crop each year? Trees or permanent plants of value cannot be grown upon land except at a cost

for use of the land, continued care and cultivation. The expenses and taxes upon the young trees during the time of their unproductiveness is a full equivalent for any extra returns which the grower may obtain when they do come into bearing.

If this position is not unassailable I should be glad to have the weak places pointed out. I commend these arguments to our law-makers.

A. L. BANCROFT.

Aloha Farm, 41A Granville Way, Walnut Creek, March 20, 1893.

Fruit-Growers at Stanford University.

TO THE EDITOR:—In writing last week of the obligation fruit-growers were under to Prof. Comstock, for his life spent in devotion to their interests, I ought also to have spoken of their obligation to Mrs. Comstock, of whose magnificent work in engraving I had the pleasure to see a proof from a plate prepared for the Chicago Exhibition. She has devoted her life to the proper illustration of the professor's entomological works, a branch of art which would have repelled many. As she modestly put it, "There was no one else to draw the bugs, so I had to." And those who see her handiwork at Chicago can appreciate the refined artistic spirit which can transfer insects, as things of beauty, from their native haunts, to live and move, in black and white, on paper, in so thoroughly natural and realistic a manner.

Among the other lecturers announced for fruit-growers' week was Mr. Goodsell of New York, one of the originators of the California fruit auction trade (the name itself, Goodsell, is a fortune to an auctioneer), but the gentleman was not able to be present. His lecture notes were read by Professor E. E. Smith, and contained the usual recommendations as to honest packing, and sending only reliable fruit well put up.

Professor McFarland devoted an hour to a very lucid account of "The Physical Basis of Heredity." Diagrams were used to show the similarity of the embryo in its early stages in such dissimilar animals as man, calf, hog, turtle, etc. But though, by the selection of individuals with some peculiarity of form, that peculiarity can be increased and developed, as Dr. Jordan had shown with reference to pigeons, etc., the speaker concurred with Dr. Jordan that it was yet unproved that the acquired attainment of individuals, such as those of character, etc., were transmissible to posterity.

Prof. McFarland dwelt on the practical identity of tissues and cells in the sexes, even in those tissues and cells concerned in reproduction, where the widest divergence might reasonably be expected. He capped the climax with the remarkable statement that, in experimenting with starfish, it had been found possible to remove the female "chromatin cells" from the ovum and replace them with male "chromatin cells" (these cells being practically the life germ), and still have the ovum give birth to a living starfish.

Assistant Professor E. E. Smith, of the Leland Stanford Junior University Chair of Horticulture, gave five lectures chiefly devoted to European methods of preparing and marketing fruits. He had visited the prune districts of Agen, in France, where he found it difficult to acquire much information from an ignorant peasantry impressed with an idea that "this, their craft, was in danger." He found that artificial drying, or more properly cooking, was universally practiced. Circular ovens of brick, heated in primitive method by a furnace below, had prunes, in kite-shaped trays, plunged into them and left such time as was thought necessary, often until the prunes had a black look and burnt taste. He exhibited a number of European plums and prunes cured in a variety of ways.

Another lecture was devoted to fruit-confectionery, or fruits crystallized and glaces, of which he had many imported specimens. One of the interested critics at this lecture was Mr. Townsend, of the Palace Hotel, well known for his efforts to popularize his home-manufacture of California glaces and crystallized fruits.

On another occasion Prof. Smith spoke of the Jordan almond, exported largely from Malaga to England. He claims that the name Jordan is given to it from a resemblance the Malaga River bears to the River Jordan, or possibly that Jordan is simply a corruption of "jardin," the French for "garden." Specimens he had were good, but California can certainly show equally as good, if not superior, almonds. Many of these almonds are sold shelled, and then even the shells and the dust of the skins are marketable products, the former mixed in with ground almonds and the latter used to adulterate spices.

Prof. Smith had also visited London and had imported samples of fruit packages used there—sieves and half-sieves, peach boxes, punnets, etc.—names of mystery to the Californian, but simply baskets of a certain capacity, made of willow or chip. He also showed a "porter's knot," a clumsy pad, heavier and rougher than a horse-collar, that the porter adjusts on his shoulders and thereupon, as on a foundation, builds up his load of fruit—sieves to an incredible height—to carry from the teams into the market, or vice versa.

The Malaga raisin was the theme of yet another of the Professor's discourses. He spoke of the immense decline in raisin-production in the Malaga district, where it appears the resistant stock is found not to produce so good a raisin as the stock formerly used. Specimens of Malaga wine were exhibited, and many cartoons of beautifully-packed raisins which lacked the bloom so conspicuous in our best Californian product. As a whole the Professor's travels appear to have convinced him that California can hold the raisin and dried-fruit fort against any European onslaught. With this comforting assurance I must conclude my brief sketch of a very pleasant and profitable time spent by my son and myself at the Leland Stanford Junior University. The attendance of orchardists was not so great as I expected and should have liked to have seen. But I heard good news from England last night, that dried apricots are

selling in the stores there at *thirty-seven cents* per pound; and I trust that, as their product is thus appreciated in value, they will find themselves next year sufficiently wealthy to allow five days' leisure for a visit to the Leland Stanford Junior University during Fruit-Growers' Week. Carmel, March 20, 1893. EDWARD BERWICK.

How to Grow Oranges.

The following advice and experience in orange culture in Butte county are given by Mr. J. A. Cleaveland, of Thermalito, to the Oroville Register:

I will give you my experience and my judgement, as far as it goes, in the different kinds of trees that I have handled—the orange, lemon, olive, fig and the vine. Regarding the planting and the kinds of oranges to plant, I consider the best and most profitable the Navel, Homosassa, Mediterranean Sweet, and there are other varieties that are first class, because they bring a high price in the market, are easy to harvest and have very few thorns. They commence to pay a profit at six years old. The seedling will produce more oranges, it is true, but when you take into consideration the four years longer to get a crop, and the additional expense to harvest the crop, I think the budded fruit has the preference. The seedlings are more hardy than the budded, but if the budded seedling is allowed to grow until well branched and the buds put in the limbs, then I think the budded tree will stand as much frost as the seedling.

Orange trees should be irrigated from four to five times each year, in May, June, July, August and September, unless there was a very late spring or early fall rains.

I estimate the cost per acre to buy the land, plow, level and prepare the same ready to dig the holes as follows:

Land per acre.....	\$100 00
Plowing, leveling and harrowing.....	6 00
Digging holes.....	4 00
Planting.....	4 00
Trees, budded, 108 per acre, at 75c.....	81 00
Irrigating five times.....	5 00
Cultivating five times.....	5 00
Water for the season.....	2 50
Taxes on land.....	1 00
Total.....	\$208 50

This would be a fair estimate to the new-comer, allowing himself and team fair wages, cost of horse-shoeing and wear of tools. The balance of the time until the grove would come into bearing, would be as follows per year:

Plowing and cross-plowing, per acre.....	\$ 5 00
Cultivating, digging and irrigating for the season, per acre.....	15 00
Water for the same, per acre.....	2 50
Taxes on land and trees, per acre.....	1 50
Total.....	\$24 00

At the end of five years his grove will have cost him, per acre, \$120. This added to the first year's cost of \$208.50 gives a total cost per acre at the end of six years of \$328.50. Five acres would cost for the six year's labor, water, trees, cost of land, etc., \$1,638.50. This is a fair estimate of the cost of an average grove six years old, or in bearing to pay a profit. Of course a man can add fertilizers and make his grove cost more, and at the same time make it worth more per acre, which would be at least \$1000 at the end of six years. You will understand by this the new-comer must raise a part of his living and work, as I have done, all the daylight. There is no time for seven-up or pedro. He can easily earn his living besides caring for his five acres of orange grove.

Among the disadvantages a new man would labor under would be learning how to plow deep and keep his land mellow and fine, and learning how to irrigate so the ground would be wet enough and not too wet. And then, when it is dry enough to cultivate so as to keep it fine on top to hold the moisture, he can learn how to dig the holes and plant his trees from a book treating on that subject, and he can learn how to stake his ground off by asking some one of experience. All of these are the disadvantages to those who are not posted in horticulture.

I do not consider the land in Thermalito any better for the orange than it is for the olive, for they both grow as fine as trees can grow and are both well filled with fruit as soon as they are old enough to bear.

The lemons I have, have stood the winters for the last five years as well as the orange, and as my experience does not go back of five years, I am not able to say which will make the most frost. I am inclined to think the orange the most hardy. I think the best time to plant the orange and the olive is in the months of April and May, after the ground is warm, so it will grow at once. I think the orange is at its best to transplant when the stock is three or four years old and the bud is one year old.

If the trees are well taken up and paper or the cheapest cheese cloth put on them, and planted sack and all, the loss will not be anything to speak of. It costs a little more but you save money in the end, for the trees when not sacked will more or less die from exposure. I do not approve of cutting back or trimming the young budded orange or olive tree the first year. It exposes them too much to the hot sun, which is bad for them.

The seedling orange may be cut back to its root capacity. I do not think the orange or olive should be trimmed or cut back like the deciduous trees. In fact I think the practice of cutting the deciduous trees back is wrong. Cut the cross limbs and nip the tops when high enough and then thin the fruit to about four inches apart and the result will be better.

Good judgement should be used in pruning the orange tree. It is good to keep all the suckers off below the bud, and the limbs that grow down instead of up, as they will do sometimes on the budded orange trees. I have 1800 trees in all—1300 budded and 500 seedlings from four to five years old—planted on 20 acres of land. From what I have learned since I have been in Thermalito—five years—I am satisfied that in the sixth year the orange, lemon and olive

will pay a good profit; also the fig, when the horticulturist learns how to properly handle them and fit them for market.

The four kinds of grapes I have on my place I think are as fine as any raised in the State, or in the world. In fact, every kind of fruit I have that has come to bearing is as fine as I care for them to be. I have about 15 kinds in all.

Advice on Lemon Culture.

As the acreage being set to lemons is steadily increasing, a few general hints upon the subject of curing lemons may be of use to the amateur lemon-grower, writes R. L. Threlkeld for the Los Angeles Herald. Gathering the fruit is the first step in the process of curing. Care should be taken to remove the fruit from the tree as soon as it is large enough, without reference to its greenness, or rather its ripeness. The fruit should be clipped, not pulled off, as it reaches proper size—about the size that will pass through a three-inch ring may be called the proper size. Care should be taken to clip the fruit at a uniform size and to handle it with caution to prevent bruising. After gathering, lemons should be placed in boxes, about the size of an ordinary apple box, and set in a cool, dry place, there to remain, say, two or three days, when they should be carefully removed from the boxes and wrapped in tissue paper and carefully packed in lemon boxes (such as are used for shipping lemons and oranges). Care should be taken not to pack too closely or to pack the boxes too full. When they are carefully wrapped and packed in the cases they should be put away in a cool, dry place, placing these carefully packed cases in tiers about five cases high and side by side—50, 60 or 100 boxes may be stacked together. When the cases are thus placed they should be covered with old sacks, horse blankets or other ordinary covering, where they may be permitted to remain for say 15 or 20 days unmolested. It may be well to remark that dryness in curing lemons is quite as essential, if not more so, than coolness; for if the temperature is lowered in any manner whatever by contact with dampness, lemons will rot before the chemical process of wilting, yellowing and absorption begins. The cases, after being packed, should be placed say half an inch apart, so as to admit of the circulation of pure air, not forgetting that a draft of air should be avoided. After the fruit has remained in the cases, piled and covered as indicated, for say 15 or 20 days, the grower in the meantime looking into some of the cases occasionally to see what progress it is making in the way of curing, the fruit should then be unpacked, unwrapped and permitted to lie in the open air—carefully avoiding a draft—for an hour or two, when it should be carefully rewrapped with new tissue paper and repacked into dry, clean cases and again piled and covered as before, and again permitted to remain in the cases for 20, 30, 60 or 90 days before being placed upon the market.

It may be well to say that in the repacking and recasing, if any of the lemons are found not to have any assimilation with the process of curing, if they show no signs of discoloration, are green, knotty and rough, they should be thrown out, as they are and always will be worthless stock, and a few such in each box would condemn the whole lot.

Uniformity in size is a very important factor in establishing the grade, and thereby the good name and market value of lemons grown and placed upon the market from Southern California, and growers should look well to that point.

Varieties are not so important as the clipping, assorting and handling. Some buyers prefer the Eureka, others the Lisbon and others again the Villa Franca; but all agree as to uniformity in size, great care in clipping and absolute caution in handling the fruit, both in removing it from the tree, in placing it in cases and with watchfulness in its curing.

If these suggestions are carried out we believe that California's cured lemons will command in the market as good prices as foreign-grown stock. Very many people in this part of the country have not undertaken the cultivation of lemons from the fact that they feared they would fail in curing them—unless they first provided themselves with double-walled houses and cemented cellars, which they deemed necessary for the purpose, and which they—many of them—were unable to do. We believe, from the tests made, that while double walls and double roofs would be quite useful in the curing of lemons, curing can be done without these, care in clipping and handling being more important than anything else. It is true double walls and roofs would tend to reduce the temperature, but it is not of so much importance as care in handling.

Points in Pruning.

The grower must discover the needs of his trees and treat them accordingly, says the Marysville Democrat. He can accomplish much in regulating the growth and fruitfulness of his orchard by judicious pruning. Tree-growth above and below ground is mutually dependent and in equilibrium. Any change in the mutual relation produces a corresponding change in the tree. Summer-pruning weakens the growth, because the roots have no inherent power of growth and are dependent upon foliage for the preparation of plant food gathered by them. Summer-pruning should be done only when the growth is so rapid as to be incompatible with fruit production. Winter-pruning strengthens weak growth, hence strong growths should be pruned in summer and weak ones in winter. It is true that if fruit trees were properly managed from the time of transplanting, a few main branches only suffered to start, and then all superfluous shoots rubbed off, and branches stopped when they obtained proper length, a good pruning knife would suffice to do all subsequent pruning. Before commencing to prune examine the tree sharply and see just what it needs. No thrifty branches should be cut off without a good reason.

THE FIELD.

Ground Squirrels and Their Parasitic Enemies.

TO THE EDITOR:—A party of us wished some individuals of our most common gray ground squirrel (*Spermophilus Beecheyi*) for scientific purposes. We found them exceedingly numerous in a rocky hill four miles southeast of Oakland, in Alameda county. These hills have long been noted for their numerous ground squirrels—in fact so injurious have they become to crops and orchards that the County Board passed stringent laws for their extermination. Here is the point I wished to make: The squirrels we killed on this hill were thickly covered with two kinds of lice and also large red fleas. So greatly had these parasites worried the squirrels that on parts of their bodies easily reached with their claws they had scratched off nearly all the hair, and in some places the cuticle also. Now it is a well-known fact to naturalists that many species of the *rodentia*, when they become very numerous in a certain habitat, become diseased and die in great numbers, leaving a remnant of the vast horde and then migrate to fresh pastures. The primary trouble seems to be these lice and fleas so reduce the vitality of the rodents as to render them liable to attacks of several death-dealing diseases. I have seen our common cotton-tail hare in Illinois enormously plenty one winter, with every individual swarming with small black fleas. The next winter scarcely a rabbit could be found. The same I have found true of the prairie grouse, though in this case the parasites were lice instead of fleas. The timber gray squirrel in Indiana and Ohio would get very plenty and covered with lice and fleas; then nearly every one of them would migrate southeast, swimming the Ohio river in countless thousands in early days. The Lemmings, a rodent of northern Europe, has been known since the dawn of history to migrate in myriads periodically so persistently that they allow no impediment to turn or stop their march. Usually there are enough individuals left in or on the margins of the evacuated territory to repopulate it in a few years, yet in some cases with the rodents, and other life as well, every individual leaves the parasite and disease-infested territory, and not an individual of the same species will be seen on it for years. The *rodentia* being nearly all night feeders and travelers, their migrations are not so often noticed as daylight travelers. The common Norway rat is constantly being chased from locality to locality by parasites and diseases. Gregarious animals, or those living thickly together in large families, are more liable to these parasitic and disease troubles than those which have not gregarious habits. Our gray ground squirrels are not strictly gregarious, yet they live and breed thickly enough on a favorable site to be so considered. Therefore, considering these facts, the Contra Costa hills may soon be entirely evacuated by this rather pretty but most noxious pest.

Here is further proof: Six years ago these ground squirrels were exceedingly numerous in the mountains bounding the east side of Sonoma valley, with scarcely an individual to be seen on the west side, though very old holes were numerous there. The next year they were very numerous on the west side. The next, they had surmounted the mountains on the west side and were marching down the west slope, while now they are quite numerous on the west side of Santa Rosa valley. The hills of south and southwest Sonoma county, and all of Marin county, seems as perfectly adapted for the homes of this rodent as a country can be, yet not an individual of this species has been seen there for years, while perhaps 20 years ago they were as plentiful there as they now are in the Contra Costa hills, and probably will be again in a very few years. San Francisco. D. B. WIER.

The Dying of Germinating Seeds.

TO THE EDITOR:—The recent letters on this subject illustrate very excellently what was said by Borden P. Bowne, one of the clearest thinkers of our day, that all general inquiry, if conducted with any clearness, rapidly runs into metaphysics. It is said that Dr. Taylor, when any discussion arose in his presence, was wont to direct: "Look to your definitions, gentlemen, look to your definitions," and, following his advice, inquire, (1) What is a seed? and (2) What is dying?

A wheat seed consists essentially of four parts: (1) The envelopes or wrappers; (2) The cotyledon, or single seed leaf; (3) The small stem, or plumule; (4) The microscopic root, or radicle. The germinating consists of these facts in the main: Under the influence of heat, moisture and oxygen the stem grows up through the soil, the root puts out and grows down, both drawing on the cotyledon for material until the stem reaches sunlight and the root begins the absorptive process. At this point perhaps one-half the cotyledon has been consumed; if conditions have been very favorable, not so much. What is left is no longer of use to the plant and is practically cast off, disintegrates in the soil and becomes general plant food, as would manure phosphate, or any other fertilizer. These are the facts; all else is metaphysics.

What is the identity of the seed? If my leg is cut off I do not die, because my leg is not I. What constitutes the "I"? What makes the seed a seed? What constitutes its identity? The cotyledon perishes, breaks up, dies as my amputated leg dies; the cotyledon is nine-tenths of the bulk of a kernel of wheat. Is the cotyledon the kernel? If, however, the life and not the bulk determines the identity of the seed, what is the life? and in what part of the seed is it located? In the stem, or in the root, or in the cotyledon? It cannot manifest itself with any one of these three absent, nor do we know what it is when it does manifest itself.

2. What is dying? Dr. Hudson gives only the ordinary attendants of death, every one of which is found, under various morbid conditions, connected with life; and he overlooks entirely the well-known fact that soil will prevent odor in putrefaction. If he will sprout a seed without earth,

he will find that the cotyledon does become offensive to smell, and rots.

This, also, is metaphysics and has never been answered satisfactorily. We cannot know what dying is until we know what life is. We cannot know what the seed is until we know what constitutes its identity, and all discussion of life and identity lies in the field of pure abstraction.

The Scotchman, when asked to define metaphysics, answered: "When he whose listenin' dinna ken wha' he whose speakin' says, and when he whose speakin' dinna ken wha' he says himself, then that's metaphysics." Both Dr. Hudson and Mr. Emersley are discussing not agriculture, but metaphysics, pure and simple; and the sooner they come to the Scotchman's conclusion the better.

Taine declares that all knowledge is but a classification of ignorance. We gather facts and principles and arrange them into "don't know" classes, and then we stop. Profitable discussion and thought dwells entirely among the facts and principles; the moment our investigation rises above facts and principles to abstract entities, that moment it becomes speculative and impractical. If a man so like, let him amuse himself in this higher realm, or even discuss it curiously and with knowledge of his ignorance; but let him beware of discussing it with the belief that he can decide anything, or come to any substantial, positive conclusion. All such is vanity and vexation of spirit. A. GUILLON.

Hueneme, March 18, 1893.

PUBLIC AFFAIRS.

The New Road Law.

The late legislature amended the old road law by passage of a new. Its full text is as follows:

SECTION 1. Section twenty-six hundred and thirty-three of the Political Code is hereby amended to read as follows:

2633. Any owner or occupant of land adjoining a highway not less than three yards wide, may plant trees in and along said highway on the side contiguous to his land. They must be set in regular rows, at a distance of at least twenty feet from each other, and not more than six feet from the boundary of the highway. Whoever wilfully injures any of them is liable to the owner or to the occupant for the damage which is thereby sustained; *provided*, if, in the judgment of the Board of Supervisors, the whole width of such road is needed for use of highway purposes the whole thereof may be used.

SEC. 2. Section twenty-six hundred and forty-one of said Act is hereby amended to read as follows:

2641. The Board of Supervisors of the several counties shall divide their respective counties into suitable road districts, and may change the boundaries thereof, and each Supervisor shall be *ex-officio* Road Commissioner in his supervisor district, and shall see that all orders of the Board of Supervisors pertaining to the roads in his district are properly executed; *provided*, when in any county the members of the Board of Supervisors thereof are not elected by districts, it shall be the duty of such Board, by proper order, to be entered in its records, to divide such county into supervisor districts to correspond with the number of members of such Board, and to assign to each member thereof one of said districts, of which he shall be such Road Commissioner; when not otherwise provided by law he shall receive for his services as such Road Commissioner twenty cents per mile, one way, for all distances actually traveled by him in the performance of his duties; *provided*, that he shall not, in any one year, receive more than three hundred dollars.

SEC. 3. Section twenty-six hundred and forty-three of said Act is hereby amended to read as follows:

2643. The Board of Supervisors of the several counties of the State shall have general supervision over the roads within their respective counties. They must, by proper order—

1. Cause to be surveyed, viewed, laid out, recorded, opened, and worked such highways as are necessary to public convenience as in this chapter provided.
2. Cause to be recorded as highways such roads as have become such by usage, dedication, or abandonment to the public. Also all such streets and roads as have been or may be declared such under section seventeen hundred and sixty-four of the Code of Civil Procedure.
3. Abolish or abandon such as are not necessary.
4. Contract, agree for, purchase, or otherwise acquire the right of way over private property, for the use of public highways, and for that purpose institute, or require the District Attorney to institute proceedings under title seven, part three, of the Code of Civil Procedure, and to pay therefor from the District Road Fund of the particular district.
5. Levy a property tax for road purposes.
6. In their discretion, cause to be erected and maintained on the highways they may designate, mile-stones, or posts, or guide posts properly inscribed.
7. Cause the road tax collected each year to be apportioned to the several road districts entitled thereto, and kept by the Treasurer in separate funds.
8. Audit all claims on the funds of the respective road districts, when required to pay for work or improvements thereon.
9. In their discretion, they may provide for the establishment of gates upon public highways in certain cases to avoid the necessity of building road fences, and prescribe rules and regulations for closing the same, and penalties for violating said rules; *provided*, that the expense for the erection and maintenance of such gates shall, in all cases, be borne by the party or parties for whose immediate benefit the same shall be ordered.
10. For the purpose of watering roads in any part of the county, the supervisors may erect and maintain water works, and for such purpose may purchase or lease real or personal property. The cost of such water works and the watering of said roads may be charged to the General

County Fund, the General Road Fund and the District Fund of the district or districts benefited.

11. In their discretion, they may advertise for bids to grade, turnpike, gravel, or sprinkle any road or roads in any road district, which contract shall be let to the lowest responsible bidder; *provided*, the Board may reject any or all bids, whenever it shall appear to them that the same are too high. The advertisement of such bids shall specify the road or roads upon which such work is to be done, the kind, character, and extent of the same, so as to plainly indicate to bidders the work to be bid for; and shall, when in their judgment the same is necessary, cause the County Surveyor to survey and furnish a profile of the proposed work, showing cuts, fills, and grades as fully as practicable, which profile shall be open to inspection at the office of the Board of Supervisors. When such work is completed, the same shall be inspected by the Board of Supervisors, or by a committee of the board appointed by the chairman to inspect and report upon the same. And no payment shall be paid for such work until the same has been inspected and accepted by the board or such committee; *provided*, the Board may, in their discretion, advance not to exceed thirty per cent of the amount of such contract, after the work is at least half completed. Such advertisement for bids shall be in such newspaper as the Board may designate, and be published for the period of at least two weeks, and notice of such letting shall also be posted by the Road Commissioner in three conspicuous places in the district where such work is to be done, for at least ten days before the day set for opening said bids and awarding contracts. Bids shall be inclosed in a sealed envelope, directed to the Clerk of the Board of Supervisors, and shall be endorsed across the face of the envelope, "Bids for road work, — District," giving the name of proper district.

Section two thousand six hundred and forty-six of said Act is hereby repealed.

SEC. 4. Section twenty-six hundred and forty-five of said Act is hereby amended to read as follows:

2645. Road Commissioners, under the direction and supervision and pursuant to orders of the Board of Supervisors must:

1. Take charge of the highways within their respective districts and shall employ all men, teams, watering carts, and all help necessary to do the work in their respective districts; *provided*, that no Road Commissioners shall be interested, directly or indirectly, in any contract or work to be done in the road district under his charge and control.
2. Keep them clear from obstructions, and in good repair, and destroy, or cause to be destroyed, at least once a year, all thistles, Mexican cockle-burs, of any kind, and all noxious weeds growing or being on any portion of the public highways or public roads in their respective districts.
3. Cause banks to be graded, bridges and causeways to be made when necessary, keep the same in good repair, and renew them when destroyed.

SEC. 5. All Acts and parts of Acts in conflict with this Act are hereby repealed.

SEC. 6. This Act shall take effect and be in force from and after its passage.

New Laws of the State.

Among important laws enacted by the late legislature are the following, with an outline of their provisions:

Abolishing Commissions.—Chapter 8—Abolishing all commissions or fees paid by the State to the officers of any county, or city and county, for services rendered in the assessment, equalization, auditing and collection of ad valorem taxes are hereby abolished; *provided*, that this shall not affect the commissions paid to the Assessor of the several counties for services rendered in the collection of personal property taxes, as provided by Chapter 8 of the Political Code, or the mileage allowed to the Treasurer of the several counties, or cities and counties, in making settlements with the State, as provided by Section 3876 of the Political Code. Takes effect after first Monday in May, 1893.

Relating to Elections.—Chapter 11—Amending the Penal Code relating to elections: Section 53. Every person who, by force, threats, menaces, bribery, or any corrupt means, either directly or indirectly, attempts to influence any elector in giving his vote, or to deter him from giving the same; or attempts by any means whatever to awe, restrain, hinder, or disturb any elector in the exercise of the right of suffrage, or furnishes any elector wishing to vote, who cannot read, with a ticket, informing or giving such elector to understand that it contains a name written or printed thereon, different from the name which is written or printed thereon, or defrauds any elector at any such election by deceiving and causing such elector to vote for a different person for any office than he intended or desired to vote for; or who, being inspectors, judges, or clerk of any election, while acting as such, induces or attempts to induce any elector, either by menace or reward, or promise thereof, to vote differently from what such elector intended or desired to vote, is guilty of felony.

Protest to Paying Taxes.—Chapter 20—Adding a new Section to the Political Code relating to the payment of taxes, wherein anyone who may claim that the assessment is void in whole or any part, may pay the same to the Tax Collector under protest, which protest shall be in writing, and shall specify whether the whole assessment is claimed to be void, or if a part only, what portion, and in either case the grounds upon which such claim is founded. And when so paid under protest, the payment shall in no case be regarded as a voluntary payment, and such owner may at any time within six months after such payment bring an action against the county, in the Superior Court, to recover back the tax so paid under protest.

Against Marriage Sharks.—Chapter 34—Amending Section 1593 of the Penal Code, making it a misdemeanor to advertise, to obtain or procure a divorce or nullity of marriage.

Jute Goods at the Prison.—Chapter 42—Providing for the sale of jute bags and goods made by the State at the

State's Prison. The directors must fix the price, but at no time shall the price fixed be more than one cent per bag in excess of the net cost of producing the same, exclusive of prison labor; and it is made the duty of State Prison authorities to confine the sale of jute goods to consumers direct, but no order shall be filled for any one individual or firm during any one year for more than five thousand grain bags. All orders are to be registered and filled in the order of registration. On and after June 15th of each year, orders may be filled for larger quantities to actual consumers. All orders must be accompanied by an affidavit setting forth the number required and that they are for the individual and personal use of the applicant. It makes it a misdemeanor to falsely procure these jute goods.

Conveyances by Married Women.—Chapter 62—Amending Section 164 of the Code of Civil Procedure relating to conveyances of real property by married women:

All other property acquired after marriage by either husband or wife, or both, is community property; but whenever any property is conveyed to a married woman by an instrument in writing, the presumption is that the title is thereby vested in her as her separate property. * * * And in cases where married women have conveyed real property, which they acquired prior to May 19, 1889, the husbands or their heirs or assigns of said married women shall be barred from commencing any action to show that said real property was community property, or to recover said real property from and after July 1, 1894.

School Text Books.—Chapter 76—An Act to provide for the revision of certain books of the State series of school text books, for the compilation of an additional book of said series and for the continued publication of the same; and to authorize and direct the use for these purposes of the money accumulated in the State School Book Fund.

Land Transfers.—Chapter 104—Appropriating \$500 for the appointment of a special Commission of five persons, four of whom shall be members of the legal profession, is hereby created for the purpose of examining the methods of land transfer and registration as existing under the Torrens Land Transfer Act of Australia, and of preparing a system for the State of California in accordance with said Act.

SWINE YARD.

Why Pork Is So Dear.

Ex-Secretary Rusk, of the Department of Agriculture, says that farmers in all parts of the country are inquiring as to the probable profit of feeding corn to hogs at present prices. He desires to state that the prospect of large returns from judicious hog-feeding has seldom been as bright as now. In average years it takes about nine pounds of hogs, live weight, to bring the price of a bushel of corn. This year five pounds of hogs bring as much as a bushel of corn. If ten pounds of pork are made from a bushel of corn, which may be taken as a fair return, then the present price of hogs would make corn bring about 85 cents a bushel if fed to these animals, which is about twice as much as it is now quoted at on the Chicago market.

Instead of sending pigs and half-fat hogs to market, as thousands have done, only to find that such animals were unfit for packing and would bring but a comparatively small price, these animals should be kept on the farm and fattened on the corn which is now so cheap in comparison with present prices of pork. The high price of hogs is largely due to the meat inspection carried on by the Department of Agriculture, which opened the markets of Europe and enabled the shippers to send the surplus hog products out of the country. Following this came a shortage in the hog crop. The number of hogs packed this winter is not only less than it has been previously, but the hogs were lighter in weight, so that there has been a much smaller quantity of hog products prepared. When the advance in price came the farmers sold their breeding stock, which cannot be replaced for at least two years. He therefore thinks it is perfectly safe to feed hogs under present conditions until they are fully matured, as the shortage of hog products and the unrestricted foreign markets for inspected meats, offer the best possible guaranty for good prices.

Easy To Smoke Meat Now.

TO THE EDITOR:—One may have ever so many out-buildings of one kind or another, yet, for fear of fire and other reasons, there is no place suitable for smoking meat. But this is easily overcome by using a large dry goods box. Take the bottom out, but use it for a lid. About two inches down on the inside, on opposite sides or ends, nail a strip. These are to lay poles on, on which to hang the meat. Make hooks of large wire. Dig a trench the width of a shovel and long enough to come up in center of box and two or three feet outside. Cover this with old tin all but three or four inches of end under box. The fire is made in the outside end of trench and the tin put over and some loose dirt drawn over the edges of the tin to cut off all draft. Then what a smoke! If properly made it may last nearly all day. H. E. DYE

Tulare, Cal., March 20, 1893.

I Think I Ought To Tell It.

TO THE EDITOR:—We were lamenting, a short time ago, at getting our meat too salty. I washed the salt off and felt that it was about ruined, when, all of a sudden, I thought I would put it in water and take out some of the salt—it can't more than spoil it anyhow. I did so and left it until the next day, when I hung it up to smoke. In about a week we tried it, and what a surprise! The smoke had gone through it, and instead of a rusty crust of salt on the outside it was a beautiful yellow and clean and sweet to the outside without any scraping. It is the nicest bacon we ever put up, and I thought I ought to tell about the washing and soaking I gave it. H. E. DYE

Tulare, Cal., March 20, 1893.

THE DAIRY.

Dairying for Profit.

An essay by C. S. Sessions at the Southern California Farmers' Institute at Rivera.

In the seven years that I have been connected with dairying my particular business has been in looking after the city end of the business—such as the delivery, collections, etc., and not in the management of the farm until about two years ago, when I bought my partner's interest. Since that time I have given it more attention, although I have a competent man as superintendent.

I think the first step toward dairying for profit is to keep only the best cows—those that will respond to the feed given. It was formerly our rule to buy cows instead of raising them, and in buying so many as we were obliged to do we bought a good many very poor ones—some that gave a good quantity of milk when fresh but went dry after three or four months—while others were small milkers.

While we have been liberal feeders, our cows have averaged quite low and not given us the returns we should have received. I have come to the conclusion that the farmers have been too careless in their breeding, and have not only saved the heifers from the best cows but from the poor ones as well, and in many cases used only scrub sires which were cheap and which breed down instead of breeding up. If we were sure of always buying good cows, it might be cheaper to buy them than to raise them, but if we breed our own stock we know that the heifers ought to be better than their dams. Lately we have been using registered Guernsey bulls and saving the heifers from our best cows, and now have a fine young herd of grade Guernseys coming on, and from their breeding should make good rich milkers.

If I was starting a new dairy herd I should be more careful in selecting only the best cows, and if possible buying only from such farmers as I know had taken great care in breeding their stock—using only thoroughbred sires of good milk and butter strains, and at the head of my herd I would use the best sires I could get. It might cost more to get such sires than poor ones, but it would be cheaper in the end. I would then keep a record of each cow—weighing the milk every day or every week as I could, but at least often enough to find about what she would give in a year.

If I was making butter or selling the milk to a creamery I would test often for butter fats, and any cow that did not come up to what I thought was a fair standard I would discard her and try to buy a better one. There is no profit in dairying when a lot of poor cows eat up the profits of a few good ones. We often see accounts in the papers of herds that have been raised from an average of 150 pounds of butter per cow per year to 300 pounds, and I think that Mr. Steele of San Luis Obispo county is discarding all cows that test less than 300 pounds of butter per year.

In a late issue of *Hoard's Dairyman* Mr. L. C. Fisher of Washington county, Vermont, says that 20 years ago his cows produced an average of 125 pounds of butter in a year. By improving the breed and feed he soon brought them up to almost 200 pounds. His motto was "onward and upward," and by weeding out the poor ones and better feeding the balance he gradually brought them up to 300 pounds. In 1890 they averaged 376 pounds, and in 1892 406 pounds each. It takes steady and judicious breeding to bring this about, but it can be done.

Most of the creameries are using the Babcock test and pay for the milk according to its butter value, so there is an encouragement for all to raise the standard of their herds whether they make butter at home, sell the milk to the creamery, or sell their young cows. If the milk is rich they get better returns, and if their cows are rich milkers they will sell for better prices. In making tests of the different breeds of cows—to find the cost of milk and butter produced—the butter breeds in every case show the greatest profit. It is not so much the price received for milk that governs the profit as it is the cost of production. We cannot always control the price of milk or butter, therefore we must figure the costs and try to reduce them. In every manufacturing establishment the proprietors secure the best machines in the market—those that can take the raw material and turn out the manufactured goods the cheapest. Any manufacturer who tries to do business with the old-style machines that in their day were good but not up to the later kinds stands no show in competing for the trade.

I have now spoken of the value of breeding up our herds to a paying standard, and tried to show you how necessary it is to keep only the best cows, as it costs very little, if any, more to feed a good cow than a poor one. The profit can easily be lost in keeping careless and rough milkers, and I wish to call your attention to the advantage of weighing the milk as a check on the milkers, and if a string of cows shrink in their flow of milk the figures show it and the cause can be investigated. The weighing also encourages the men to take pains to have the cows keep up a good flow, and they take pride in showing what their cows are doing.

The question of feed is one of great importance and it is one of which we understand very little. We have but little natural pasturage but a variety of hays and grains to select from, and I trust at a later meeting we will hear a paper from some one on this subject.

The Value of a Creamery.

There is a creamery at Arcata, Humboldt county, in successful operation, and the Arcata Union therefore appears to speak with authority, in the following:

"On a former occasion mention was made in the *Union* of the increase in the value of farming land, on Arcata bottom, since the building of our creamery. Not only has land appreciated, but a disposition is showing itself among owners to hold. Some of our farmers have been experi-

menting and making figures on what can be realized out of each acre of ground when applied strictly to dairying. One of these, J. S. Seely, an intelligent, close-calculating farmer, informs us that he has tried all kinds of methods to make his farm pay, and found nothing that give such satisfactory results as dairying. One of the beauties of this system of conducting the farm is that so close an estimate to the income may be made as to leave no room for miscalculating the balance sheet at the end of the year. When a man puts his farm into hay, grain, peas or potatoes, or some of all these, he can make no such nice figures. He cannot tell when the blite will strike his potatoes, or what they will bring if they escape the blite. The chances of spoiled hay, black barley, damaged oats and musty peas stare him in the face from the time he begins until the end of his harvest. Another great consideration is that clover is the only plant that will cause the Canada thistle to hide its head, and if the yellow fields now visible to the west of Arcata were in clover, the view would be more cheerful and the owners better rewarded."

A Model Creamery.

The Excelsior creamery is situated on the road from Salt river bridge to Dungan's Ferry, Humboldt county, about one-half mile from the latter place. The land is the fattest in that rich vicinity and insures plenty of milk. The creamery is now ready for its machinery. The following description is taken from the *Ferndale Oracle*:

The main building is 48x72 feet in size. The ground floor is of concrete, sloping toward the southwest corner, and with numerous drains to allow the passing off of water, waste, etc. This concrete floor is much superior to the wooden floors commonly used as regards cleanliness, as the dirty water, milk, etc., cannot soak into it. At the northeast corner of this apartment is the butter store-room, 12x24 feet in size, and with double walls to keep the contents cool.

In the opposite, or southeast corner, is the office, a commodious room with a window opening into the main room. This room is 12x20 feet in size, and is neat and comfortable.

At the rear or west of the room is a platform four feet high on which will be placed the four separators and an equal number of cream vats. The two churns and the butter-worker will be near this platform on the main floor. Three and one-half feet above this platform is another for the milk vats. This platform is 18x24 feet, and will have four vats. To the left of this is the weighing-room, 11 feet from the floor and 11x16 feet in size. Into this the milk is hoisted by a derrick and dumped into a tank in which it is weighed. From there it runs into the milk vats and into the separators.

At the rear of the main room is the engine-room, 20x30 feet in size.

Near the front will be seen seven cheese vats and the apparatus for the manufacture of that article. Near the butter-room will be an elevator, 4x5 feet, which will be used in taking the cheese to the room above.

The upper room is 25x72 feet, and will be used for the storing and drying of cheese. Adjoining this is a small room, which will be used by the watchman, if one is employed.

The lower story is 14 feet in the clear and the upper story is 8½ feet. The latter is supported by two girders, 12x18 inches in size running the length of the building and supported by nine pillars, eight inches in diameter, which rest on the concrete floor. The building is well lighted, with eight windows 18x32 feet below and nine above. Numerous ventilators insure plenty of fresh air. Two doors, one leading into the main room and one into the office, are in the front or east end.

The building has been painted cream color with brown trimmings and the inside will be whitewashed. This latter, it is said, kills the disease germs that breed in the vapor and heat around the creamery.

The contractors commenced work on the creamery January 10th and have done an excellent job. Everything, from the ground to the weather vane in the shape of a cow that surmounts the tower and casts a hungry eye on the clover fields below, is well ventilated. We hope the Excelsior creamery will have a good run and will not belie its name.

Hoard's Humor.

If there is a refuge on earth for a stink, it is in cream. If intellect is needed anywhere, it is in the farmhouse.

No single thing has so modified and reformed the practices of the dairyman of to-day as the Babcock tester.

The error of our lives, not the truth, costs us the struggle. The stamping mill expends its gigantic force to reduce the rock that the particles of gold may be obtained.

Stanchions were made for man and not for cows. If we would make the most from our dairy stock, we must build the stable for their comfort more than for our own convenience.

Everything rests on the shoulders of the average man. Civilization demands that you and I do our best, both for ourselves and the public. What were the luxuries of the rich in my youth are to-day the necessities of the poor.

"I am bound to be understood," as Deacon Brown said when he called the man a liar. The 350-pound cow is the outcome of thought and study. Between her and her 150-pound sister lies the Alpha and Omega of dairying.

There is no trick about learning the laws of banking, and it is not difficult to become a lawyer. The intellect of the average lawyer demonstrates this. But when we attempt to interpret the laws of God we must be more than a lawyer or banker, and the cow is His creation.

It is the small but earnest beginning that succeeds. Beware of the too auspicious launch. Many a proud ship, over whose graceful prow the choicest wine has been poured at launching, has gone down in irretrievable ruin because lacking some essential qualification in her build.

Breeding is everything. When Phil Sheridan bestrode a horse able to put 20 miles behind him in an hour, he was

well mounted. Where, I ask you, would the country be to-day if he had straddled a Clydesdale? The thousand years of breeding behind that steed made him Jorge on to victory. We must breed for a purpose. Were I to breed Statesmen, I would choose men of intellect, yes, and women, too, to state the matter clearly.

—Gov. Hoard before Connecticut Dairymen.

Management of Calves.

The young calves will be thankful for a small allowance of mixed meal and bran, given once a day. If this is given by hand, in a dish, it will make them so docile that there will be no trouble when the calves grow up to cow's estate, and must be milked and handled. A heifer coming in should never need to be broken. This training, not breaking, should be done early and in the winter when the opportunities are plenty, and if well done there will be no bad habits to be broken. The care should be to lead the young animal by degrees from one stage to another to perfect familiarity with its keeper. There will be no vicious or refractory cows in a dairy managed in this way.

POULTRY YARD.

Profit in Poultry.

A writer describes experience in Los Angeles county in the *California Cultivator* as follows: I used two incubators, and care was taken to set only eggs from selected stock, and the percentage hatched was good and the chicks strong and vigorous. The principal trouble I found was that there were too many cockerels, for, being after eggs, I naturally wanted all pullets. But an arrangement was made with one or two private hotels for disposing of them at a fair all-the-year-round price, \$4 per dozen. The same commission merchant who purchased my first lot of broilers agreed to handle all my eggs at a uniform advance of one cent per dozen over the market price.

My laying hens, of which there were 200 grade Brown Leghorns, were doing well, averaging ten dozen eggs per day, and the returns were good.

By this time my fruit trees were beginning to bear a little, and I thought the uphill work was nearing an end, so a balance sheet was struck with the following result:

DR.	
Land.....	\$1,000
Buildings.....	500
Poultry yards, etc.....	100
Incubators.....	60
Brooders.....	20
50 hens (original stock).....	50
Trees, planting, etc.....	400
Cow.....	70
Horse.....	100
Wagon, implements, etc.....	250

Total.....\$2,550

CR.	
Land, improved.....	\$3,000
Incubators and brooders.....	40
200 hens.....	150
Cow.....	75
Horse.....	90
Wagon, implements, etc.....	150

Total.....\$3,505

This was allowing the house, yards and improvements at \$2000, and as I had taken the land utterly unimproved, being in barley when purchased, I thought it was a fair increase. The cow, small fruits and poultry had kept my family and paid expenses, except taxes. Now the fruit trees were beginning to yield something, and I sold 50 boxes of oranges off my five acres, receiving for them \$100.

But I found the alfalfa in my poultry yards was getting sadly scattered out, so I closed up one yard altogether and reseeded it. After this gained a good growth, the other yards were treated in similar manner, and, by careful management, one of the yards was always in good shape, affording plenty of green food, which the fowls greatly relish.

One thing I have learned—that 200 laying hens pay well and do finely, but would not advise any one to try and keep more than that number on land requiring irrigation. As a combination, poultry and fruit do splendidly; indeed, I would not be in the position I now am if either had been attempted alone. The hens do not injure the trees; rather the contrary, as they pick up all bugs, worms, etc., and keep the ground well scratched. Of course the berry patch had to be fenced off, but this only during the fruit season.

My 200 hens laid 2000 dozen eggs the first year, an average of 120 eggs each, and I sold them at an average price of 25 cents per dozen, receiving \$540. The cockerels and old hens sold averaged \$4.50 per dozen, and I sold 20 dozen, \$90. My total expense for feed, bone-meal, etc., for the year, was not quite \$150, for I raised a great deal of stuff between the trees, such as millet, etc., so I netted on poultry \$480 per annum, or \$2.40 per head on the laying stock.

Of course I lost a few by sickness, but, after the first bitter experience with these, did not exceed ten per cent, and I believe, with greater care, can be reduced to five per cent.

What I have done others can do, and to the man who is struggling to make both ends meet while waiting for his trees to grow, there is no remedy equal to the one outlined above—a flock of hens well cared for; and after the trees come into bearing there is no better combination for profit and advantage to both hens and orchard than fruit-raising and poultry-breeding.

What One Family Did.

Lewis Schwerin and wife have during the past year paid careful attention to the poultry business says the *Oroville Register*. They began with ten hens and have now twenty-four. In fourteen months they sold 152 dozen eggs receiv-

ing for the same 24½ cents per dozen, or \$37.24. They have used eggs every day, but have kept no account of these, but they have taken the place of beef and other meats and thus have lessened the butcher's bill. They have now on hand eleven grown pullets that will lay this spring and twenty-six young chickens. They sold sixteen young pullets and had nine killed by a dog. The feed cost \$30 as they used fifteen sacks of wheat at \$2 a sack. The hens were fed boiled wheat in the morning and raw wheat during the day, bones and scraps of meat were also given to the hens and black or red pepper was mixed with the food. The best hens are the Leghorns and next the Plymouth Rocks. Mr. Schwerin is confident that if people would make a special business of raising poultry that it would pay them well. During the last eleven days they obtained 150 eggs from their flock.

A Model Poultry House.

This building is thirteen feet wide by twenty-four feet long with a hallway three feet wide running the entire length of the house. It is seven feet high at front and four feet high at back. The hallway is divided from the pens by a partition of wire netting down to within two feet of the floor, below which are slats two inches apart. Leave as many holes in partition next to the floor as you want nest boxes. Feed and water in trough in hall as the hens will eat through the slats, and then they can't foul neither feed nor water. This does away with going into the pen except to clean. This house is divided into four pens, each pen 6x10, room for ten hens and a cock. Such a house can be carried on to any length to suit the owner. In front of each pen put a good sized window with shutters to close at night. For perches use 2x2 eight feet long, placed over a trough made of boards 14 inches wide running entire length under perches which can be cleaned with a shovel. Put sifted ashes in trough. Make runs at back of house for each pen. For nests make boxes twenty inches square, twelve inches high, with bottoms on top of these boxes, on two sides nail a board twenty inches long and twelve inches wide, slant off each way from center like a roof, nail a piece across the center two inches wide, cut two pieces that will go from center to edge, put these on hinges at center or peak, place the boxes in places left in partition, put a string on the inside cover to open it, and when you want to gather eggs open the cover in hall. This does away with going into the pen only to clean.—A. T. Tobey in Northwest Horticulturist.

Points on Poultry.

Do not set extra large or very small eggs.
A nice, fat chicken always finds a market.
Egg-laying is a matter of business with poultry.
A hen regulates her outgo by her income; feed well.
One item in feeding hens is to keep them from getting too fat.
Poultry need shade as well as sunshine; provide in good season.
One advantage with the brooder is that it will not desert the chickens too soon.
While warm feed is often quite an advantage, if fed too hot it is a positive injury.
The safest plan is to keep little ducks away from the water until they are well feathered.
Small quantities of varied food given to chickens will often produce better results than any other plan.
Parasites of different kinds kill off as many fowls as disease does, and the first thing to be done is to keep free from vermin.
Ducks delight to pick a good part of their food out of water, either in vessels or ponds; while hunting for it, it will give them exercise.
If raising geese is attempted, arrange a place for them, so that, at any time it may be considered necessary, they can be kept under control.
It is quite an item in feeding oats especially to see that they are good and clean; in many cases, they get musty, and when this is the case, they are not wholesome.

THE STOCK YARD.

Watering and Feeding Horses.

It is settled that it is the best to furnish a horse with an unlimited supply of water which he can take at will, says a correspondent of the *Country Gentleman*. An animal under these conditions will not take too much; but when we take into consideration how few stables are so fitted as to allow this being carried out, it is in most cases out of the question—the more so as horses are out on long journeys or employed in work, coming to the stable thirsty, hungry and tired. But 75 per cent of the animal body is composed of water, and it is essential to the bodily health that this proportion of fluid and solid constituents be maintained. The secretion and fluid excretions are constantly tending to reduce the fluid parts below the normal, and at no time is this more apparent than after long and active work—the loss resulting from increased perspiration and respiration.

It is at this time that popular opinion would withhold water until the animal cools down. Now, I have always made it a practice to permit the horse to take what water he requires at this time. When the animal is warm in all its parts, with an active circulation, it is best able to resist the chilling effects of cool water. The stomach empty, the fluid passes into the bowels and is rapidly absorbed, thus supplying the necessary fluid to the blood, without which the various secretions requisite to digestion could not be maintained. "The most dangerous time to give a horse a full draught of water," says Dr. Dunlop, M. R. C. V. S., Great Britain and Ireland, "is after he is cooled down from fatiguing work and has partaken of a meal. The comparatively small stomach of that animal is replete

with energy, circulation weak, the whole system languid, and not in a state calculated to resist the chill. The water mechanically washes the undigested food from the stomach to the bowels, where it undergoes decomposition, evolving irritating and poisonous gases, finally causing flatulent and spasmodic colic or fatal enteritis."

It has been my practice for several years to allow the horse a full draught of water before feeding, giving no more for several hours, and I have never found it necessary to take the chill off the water when offering it to animals in working condition. This view is certainly against popular opinion on the subject, and Mr. Dunlop has shown that he has the courage of his convictions in putting forth this sensible and reasonable view. I consider it cruel in the extreme to withhold water from a poor brute perspiring and fatigued on coming in from a hard drive or from drawing a heavy load. See the man, working hard grubbing out stumps with the glass at 80 to 90 degrees; he will go half a mile to appease his craving thirst and to adjust the equilibrium between the fluids and solids of his body. Does it hurt him? Does it hurt the horse under like condition? I say no. I delight in watching the horse appearing his thirst with water taken direct from a well or spring and to observe the evident relish with which the tired animal partakes of it.

The opinion of many is that feed is wasted when given to a horse after partaking of a full draught of water. If oats are thus given, they are partly wasted. But oats should never be given before the horse has eaten a few pounds of hay. Grain given on an empty stomach is partly wasted. I have seen men come in with horses tired and hungry, offering them oats the first thing—the hay afterward. The horse's stomach being relatively small, the grain is forced out by the hay afterward eaten by the hungry animal. Grain, to be fed economically, should be fed only when the stomach is already partly filled. The grain is like the shot in the musket—the powder must be back of it. It is my practice when working horses at plowing to offer the water to the horses in the morning after feeding. They will drink very little in the morning anyway, they being watered late in the evening before, and I find they will drink none, or very little, if offered the first thing in the morning. Did they show a disposition to drink heartily after being fed, and on going to the work, I should not allow them to do so. I never permit them to drink more than a half pailful, and this is as much, in most cases, as they desire. Were I going on a sharp drive or journey, I would not permit the horse to take any water after being through feeding and about to start. Within two hours I give the animal water. Should he be allowed water on a full stomach, and immediately started on a smart pace, he would surely scour.

Interesting Experiment in Feeding.

In Bulletin No. 18 of the Iowa Experiment Station, the following data are given as the result of a feeding test with different breeds of sheep:

BREEDS.	Pounds grain per day.	Pounds hay per day.	Cost feed per day.	Gain per day.	Cost feed per lb. gain.
Merino .....	.70	1.67	\$1.03	.21	5c
Dorset .....	.77	1.76	1.21	.12	10c
Cotswold .....	.95	1.62	1.35	.18	7.5c
Oxford .....	.95	1.49	1.32	.24	5.5c
Hampshire .....	.85	1.67	1.36	.10	13.6c
Shropshire .....	.56	1.64	.97	.10	9.7c
Southdown .....	.57	1.32	.63	.07	8.57c

In presenting above, we would warn our readers against drawing conclusions from a single test. We consider the principal value of this test is in drawing the feeder's attention to the importance of keeping such accounts as will show him what he is doing rather than as an indication of the comparative feeding value of the different breeds. The grain of above ration consisted of one-half oats, one-fourth corn, one-fifth bran and one-twentieth oilmeal.

Care of a Colt's Foot.

Every colt-owner should own a foot-rasp; never mind about a knife—the less a knife is used around the foot the better. The first time the smith gets at the foot he will probably cut it enough to last a lifetime. When the colt is weaned, if it has been handled and gentled, it will allow the feet to be raised and leveled with the rasp, and this should be done at least every two or three months. If the colt has a tendency to walk on the heel or frog and develop an abnormal length of toe, rasp the sole toward the toe to take away the thickness accumulating and shorten the toes. If the foot is worn at the toe, and the heels have become too high, lower the heels with the rasp so the frog will just touch the ground and receive the necessary pressure to keep the foot expanded. When a foot has kept in good shape, but the edges or rim of the hoof have grown, leaving the frog and center hollow, rasp the edges so the frog rests upon the ground lightly, or lower the heels to a level with the frog and take away the toe with the rasp in the same proportion. The more frequently the foot is put in proper shape, the more it becomes fixed in growing in that shape.—Ex.

Breed Good Horses.

It costs no more to feed and raise a good animal to maturity than it does a poor scrub, and this applies to each and every variety, not only of the beast but to the fowls, says the *Marysville Democrat*. The farmer can keep no more profitable team than a pair of well-matched mares, sound and kind, such as would sell at a good price for carriage horses. Bred to the same stallion, if a good one, they should drop each year a pair of good colts that would match equally well, and after four or five years, he could have a pair to sell every year, and he could pocket from \$500 to \$1500 for them when well trained as easy as he could now for the pair he has, and he could have the use of them beside. And the same is true of the large draft horses, particularly the Normans and Percherons, which

breed very true to form, color, size and gait—the points essential in breeding matched horses. The strength must come in part from feed and care, and the disposition mostly from the care alone. Even with one mare he can do this, by keeping one colt a year longer than the other.

THE APIARY.

Spring Dwindling.

TO THE EDITOR:—Throughout the East, spring dwindling is in a manner like the "mysterious vine disease," in this that, while its cause is unknown, its effects are uniformly fatal. One fact remains, however, viz.: The bees are attacked when the season is backward or changes from warm to cold, and the disease disappears as soon as pollen and honey are abundant. But for the fact that the bees have abundant supplies on hand, it would rightly be charged to starvation. As it is, the disease must be due to a want of new pollen and fresh nectar. In California we have occasional seasons of spring dwindling, when, unless the bees are in the hands of an intelligent apiarist, whole apiaries are carried off. The watchful bee-keeper has found that his bees are in the greatest danger throughout the early spring months when his go-as-you-please bee-keeping neighbor considers all danger past.

In the season of 1892, March was as balmy as June, and the bees multiplied very rapidly until they were about ready to swarm. In April the weather turned cold and continued so throughout May and June. The host of bees had to eat to live, and the supplies were soon exhausted with 25,000 boarders in each house. The bee-keeper who came to their rescue and fed them, though the trees were out in full bloom, carried his bees over until July, when the weather changed and his bees surprised him with the excess of his stores. At the same time, the bees that were supposed to be doing well when the trees were in full bloom dwindled away, died out, or were so weakened in numbers that the balance of the season was required to rebuild their numbers, and no surplus, or next to none, was stored for their keeper. This spring, February proved mild, and with the manzanita and alders in full bloom, the bees bred up very fast. By the first of March the hives were crowded with their busy tenants, but to-day the ground is covered with four inches of snow, and the vast army of confined bees are compelled to draw upon their stores. Should the cold continue for several days, the bees will tear down and destroy the hatching brood, for they will not raise a family which they cannot feed; but the living members must be fed or starve, and right now the feeding or not feeding of the bees that prove short of stores will determine the life of the bees and the season's success. I have lost but one stand of bees throughout the winter, and that was the result of an oversight; but right now I know that neglect will mean either the loss of the greater part of my bees or the failure of the season. This has been my experience in California bee-keeping the past 11 years, and I would caution the inexperienced against the deceptive conditions when trees are blooming and bees starving. If the bees are looked over once a week, few, if any, need be lost, as their condition can readily be seen. I have a number of observation hives, with glass backs and hinged doors that make it an easy matter to investigate and see the exact condition of the bees at any time without prying up the lids and thus loosening the tops after the bees have glued them down snug for the winter. Everything now looks promising for a good season; all that is required is to have the bees strong in numbers and condition when the flow begins.

E. H. SCHAEFFLE.

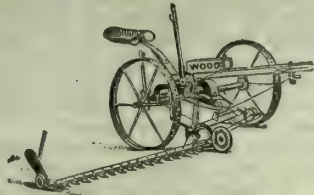
Mountain Bloom Apiary, Murphys, Cal., March 15, 1893.

The Apiary for March.

There is no month in the year more trying on bees than the month of March. They are more or less weak, their stores reduced, but little to forage upon, and the cold March winds to combat. Warm hives and a little feed to stimulate breeding will add strength for the coming work and their future success. This is the only time that feeding pays in this climate. Feed honey, if possible, as sugar and syrups contain impurities and poisons sufficient to destroy human life, consequently would destroy the bees or produce disease. Feed in the evening and in the hive, giving no more than they will take up during the night. This will prevent robbing.

As soon as breeding has well commenced, and the combs are filled with eggs and larvae, place between them empty combs of worker cells. If more drones are required, place an empty drone comb among the brood, bearing in mind that—early drones, early swarms. Take the brood from the strong colonies and give to the weak, but not more than they can cover. By this process you can equalize and bring all along in nice shape. If you desire to rear good stock, select the best colonies and rear drones; give empty drone comb, and as fast as it is filled with eggs, give it to other colonies to finish up. When drone-rearing begins, you may then with safety commence queen-rearing. Drones of inferior or undesirable stock should be kept back by cutting out, or removing the comb. If hives are not in readiness, they should be got ready, as swarming frequently commences in Southern California in April. Hives should be painted six weeks or two months before they are used, in order that the smell of the paint may evaporate before the bees occupy them, as the odor of the paint is offensive to them to abscond. Hives should be all of the same size, so that the frames will fit all. This will be found of vast importance in the manipulation of the bees when artificial swarming or strengthening up weak colonies, etc., is desired. Hives should be warm; all cracks and openings that will admit the cold wind should be closed, as warmth is the great desideratum in rearing brood. If tops of hives do not fit closely, a cloth or heavy paper should be laid on top of the frames and a top board upon that, with weight to press it down if required.—N. Levering in California Farmer.

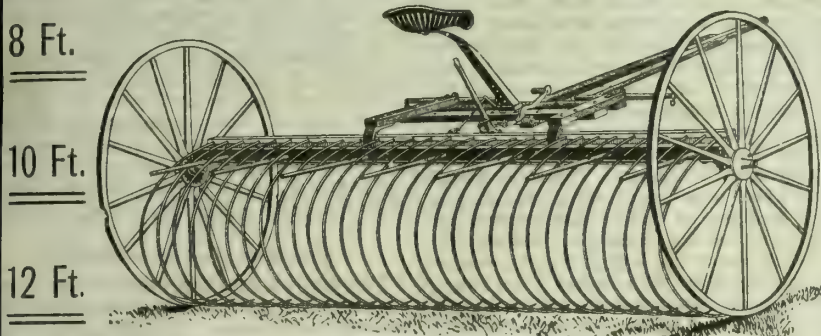
WALTER A. WOOD



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FRANK BROTHERS,
San Francisco,
GENTLEMEN: The Woods Mower that I bought
from your agent here I consider the best Mower
that I ever put in the field and I have been using
mowers for the last twenty years.
[Signed.] H. C. VOLKS.

3 WIDTHS OF CUT.
3 WIDTHS OF FRAME.
NO SIDE DRAFT.
TILTING BAR, SPRING LIFT.
STRONG, SIMPLE,
POWERFUL,
Wonderfully Light Draft.

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Lightest,
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Fencing
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90 lbs. to
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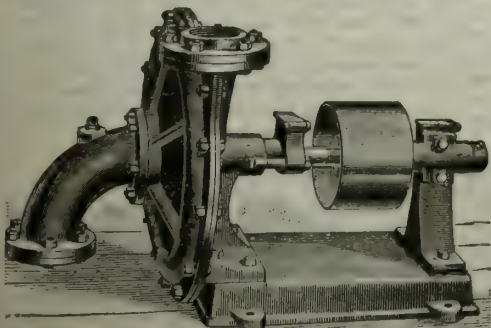
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Waukegan
Steel
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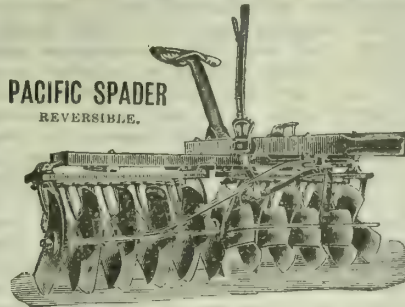
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THE PACIFIC SPADER!
Operated by one small boy. No Man required.

PACIFIC SPADER
REVERSIBLE.



Spader throwing Soil from the Center.
The Pacific Spader and Vineyard Cultivator
does more work in one stroke than a Disc Harrow in ten.
Sizes, 6 1/2 to 12 feet.

TRUMAN, HOOKER & CO.,
San Francisco and Fresno.

SIZES:

No. 4—4 ft.	Reversible Spader, with 16 inch Spades.	
No. 6—6 ft.	" " " " " 16 " "	
No. 8—8 ft.	" " " " " 20 " "	
No. 10—10 ft.	" " " " " 20 " "	
No. 12—12 ft.	Regular Spader, with 48-16 inch Spades.	
No. 5—5 1/2 ft.	" " " " " 48-16 " "	
No. 7—7 ft.	" " " " " 48-20 " "	
No. 10—10 1/2 ft.	" " " " " 48-20 " "	
No. 14—14 ft.	" " " " " 64-20 " "	
No. 16—16 ft.	" " " " " 76-20 " "	
No. 20—20 ft.	" " " " " 96-20 " "	
No. 24—24 ft.	" " " " " 120-20 " "	



AN OLD STYLE PULVERIZER.
Especially adapted to pulverizing "bottoms"—on
man and a small boy can operate it.

Salinas, Feb. 22, 1893.

Messrs. Truman, Hooker & Co.,
San Francisco, Cal.

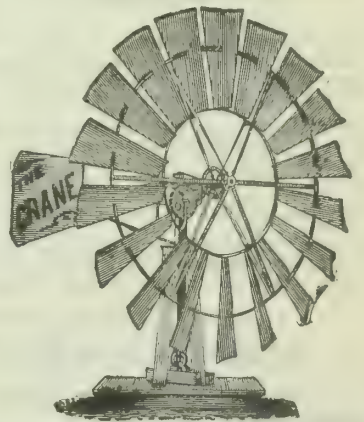
Gentlemen:—I have laid aside my plows and sub-
stituted the 10-foot Pacific Spader. It is the
best implement I have ever seen for pulverizing
the ground and destroying the foul stuff. It
works like a charm in adobe and I can heartily
recommend it above any other implement. An im-
plement of this kind is what I have wanted for years.
Yours truly, Chas. Graves.

WHEN IN WANT OF A MILL BUY THE BEST!



It Will Cost You
No More Than
Other Makes.

"The
Crane"



Was Awarded the Premium at State Fair Sacramento, OVER ALL OTHERS
WE MAKE THEM BOTH PAINTED AND GALVANIZED.

8 and 12-FOOT DIAMETER.

Please note that an 8 1/2-foot mill has 6 1/2 feet more wind surface than an 8-foot m
EVERY MILL GUARANTEED. We will replace all parts broken by storms that do not wreck
buildings.
Any Mill that does not work satisfactory may be returned to us and we will
pay the freight both ways.

THE CRANE COMPANY,
405 & 407 Market Street, San Francisco, Cal.



Mann's Green Bone Cutter FOR POULTRY FOOD.

Patented June 15, 1886; August 20, 1889. Canada Patent, June 12, 1890.

WE WARRANT this machine to cut Dry or Green Bones, meat, gristle and
all, by Hand Power, without clog or difficulty, or MONEY REFUNDED.
GREEN CUT BONE WILL DOUBLE THE NUMBER OF EGGS,
will make them 25 per cent more fertile, and increase the vigor of the whole flock.
COST OF FEEDING MATERIALLY LESSENED.
These Cutters are endorsed by all the leading California poultrymen. Send for a
Catalogue describing all sizes of Cutters and containing valuable information in relation
to feeding green cut bones.

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DEWEY & CO. { 220 MARKET ST., S. F. } PATENT AGENTS.

THE HOME CIRCLE.

Just Be Glad.

O heart of mine, we shouldn't
Worry so!
What we've missed of calm we could not
Have you know.
What we've met of stormy pain,
And of sorrow's driving rain,
We can better meet again
If it blow.

We have erred in that dark hour
We have known,
When the tears fell with the shower
All alone—
Were not shine and shower blent
As the gracious Master meant?
Let us temper our content
With his own.

For, we know, not every morrow
Can be sad;
So, forgetting all the sorrow
We have had,
Let us fold away our fears
And put by our foolish tears,
And through all the coming years
Just be glad.

—JAMES WHITCOMB RILEY.

Keeping Company.

Sweet homely phrase so often spoke
Among the kinder country folk,
When youthful love they smile to see
"These two are 'keeping company.'"
In fuller and in higher sense
Through years of rich experience,
Dear love 'tis true of you and me—
We've kept each other company.
In joy we've sought each other's eyes
To share the gladness and surprise;
In pain, life's utmost test of ill,
Our hearts have clung together still.
In absence—word with anguish fraught—
We have kept company in thought,
And learned that leagues of distance may
Serve but to spur love on its way.
In death—I pause with bated breath
Before the mystery of death.
Yet love is great! I seem to know
That where thou goest I will go;
And in God's great eternity
Our souls shall still keep company.

—Boston Journal.

Lazy Times.

Lazy times a-comin'—feel 'em in the air;
Honey bees a-hummin'; weather gittin' clear;
Here an' there a daisy, peepin' half afraid—
Feller gettin' lazy, dreamin' in the shade.

Cowbells—hear 'em ringin' kinder soft and low;
Mockin' birds a-singin' everywhere you go;
Sunny waters flowin', rippled by the breeze;
Hear the green a-growin' out o' all the trees!

Spring she is, God bless her! Hope she's come to stay;
It was nice to dress her up in green that way;
But we ain't a-blowin', for it's ten to one
That it will be snowin' time my song is done!

—Atlanta Constitution.

No Loneliness on the Farm.

Written for the RURAL PRESS by "EGOTISM."



NEVER have I written anything but the thought rises up within me that to answer a question often asked of me would be a courtesy to the questioner and a satisfaction to myself. Heretofore I have contented myself with an amused smile when they say to me: "Do you never get lonely here?" And who of those I have met have failed in that question? Not one. From that I judge I am in a lonely position, otherwise I feel it not. I live on a farm. Our neighbors are at least a mile distant. I am debarred from all interest in the work of the farm and to all appearances have nothing to do except care for my house. I have a younger sister—a bright girl of thirteen—for a companion, and now and then a visitor. These sound like lonely facts, taken in connection with a young girl of twenty full of the sentiments of youth, and I would say ambition did not the words ring in my ears: "There is something so ludicrously contemptible in a great personal ambition and a puny capacity."

Now, though I say I am not lonely, you are not to understand that the days are all sunshine and that it never rains indigo. Not at all. I am as blue as blue can be sometimes, but that comes from the "puny capacity." My soul is not large enough, or rather let me say old enough, to take in the deep spiritual draughts which nature has poured out about me with a lavish hand, else I would have such a fullness of life as to be a veritable "Lotus Eater." The white curling breakers rushing in from over the sands and splashing over the rocks in spray, the deep blue of ocean stretching out in sparkling beauty far beyond my ken, and near at hand, even at my casement, I see the downy blooms of the acacia which loads

the soft air with a perfume rich and rare. Are not these things mute and lovely companions? Cannot the sweet flowers, the mountains in their spring verdure and all nature's beauties preach as eloquent a sermon as any I might hear were I permitted the advantages of church worship? Then Channing says: "It is chiefly through books that we obtain intercourse with superior minds." I turn to my small store of books and feel that no one ever had dearer friends. Is it any wonder I smile amusedly when people, viewing the loveliness about me and my treasures in books, say: "Are you lonely?" Is it not fit that that should be their answer? If they cannot feel as I do how could they understand my answer? I do not shut out from my life human companionship, for in that there is an element of growth; and then we are told that those "measuring themselves by themselves are not wise."

I am fond of close friendship, but there are some people who do not know what the genuine article is. They have never dealt with anything like it and do not know how far beyond the insipid smiles and chat of the "four hundred" is the firm friendship of one person thoroughly true and sincere. To meet with those who have high aims and pure motives in life is always a help to one who would soar upward. My blue days come when a sense of all I should know and do not comes over me. I feel the scantiness of my education; it represses the "noble rage" within. But to those who can wait and toil patiently all things will come; even our "capacity" will broaden and deepen. Then after we get we can give.

Dear sisters, in lovely country loneliness, who look for inspiration in the columns of the Home Circle, let us study so hard that our blue days may become clear, our capacities large and our influence sweet and pure. Let us take pains to plume our wings before we try to fly; then fly but little till our wings are strong.

Rose Elizabeth Cleveland.

Very little has been heard of Miss Rose Elizabeth Cleveland, the first mistress of the White House under the Cleveland administration, who was an interested spectator of the inauguration eight years ago. Miss Cleveland was not present at the inauguration this year. Since her retirement from the White House she has spent years that have been very happy ones to her. Two of them she divided up between the North and the South, giving the winters to Florida in her own cozy home. Here she met with friends, who were greatly attracted toward her and she toward them. They were persons of means, and she has been traveling in Europe with them the last two years. Last summer, while Colonel and Mrs. Lamont were driving in Switzerland, they saw a woman walking alone a little in advance of them. To their great astonishment it turned out to be Miss Cleveland, and the meeting was a happy surprise on both sides. Singularly enough, they met her again in Dresden, when neither had the least thought of the other. Miss Cleveland's delight at her brother's success cannot be measured in mere words. She will be in Washington before the summer comes and will be seen again at the White House.—Globe-Democrat.

Another Use for the Onion.

A very convenient mucilage can be made of onion juice by any one who wishes to use it. A good-sized Spanish onion, after being boiled a short time, will yield, on being pressed, quite a large quantity of very adhesive fluid. This is used quite extensively in various trades for pasting paper on tin or zinc, or even glass, and the tenacity with which it holds would surprise any one on making the first attempt. It is the cheapest and best mucilage for such purposes, and answers just as well as many of the more costly and patent cements. Some of the cements sold by street fakirs at 10 cents a bottle consist of nothing but onion juice and water, and the bottle and cork cost a great deal more than the contents.

Too Busy to Inquire.

"What other business do you follow besides preaching?" was asked of an old colored man.

"I speculates a little."

"How speculate?"

"Sells chickens."

"Where do you get the chickens?"

"My boys fetch 'em in."

"Where do they get them?"

"I doan know, sah. I se allers so busy wid my preachin' dat I ain't got time to ax. I was gwine to inquire de udder day, but a 'vival come on an' tuck up all my time."

San Francisco Fashion Column.

TO THE EDITOR:—In the society woman's world, the question of the day is, crinoline or no crinoline. So far we are safe from the unsightly hoops, which, from the waist downwards expanded balloon fashion, would destroy even the fiction of grace which the style of skirt up to last autumn imparted to the most extraordinary figures.

The dress skirts are now made very full, being narrow at the top and wide at the bottom. To have a nice full skirt, seven yards of material will be needed. Crinoline is entirely used for lining these skirts. To keep the quantity of material from trailing in heavy folds, fine wires are run into the base linings, five to a skirt, but ceasing below the knee. Whether this innovation will stay, is a question of the future. The outer edge of the skirt is oveled, or rounded, and the wires merely serve to keep the material from massing. We are told on excellent authority that the idea of wide skirts came in with the balloon sleeve. Perhaps so. But one thing is certain—nothing more becoming than those sleeves has been seen for many seasons. They suit all ages. The "Empire," a term more freely than accurately used, is a combination of many styles, though the chief features are emphasized. One is a short waist, and the short waists are fashionable and give the wearer a stylish and ladylike appearance; also the deeply buckled belts and the big sleeves. With any one of these points you can be Empire to your heart's content. The little square jacket fronts have great vogue, and may be gotten in silver, jet or silk passementerie and put directly on the bodice, or better still, are developed in the material and trimmed in harmony with the costume. On simple cloth dresses, these jackets are frequently outlined with braid and decorated with small buttons. A ribbon-trimmed bodice is always stylish and pretty. The soft loops of ribbon give the wearer a youthful appearance.

A bodice made of dark green serge, draped at the upper part in yoke fashion, with the fullness drawn to the center in soft folds with a smooth effect on each side, is quite stylish. The fastening which is down the front is invisible and is done with hooks and eyes. Broad garnet ribbon of rich grosgrain starts from the armholes, is brought to the center and tied there in loops and ends; another ribbon of the same width is fastened at each side of the waist line and is knotted just in front. The collar is made of the ribbon and the full pouf sleeves, which reach far below the elbows, are gathered into cuffs of ribbon laid in folds like tucks. The cape is well established and will carry us through the season approaching. As now made it is elegant and useful. It makes the prettiest of opera wraps and is the cosiest for the windy days of San Francisco. Some of the new reversibles in soft tweeds make the best for rough-and-ready wear. People with broad shoulders are best suited to the present style of cape. Frills and ruffles have entirely taken the place of the high shoulders. Velvet combinations now promise to be very stylish, even through the coming warm weather. The shades for spring will be green, golden brown, reddish purple, pinkish lavender, bright old rose, navy blue and white. Already royal purple is well established, as is plainly seen from the bunches of violets which adorn so many ladies' hats.

The violet veil is still in fashion. It seems a little curious that the violet veil, which is, without exception, unbecoming, should have been received with such pleasure, while the black veil, which is usually becoming, softening the face and bringing out the brightness of the eyes, is almost neglected. A pretty house dress is one made of light silk, festooned or frilled around the bottom, a pair of full sleeves of velvet, with a partially velvet bodice. A pale maze China silk skirt, slightly trained, with a three-inch festoon around the bottom of a deeper shade in satin, and heliotrope sleeves and bodice draping, makes a lovely gown. A neat street dress is one made of gray Henrietta cloth, combined with garnet velvet sleeves with a fitting belt of the same, slightly pointed in the front. The skirt should be one of the latest gored skirts, with the gathers brought to the back, and a trimming of narrow bias overlapping folds of the material. Also a round waist, worn under the skirt belt, with short revers of velvet. A black Henrietta cloth dress is very effective with full sleeves of black bengaline. Of course all these extremely full sleeves, when made of any soft material, need to have the upper part stayed in place by the assistance of crinoline, which, properly arranged, attains the ends desired and yet does not announce its existence.

Winter having passed, the felt hat is no longer in demand. The latest hats come in straws and chips of the most delicate shades,

ranging from the small turban to the large broad-brimmed sunshades. From all appearances flowers and ribbon will constitute the principal trimming for the spring hats. Silk and velvet flowers are now in fashion. When these flowers are mixed with a few loops of fine ribbon and placed on a hat, nothing is more attractive and beautiful to the naked eye. In trimming lace hats, a bunch of light roses is generally mixed in with the lace to give the hat a soft, airy look. A hat of this kind is suitable either for day or evening. When trimmed becomingly it is always dressy and neat. Wide plaid ribbons are all the rage, not alone for children, but for grown folks as well.

Nothing can compete with the new style walking hats. They come in straws, both rough and fine, the rough being principally worn at present. The usual way of trimming this hat is to have a few loops of ribbon brought to the side with a quill or wing to match. Some only have a band of ribbon on the hat. Either is stylish and pretty. Small poke bonnets of stiffened lace, having the brims large enough to hide under them tiny wreaths of roses, are noted among those shown at the spring openings. This is a style suited only to women with oval faces, as it helps to broaden the outline.

A neat and dressy hat for street wear is one made of fine lace straw, with trimmings of bright red poppies and loops of silk ribbon to match. The trimmings are brought more to the back, so as to give the wearer a dignified appearance. From underneath the rim peeps a spray of the poppies, which gives the face a soft, delicate look. E. H.

The Sun and the Stars.

The sun is a star, and the stars are suns. This fact has been a familiar one to astronomers for many years. That the stars shine by their own inherent light and not by light reflected from another body, like the planets of the solar system, may be easily proved.

That many of them at least are very similar to our own sun is clearly shown by several considerations.

Three facts prove this conclusively. First, their great intrinsic brilliancy, compared with their small apparent diameter, a diameter so small that the highest powers of the largest telescope fail to show them as anything but mere points of light without measurable magnitude.

Second, their vast distance from the earth, a distance so great that the diameter of the earth's orbit dwindles almost to a point in comparison. This accounts satisfactorily for the first fact. Third, the spectroscope—that unerring instrument of modern research—shows that the light emitted by many of them is very similar to that radiated by the sun.

Their chemical and physical constitution is therefore, probably analogous to that of our central luminary. The red stars certainly show spectra differing considerably from the solar spectrum, but these objects are comparatively rare, and may, perhaps, be considered as forming exceptions to the general rule.—Gentleman's Magazine.

Curiosities About Swearing.

During Cromwell's reign laws against swearing were strictly enforced by the officers of the Commonwealth. Every oath was counted. For a single oath a man was fined 6s 8d, but the charge was reduced to 3s 4d each on "taking them by the quantity." Thus we find in the curious old records of that date that Humphrey Trevett, "for swearing 'by God' ten times," was fined 33s and committed to "gaol" in default of payment therefor. John Huishe of Cheriton was convicted of swearing "twenty-two oaths and two curses" at one time and "four oaths and one curse" at another time. William Harding of Chittlehampton, for saying several times "upon my life," was adjudged to be within the act of swearing, for which he was forced to pay a fine of 6s 8d. At another time, one Thomas Butland was fined for saying "upon my troth." Gilbert Northcote had to pay 3s 4d for saying "upon my life," and Thomas Courtis was fined heavily for saying "God is my witness." Thomas Gill said, "I speak in the presence of God," and was fined for his pains, whereupon he had a minister arrested for using the same phrase in a sermon on the following Sunday.

Where Horses Ride.

Ontario, Cal., has a street railway that is operated by horse-power and partly by gravity. When the town was founded an avenue 200 feet wide was laid out with space in the center for a street-car line. The avenue is six miles long, running from the town of Ontario to the mountains with a steady ascent varying from 100 to 250 feet to the mile. In December, 1888, the railroad was

completed and horse cars put on. A couple of ingenious mechanics, J. B. Tays and James Birch, decided that the horses might as well ride on the down trip, and accordingly designed a small platform car, which slides under the main car, for the descent. On this the horses ride down, the car running by gravity. The arrangement has been in successful use since March, 1889. The down trip is regularly made in 30 minutes, but the cars sometimes come down in half that time without stops.

Sick Headache.

Attacks of sick headache could often be avoided if the cause of them were known. In many instances the cause is a disordered condition of the stomach. In such cases there is often a regular recurrence of the attacks, the person in the meantime feeling perfectly free from the complaint.

Here it will often be found that by some error of diet the patient is gradually accumulating in his system some noxious substances, which it takes a special effort of nature to throw off. Then the whole internal machinery refuses to do its ordinary work. The stomach, the intestines, the liver and other organs which produce the digestive juices almost entirely cease their regular task of rendering the food taken into the mouth fit for absorption into the system at large.

Sometimes habitual overeating will produce this result. Or a person who has been constantly active may continue to eat his usual amount of food after exchanging his occupation for some more sedentary one. In either case the result is the same; the overburdened organs become partially paralyzed, the undigested food acts as an irritant, and headache and general disorder in the digestive tract prevail.

A person who has no symptoms of stomach disorder, or who has been taught by his physician to avoid indiscretions which formerly resulted in trouble, and who still has regularly recurrent attacks of sick headache, must look to some other than these, the most common causes of such attacks.

One not uncommon cause of sick headache is irregularity of the cornea or some other eye derangement. The skillful oculist will be able to detect any such irregularity, and to judge whether or not it is sufficient to cause the trouble.

Sick headache is very apt to occur in school-children from leaning forward over books, from imperfect digestion, or from too little exercise in the open air, and not infrequently from a combination of these unhygienic conditions. A child who suffers from sick headache should be promptly relieved from such unwholesome influences.—Youth's Companion.

Miss or Mrs.

So far as the etiquette of the signature is concerned, there is one unvarying rule for women, married and single. It is never right nor good form to sign one's name with the address of Miss or Mrs. You are Mary Emily Jones, not Mrs. Patrick Fitzgerald Jones, to whomsoever you may be writing. If it be necessary to notify your correspondent of your married style and estate, you may do so, and in one of several ways. Please observe that a correspondent should not be left in doubt as to this, much embarrassment being frequently caused by the omission, in letters between strangers, of exact information as to whether the writer is married or single. You may easily indicate all you wish to tell. You may place [Mrs. P. F.] before the Mary Emily aforesaid, in brackets. You may write Mrs. Patrick Fitzgerald out fully and plainly, in the left-hand corner of your sheet, below your proper signature. Or you may simply enclose your engraved visiting card in your letter, this being on the whole the most elegant and also the most convenient method of showing one's relation to society. The exception must be remarked here that the visiting card is out of place in an exclusively business letter, one which has not even remotely a social bearing.—Harper's Bazaar.

About Plant Pots.

The best gardeners say that the porous common pots are not so good for house plants as those glazed or painted outside. The reason is that evaporation is constant from the sides of the porous pots, and the roots are not only drier but colder for it. The only objection to the tin can for plants is its rust inside, which injures the roots. If the can is coated inside by heating and letting melted wax flow over the sides it will not rust, and with a hole punched in the lower end for drainage, it makes a very serviceable plant holder. It has the advantage of being deeper than most pots, which ought to be fully an inch deeper than common, to allow for drainage. The directions

are to put an inch of crocks in the bottom, a thin layer of moss or fiber over this to keep the soil from washing down among the drainage, then a little coarse soil, then the plant, filling round the sides with soil sifted through a quarter-inch mesh.

How John Quincy Adams Died.

Mr. Adams rose impulsively—I had almost said impetuously—with a paper in his outstretched hand, exclaiming, with more than his usual earnestness and emphasis:

"Mr. Speaker! Mr. Speaker!"

The reiteration rings again in my ears as I write these words. But before he could explain his object, or add another syllable, his hand fell to his side, and he sank upon the arm of his chair, only saved from dropping to the floor by being caught by the member nearest to him. An exclamation was almost instantly heard—"Mr. Adams is dying." Business was at once suspended, and the excitement and confusion which ensued can be imagined better than described. More than 200 representatives, in all parts of the hall and from all parts of the country, were seen rising from their seats and pressing forward toward their beloved and revered associate, almost as if it were in their power to reverse the will of God and rescue him from the power of the great destroyer.

Few persons of equal eminence—or of any eminence—have been distinguished by such a presence at their death-scene. Fortunately there were several physicians among the members of the House. Dr. William A. Newell, afterward the Governor of New Jersey, had the seat immediately in front of Mr. Adams, and took the lead in repressing the throng, securing air for the sufferer, and rendering all the medical aid which was possible. He co-operated with others in removing Mr. Adams on a sofa into the Rotunda, and thence, with but little delay, at my urgent instigation, into the speaker's official chamber.

"This is the end of earth," was heard from his lips, as he fell, or when he was placed on the little couch which was hastily prepared for him, with the addition, as was alleged, "I am composed," or "I am content." But all signs of consciousness soon ceased, and he lingered, entirely insensible, until a quarter past seven on Wednesday evening.—Hon. Robert C. Winthrop.

Grant's Red Hair.

Did you know that General Grant had red hair? Oh, no; not President Grant, but General Grant. It was rather queer. In war times his beard was a very carrot red, his hair darker—say reddish-brown. Later in life it grew much darker and became streaked with gray and finally grizzled. Two fine paintings shown in the Lincoln National Bank—one of General Grant in his army uniform, date about 1863, and the other painted perhaps ten years later—show the difference strikingly.

It couldn't be dyed either, because in that case the black hair and beard wouldn't have been streaked with gray.

Queer place to find pictures, maybe, but the Lincoln Bank has a lot of fine ones. One of the best portraits of Lincoln in existence is there. It was loaned for a banquet at Delmonico's recently, and came near being burned up. Then there is one of Robert Lincoln and another of his son Abraham, a bright, manly-looking lad, whose sad death a little while ago will be remembered.

Crowning of Inez.

A French Princess is said to have been crowned after death. This was Inez de Castro, who was murdered in the 14th century by three assassins. The lady was the wife of a Portuguese Crown Prince, and she was murdered by order of the King—her father-in-law. The Prince never spoke to his father again, and when the old man died the remains of Inez were lifted from the grave, placed on a magnificent throne, and crowned Queen of Portugal. The clergy, the nobility and the people did homage to the corpse, and kissed the bones of her hands. There sat the dead Queen, her yellow hair hanging like a veil round her ghastly form. One fleshless hand held the scepter, the symbol of royalty.

The Waiter's Security.

A waiter in an English restaurant pays in to the proprietor at the beginning of his day's work from £2 to £5—enough to cover the value of the orders he is likely to receive during the day. In return, the proprietor gives him checks. As the waiter receives the food from the kitchen, he turns in checks to the value of it. If the customer pays his bill, the waiter pockets the cash until the final settlement at night; but if the customer leaves without paying, the waiter is out of pocket.—Kate Field's Washington.

YOUNG HOLKS' COLUMN.

The Horse Old Bill.

Yer right, my friend, there is a hoss—
Or wor afore he got so old;
There's good blood in him—Morgan cross—
Nigh thirty years since he wor foaled.
An' though he's blind, old age can't kill
The stylishness that's in old Bill.

I think a heap of our old Bill;
Mother and Sis is wus than me,
Sis? She's the school-marm on the hill—
A better one yer never see;
A plucky gal, with mother's will,
An' full of style as are old Bill.

We got Bill kinder cur'us like.
A few weeks arter he wor foaled,
His mammy died, an' brother Ike
Gave him to Gid, then two years old.
It's 'bout ten years since Gid went West;
Of all Bill's friends he wor the best.

Bill never wor much good to work—
Gideon said he wor too smart;
Just like most brainy folks he'd shirk,
An' let the others do his part.
I never see a horse so cute,
With all his stylishness to boot.

He won first premium at the fair
At three year old—I tell yer wot
There wor a heap of good ones there—
Next year he won the farmers' trot;
There worn't one of 'em could show
The clip that our old Bill could go.

Afore I joined the church, sometimes
I used to drive Bill into town,
An' I'd purposed to spend the dimes,
An' generally got loaded down.
When I'd get full, old Bill 'ud know;
They'd load me in an' home he'd go.

When Gid went West, Bill seemed to fret,
An' whinner'd 'round a heap at night;
Sometimes I think he worries yet.
He shortly after lost his sight,
An' Sis an' mother vow an' say
Bill ain't bin Bill since Gid went 'way.

Jist walk up near him. Hullo, Bill
What makes yer act so. Whoa! Come here!
There, stop yer fooling; now be still—
Why, darn it all, he's actin' queer.
What! Mother! Sis! My boy! My Gid!
An' old Bill knowed yer 'fore I did.

—WM. H. REESE in Horse World.

The Hoodoo.

Owned a pair of skates onc'—traded
Fer 'em—stropped 'em on and waded
Up and down the crick, a-waitin'
Tel she'd freeze up fit fer skatin'.
Mildest winter I remember—
More like spring than winter weather!
Didn't frost tel 'bout December—
Git up airy ketch a feather
Of it, may be, 'cross the winder—
Sunshine swinge it like a cinder!
Well, I waited, and kep' waitin'
Couldn't see my money's woth in
Them air skates—and was no skatin',
Ner no hint o' ice ner nothin'!
So, one day along in airy
Spring, I swapped 'em off, and barely
Closed the dicker, 'fore the weather,
Natchurly, jes' slipped the racket,
And crick, tail race, all together,
Froze so tight cat couldn't scratch it.

—JAMES WHITCOMB RILEY.

A Tale of a ———?

Written for the RURAL PRESS by AUGUSTA E. TOWNER



HE big sister sat reading. Little sister and little brother, tired from their walk home from school, snuggle among the sofa pillows near by, and demand a "story."

"What about?" smilingly asks big sister, whose memory or invention never fail.

"Oh, about ———"

"Why, about ———"

Both together: "We don't care."

"Well, if you do not tell me what to have my story about, I shall tell you one, but I shall not tell you what it is about."

"Oh, but you can't help it."

"Can't I? Then, with a quizzical air, the big sister began:

"One morning, as I lay swinging idly in my hammock, I heard a soft sigh. I was greatly surprised, as I thought I was alone. Wonderingly, I arose and looked around. I saw no one. I heard nothing. I concluded that I had been dreaming and lay down again. Soon the soft, tremulous sigh was repeated, and after it I heard a wee, small voice say:

"How can any one be so cruel as to leave me out of doors alone all night. If you only knew how much work I have furnished skilled workmen."

"Lying perfectly still, I gently asked:

"Tell me about yourself. What work do you mean? And who are you?"

"After a pause, the same small voice said:

"I am—or was—a rodentia mammal. My hide has been put through a number of processes by men who are skilled in tanning. The last process was the most elaborate or deal of all. My tormentors ordered that an emulsion of yolks of eggs and olive oil—a

compound some think delicious, I believe—be carefully spread over and rubbed into my hide twice a day. This was done by a man dressed in blue jumpers.

"Thus pleasantly (?) I passed one month, depriving mankind of possible cakes and salads.

"After this, my hide and my hide's brethren were sent to Marseilles, that beautiful city in the south of France, and there we were cut into pieces of various shapes and sizes by certain of the citizens. Then we were taken by the country folk and subjected to a peculiar and ingenious torture *a la* the Fiji Islanders. After this came another form of torture, something after the old inquisition style—stretching, pressing and rolling.

"At last our agonies are over. Our tormentors are through with us, and, daintily wrapped in pieces of thin tissue, we depart on our journey about the world. In the course of our travels we all gradually become servants to all sorts and conditions of men and women—particularly the latter. But in our travels and service there is ever one consoling element—we have each a cherished companion to share our griefs and joys; unless, alas! one meets the same sad fate as I."

"Here, at last, the voice ceased, dying away in a quivering, heart-breaking sigh. And, aroused to intensest curiosity by all it had said, and especially its closing remarks, I again arose and cast searching glances around, that I might discover this forlorn prodigy."

"And lo! on a bed of violets, I saw a ———?"

Here, with a tantalizing laugh, the big sister left the room.

His Daughter's Letter.

"Dear Father:—We are all well and happy. The baby has grown ever so much and has a great deal more sense than he used to have. Hoping the same of you, I remain your daughter, Molly."—Tid Bits.

Light on House Plants.

Heliotropes, what with water at the roots and sun in the middle of the day, get black specks on the leaves, and soon give over flowering. The leaves of woody plants, like Jasmines, stand sun better, but even they turn yellow, which is a very bad sign on such strong plants. The morning sun is gold for plants, and you should let them have it till half-past 10 o'clock, when most things had better be shaded till two or three. A thin curtain of Japanese paper let down between the plants and the glass is as good as anything. It breaks the heat rays and tempers the harsh light, giving the softened heat and light in which growing things luxuriate.—Ex.

The Extent of Victoria's Fortune.

The newspapers are again figuring out the amount of the Queen's wealth, and the sum is placed at between £4,000,000 and £5,000,000, exclusive of landed property. It is publicly predicted that by the terms of Her Majesty's will her private property will not go to the Prince of Wales, the Duke of Edinburgh or the German Empress, but that the bulk will be divided between her favorite son, the Duke of Connaught, and her favorite daughter, Princess Beatrice.—London cable letter.



A cream of tartar baking powder. Highest of all in leavening strength.—Latest U. S. Government Food Report. ROYAL BAKING POWDER CO., 106 Wall St., N. Y.

Electricity and Disease.

The application of electricity in medicine and surgery has kept pace with its service in commerce and industry. It has had its quacks and frauds, and in many instances acted as a magician with public confidence, and as a confidence man with its dollars. With these exceptions and the usual squad of impostors and dupes, the service of electricity in the healing arts of the physician has been of considerable value. Its possibilities as a remedial agent are as yet not in sight or perspective limit. In apparatus, device, forms of current and new methods, every year sees an increase and improvement. By aid of its light the physician can explore all parts of the human economy, and by the use of the endoscope can scrutinize the internal walls of the stomach, and dart its search-light over the abdominal department, where disease in its embryonic conditions has hitherto enjoyed immunity from inspection. The electric needle is used to decompose tumors, coagulate aneurisms and remove vagrant hairs and freckles from territory in which they have no claims of citizenship. The electro-magnet extracts iron or steel from the eye, and the electric motor turns the drill of the dentist when excavating a troublesome molar. As a means of diagnosis it has proven of considerable service, and in the surgery of the brain and spinal cord, has a special value. The introduction of drugs into the human body via the skin is an added service in electric medication, and has done much, not only in the alleviation of pain, but in the prolonging of life. In some disorders of the nervous system its intrinsic value is a matter of dispute, and some claims made by practitioners on that score have to be accepted on faith. Enough of evidence is, however, on hand to illustrate the value of this potent and mysterious force that can find its way in the muscle, bone, nerve and viscera of the human economy, and search out the secrets of cells, tissue and all the functional organisms in the physiology of man. In this aspect, electricity is beneficent and also suggestive of the thought held as yet in suspensive conditions, that in what is known as "the secret of life" the subtle and mysterious force known as electricity may be an affiliation if not an exposition. Electricity may forever remain a comparative mystery, but to those who know most of the little already known of this potent energy, the lines of discovery are constantly vibrating with what, if a problem to-day, ceases to be so to-morrow. The Age of Steel.

The Farmers and Wood-Choppers of this country will doubtless be very much interested to know that the small but useful articles called the axes, which are as necessary to every farmer as a fence or a dog, to carry on his business, would before long, but for the competition of one of the largest manufacturers of axes, cost him more than he has heretofore been paying for them.

The farmer usually pays sixty-five cents to one dollar for an axe according to the quality, but recently nearly all the manufacturers in the United States entered into a combination. Of course every farmer knows what combinations are formed for. It is done that they may secure a better price for the article.

A trust of this kind may by adroit management control the trade so as to practically shut out competition, and the only way to prevent them doing so is for the farmers and wood-choppers to call for brands of axes not made by the trust.

One of the largest axe factories in the business has stubbornly refused to go into this trust or have anything to do with it, and it is owing to their staying out and to their opposition that the prices have been kept down.

The Kelly Axe Mfg. Co., Louisville, Ky., are the largest individual manufacturers of axes in the world, and feel that they are strong enough to conduct their own business, regardless of the opposition of this combination, and therefore refuse to go into it.

It looks as though the farmers and users of axes would never use anything else but a Kelly axe, for as long as they use these it is not likely that the manufacturers of the Kelly axe will ever join the combination.

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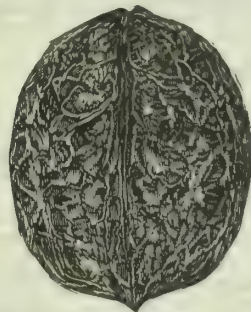
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AGRICULTURAL NOTES.

CALIFORNIA.

Butte.

The Lovelock *New Era* says: Eastern cattle-buyers paid Col. Hardin 34 cents live weight for his steers, an average of \$42 per head, or nearly \$18,000 for 20 carloads. They want 3000 head of beef cattle.

Oroville *Register*: The peach in Butte leads all other fruits, the crop amounting to 6,000,000 pounds, there being less than 1,000,000 pounds of any other one fruit. The combined crop of apples, pears, plums, prunes, cherries, grapes and all other deciduous fruits in the county amounts to 2,595,000 pounds, being less than the crop of peaches.

Oroville *Register*: T. B. Hutchins, of Central House, will have this year 15,000 two-year-old and 6000 three-year-old peach trees, 2000 older peach trees, 1800 apricot trees, 250 French prune trees, 1000 Silver prune trees, 150 Bartlett pear trees and 18 acres of grapes, all of which will bear fruit this year. Most of these are upon his own land, but some are on land of Mrs. Hefner, that he rented. This gives him 26,000 trees and 18 acres of grapes.

Biggs *Argus*: We are informed that R. Woodhouse, Esq., of England, who some time ago purchased from Craig, Robinson & Craig 160 acres of the Fernandes ranch, situate three miles northeast of town, will plant this year 40 acres to oranges and olives, and that he contemplates building at an early date a \$3000 residence on his property. The location of the orchard and residence will be near what is known as the Four Corners.

Oroville *Register*: Jacob Covey has for some time past been pruning trees in the big orchard of W. R. Strong, on the east side of Feather river, below Oroville. There are 80 acres of four-year-old trees, and 100 acres of three-year-old trees, and the whole 180 acres will have a large quantity of fruit this season, as the trees are now loaded with buds and blossoms. Mr. Covey says the 100 acres of grapevines will bear this season, while there are 220 acres of additional orchards. Peaches lead, but the other fruits are apples, apricots, cherries, cherry plums, pears and prunes. The trees and vines have made a magnificent growth, and the orchard is one of the finest in the State.

Oroville *Register*: Among the new fruit-planters at Palermo is Captain Penny of Ohio, who will set out 15 acres of oranges during the present month, and ten acres of olives. The oranges will be Navels, Mediterranean Sweets and Jaffas, while the olives will be the Mission. Mr. Crosier of New York will plant ten acres of oranges, and these will include the same varieties as Capt. Penny. Capt. Patterson of the same city will plant ten acres of oranges which will include several standard varieties. Carl Reinisch of New Jersey, who owns an orange grove at Palermo, will this year extend it by planting nine acres more. Hearst and Taylor have increased their orchards by planting 30 acres of Mission olives this spring.

To the Editor:—The North Point country is within 20 miles of Chico, in Butte county, on the western slope of the Sierra Nevada mountains. This piece of land varies from 3 to 5 miles in width and from 12 to 15 miles in length, and is at an elevation of from 1800 to 2900 feet. It is heavily timbered with sugar pine, fir, cedar and red oak. There are as many natural advantages offered to the industrious home-seeker here as any place in the State. The timber, if manufactured into lumber, is of almost incalculable value, and the land, after being cleared, has been proved to be well adapted to the growth of fruits and vegetables. Trees grow as thriftily and bear as heavily as in any portion of the State. Grain sown for hay yields from one to two tons per acre. The climate is all that could be desired and the water is as good as there is in the world. There are two district schools established with comfortable school-houses; also a store and a postoffice. The road leading to Chico is good for a new one and in time will be improved. But what is most needed and must be had is some portable mills owned and run by practical men that will give employment to the citizens in manufacturing into lumber the timber that otherwise must be burned in clearing the land. Uncleared land varies in price from \$5 to \$15 per acre. M.

Fresno.

Enterprise: Last week we had an opportunity to sample tomato catsup, grape jelly and canned pears and peaches, all put up under a handsome lithographed label bearing Mrs. Nevins' name. We have never seen an article of commercial jelly that at all equaled Mrs. Nevins' Morocco grape.

Kern.

Californian: There will be two raisin-driers erected here this summer—one for the Rosedale Vineyard Company and the other by the Rosedale Fruit and Packing Company. The plans will be submitted by Alex Gordon of Fresno of a new patent steam drier which is the most perfect drier yet improvised for the perfect curing of raisins without burning, as it has been found from experience that drying by heat burns the raisins and leaves them hard and tasteless.

Glenn.

Orland *News*: We mentioned last week that a larger amount of trees were being planted this spring than usual. We have received the numbers from a good many planters, but there are numerous other small lots being set out of which we have no record. At the Hall ranch, on Stony creek, there are 70 acres being planted to prunes, which will take in the neighborhood of 9000 trees. R. B. Murdoch has added 250 trees to his 20-acre prune orchard. T. J. Kirk-

patrick and sons are planting 3000 trees, mostly prunes, the balance peaches and apricots. Perry Seevers has put in about 600 trees, mostly almonds. P. D. Bane has added to his almond orchard, adjoining town, 2450 trees, which makes a total for his almond orchard of 5152 trees. Has also planted this season a variety orchard of 114 trees, and set 250 black fig trees along the creek to serve as a wind-break. As near as can be judged, says the *News*, including the number of small plantings, there has been a total of over 16,000 trees set out in this neighborhood this season.

Los Angeles.

The shipment of winter vegetables from Southern California to the East in carload lots is assuming large proportions. The Southern California Railway reports shipments for January at 2,000,000 pounds more than for January, 1892, an increase of 100 per cent. The principal vegetables shipped are cabbage, cauliflower and celery.

Mendocino.

The Santa Ana Incubator Company has shipped a 2000-egg incubator to J. S. Pitman, Ukiah, Mendocino county.

Monterey.

A petition for a squirrel bounty has been rejected by the Supervisors of Monterey county. *Lompoc Journal*: A correspondent of the *Independent* gives the acreage planted in fruit trees this season in Santa Rita valley as follows:

	Acres.
W. I. Nichols, Apricots.....	40
H. M. Hopkins, English Walnuts.....	20
E. Hornbeck, Prunes and Apples.....	50
David Streeter, Apples.....	10
Oscar McGee, Prunes and Apples.....	20
Henry Dryden, Prunes.....	20
E. Crist, Prunes.....	5
E. M. Mallory, Apples and Pears.....	13
Mr. I. Winget, Prunes.....	10
Total.....	188

Orange.

Blade: A coyote scalp was brought into the County Clerk's office yesterday, the first one for several weeks. Coyotes are becoming very scarce in this county, a fact pleasing to sheep-raisers.

Blade: As soon as the weather becomes settled operations will be commenced on the big dam and ditches of the San Joaquin ranch irrigation system, and the work will be pushed rapidly to completion. Next to the establishment of a beet-sugar factory in this county the irrigating of the San Joaquin ranch is the most important work to be done in the county this year.

Anaheim *Gazette*: Mr. Staley has 92 orange trees—less than an acre—the fruit on which is in every way the equal of the best in the market. He was recently offered \$600 for the crop, which he refused. He is shipping the oranges himself, and has already sent out the fruit from 13 trees. He informs us that if he does as well with the rest of his trees, and there is no reason to doubt it, he will clear \$800 for the crop. Pretty good for less than an acre of ground.

Anaheim *Gazette*: About the heaviest crop of oranges in this locality this season is that on C. H. Gosch's trees. Nearly every tree in the orchard is loaded with luscious fruit, and from one tree 25 boxes of large oranges were picked. The fruit was sold at an estimate of \$1 per box, which would make the proceeds \$25. Mr. Gosch gets \$2500 for his crop. He is taking remarkably good care of his orchard, and it will compare favorably with any in Southern California.

Los Angeles *Herald*: This winter's crop of cabbages in Orange county will have netted the producers not less than \$10,000. Not less than 600 tons of cabbages will have been shipped out of here during the winter, when the last carload leaves, and prices this season have been exceptionally good. The crop of winter green peas has been larger than usual this season, and from 500 to 2000 pounds are being shipped out of this city every week now. Next winter will see a decided increase in the acreage planted to green peas, as there is money in the business.

To the Editor:—Crops never looked better in West Anaheim and vicinity. We have had plenty of rain. The Anaheim beet factory is not a success, for this year at least. Capitalists will not invest their money in such an enterprise until they see what the present administration will do about the bounty. Quite a number of farmers here will raise beets for the Chino factory. The railroad agrees to ship from here to Chino for 80 or 87 cents per ton. MARY O. KELLOGG.

Anaheim, March 16th.

Placer.

Argus: G. W. Turner is setting out 10 acres. A. Scroggs is adding about 20 acres more to his Ingleside farm. Mr. Rider is getting his annual trees ready. Jas. Laird is adding more orchard. H. L. Bankhead is putting out 5 acres; H. Kelley 10 acres, and building new residence; and Mr. C. G. Lavers, who bought the Rambo place of 9 acres last season, is so well satisfied that he thought he could not get too much of a good thing, so he has just bought 20 acres of the Hickey tract adjoining G. W. Ellery and will have it all set out this spring.

Sacramento.

News: That there is to be considerable increased acreage the coming season and that some of the old yards have been affected by the past two dry seasons, is instanced by the following parties who have placed their orders for hop roots: Mr. Charmer of Elk Grove (new yard), 90,000; F. W. Medgley (new yard), 25,000; Rideout, Abbott & Casselman (new yard), 90,000; Ex-Supervisor Bates (new yard), 25,000;

George Brewer, 15,000; B. V. Hoover of Elk Grove, 50,000; Dr. Cutler, 17,000; Henry Wittenbrock, 30,000; George H. Menke, 1000; total, 343,000.

Sonoma.

Sonoma *Index-Tribune*: On a recent hunting trip in the Sonoma marshes George Twitchel, of San Francisco, killed a very peculiar-looking snipe and unlike any he had ever seen before. He took the bird to Walter Bryant, naturalist of the Academy of Sciences, who pronounced it a native of Alaska. It is a migratory bird, but is the only specimen ever secured on this coast.

Tribune: Of the 30 carloads of prunes which were dried by Hotchkiss & Miller last year only three or four are yet to be shipped. They were consigned to New York merchants, principally, and their extraordinarily fine quality commanded the topmost prices. At one stage of the season when the market was dull Hotchkiss & Miller feared a loss, but fortunately for them there was a sudden turn and the prices realized for the prunes netted them a big profit. This year they will dry probably as great a quantity of prunes as last year.

San Bernardino.

The following, says the *Riverside Press*, is a list of the principal cities and town in the new county of Riverside: Riverside, South Riverside, East Riverside, San Jacinto, Banning, Beaumont, Elsinore, Perris, Winchester, Wildomar, Murietta, Linda Rosa, Temecula, Moreno, Alessandro, Palm Springs, Indio, Walters, Salton, Rincon.

Riverside *Enterprise*: Honey men hereabouts are feeling jubilant over the prospect for a big crop this season. The last three seasons have been hard on bee men and they are encouraged over an outlook which promises to change the order of things. The opportune rains have been the means of furnishing bees an abundance of flowers from which to gather sweets.

Redlands *Citrograph*: On Thursday of last week one of the workmen at W. H. Glass' camp, on the line of the Bear Valley canal, was sitting down a short distance from camp, when a wild cat sprang upon him. The animal struck him in the breast and attempted to seize his throat. The man jumped to his feet and fought lustily with his bare hands, yelling for help meantime. The men in camp ran to his assistance, surrounded the cat and stoned it to death.

Ontario *Observer*: Hogs are now worth seven cents per pound. At five cents per pound pork can be produced in this locality at an immense profit. Annually Southern California expends more money for pork products than is received for her orange crop. This startling fact goes to show that this country can never be put on a prosperous basis till the people raise their own own meat as well as their bread. The Cudahy people, by the establishment of a large packing plant in Los Angeles, are giving a great impetus to hog raising. Already brood swine are bringing fabulous figures, farmers having to import them from the East.

San Jacinto *Register*: If there are any of our fruit-growers who are skeptical as regards money in fruit-growing, we refer them to Mr. B. Tibbals, who has a 40-acre fruit ranch on Central avenue. Last year Mr. Tibbals shipped and sold his pears to the Colton cannery, a distance of 50 miles, at a rate that netted him \$210 per acre. The pears were so far superior to any raised around Colton or San Bernardino, that the Cannery Co. placed some of them in jars and sent them to the World's Fair for exhibition, but forgot to put the name San Jacinto on the labels, so they went as Colton pears. Mr. Tibbals has planted ten acres more this year to pears.

San Diego.

Otay *Press*: This week G. W. Woolsey purchased a large water tank that has been located near National City. The tank has a capacity of 100,000 gallons and will be placed in position on his place here for irrigating his 30 acres that are planted to citrus fruit.

Otay *Press*: The timely and bountiful rainfall of the past two weeks insures a good growth of hay, and the orchards and vineyards will yield a more profitable harvest from the rains that have clothed the hills and valleys with verdure and sent the waters flowing to the ocean.

San Luis Obispo.

Shandon Cor. to San Miguel *Courier*: "The summer of our discontent is made glorious springtime" by the rains which have been distilled in "the sweet heavens" and fallen on all the country round about. The prospects for large crops were never better than now. In addition to the very large acreage in grain, thousands of acres have been broken (summer-fallowed) for next year. Farmers are thoroughly convinced that summer-fallowing is the only sure way to secure a crop.

Santa Barbara.

Central: The grain crop in the Los Alamos valley will be, if nothing happens, unusually large this season. There has been a large amount of grain sown, in fact nearly every acre of tillable land in the valley is under growing crops, and as we have had sufficient rain so far for all purposes, the crops are in good condition.

Santa Clara.

Pajaronian: It is estimated that about 300 acres of the Henry Miller ranch, near Gilroy, will be planted to sugar beets this year. Mr. Miller has enough good beet land to supply a factory.

Santa Cruz.

Watsonville *Rustler*: William DeHart has a fine display of Naval oranges at the Bank of Watsonville that attracts much attention and not a little surprise from persons who labor under the erroneous idea that they know just

what the Pajaro valley can produce in the way of fruits. These oranges were grown on Mr. DeHart's farm, on the Corralitos hills, in the sheltered place above the frost line.

Watsonville *Rustler*: The area devoted to sugar beets in this section of the State is no longer confined to the Pajaro valley, but extends beyond Salinas on the south and to Gilroy on the north. It is estimated that the acreage to be planted to sugar beets for delivery at the Watsonville factory will amount to 8000 acres in this valley and the Salinas valley, where the cultivation of the root is no longer an experiment. Now comes Henry Miller, who proposes to plant 300 acres to beets on his ranch near Gilroy. There is plenty of land in that locality adapted to sugar beets, and as the railroad company has fixed the rate of hauling from Gilroy and other stations between here and San Jose at \$1 per ton, it will give the beet-growers a chance to make money on their crops.

Tulare.

Visalia *Delta*: To date there have been no frosts heavy enough to work an injury to the almond and apricot trees, now in full bloom. With freedom from heavy frosts the remainder of the season, the apricot crop will be exceedingly large.

Visalia *Delta*: The wheat crops on the West Side will be better than those of 1889 and 1890. Young R. Stevens says that wheat in the sinks of the Foso Chine will yield 15 sacks to the acre, if not more. Mr. Stevens had 400 acres in the sinks in 1890 that averaged 22 sacks to the acre.

Porterville *Enterprise*: R. H. MacDonald has just received 500 lemon trees, Rev. C. N. Flanders 800 orange and lemon trees, C. W. Boswell 550 orange trees and 1200 seedlings for nursery purposes. These gentlemen will set out the above trees immediately on their respective places.

A land patent for 160 acres of Uncle Sam's domain has been issued to a Tulare county Indian. The patent is issued on the conditions that the title conveyed shall not be alienated or encumbered either by voluntary conveyance or by judgment, decree or order of any court, or subject to taxation of any character for a period of 20 years.

Hanford *Journal*: Prospects for crops were never better at this season of the year than they are at the present. The late and frequent rains have kept the ground in excellent condition and there has been very little frost to retard the growth of the young grain. The buds on the fruit trees show that an abundant crop is in prospect.

Visalia *Delta*: Carp have destroyed nearly all other kinds of fish once so plentiful in our streams. Persons living on Tulare lake report that salmon trout, perch and catfish are not near so plentiful now as in former years. It is not an uncommon thing to catch carp weighing 20 to 30 pounds, but they are pooreating by the side of the varieties of fish they have destroyed.

Lemoore *Leader*: A gentleman who was visiting in the vicinity of Tulare lake this week reports the following: "When the wind blows hard, big fish are washed out on to the level land, and one of the ranchers who has a drove of hogs is coining money as the result. The fish are greedily devoured by the hogs, who stand along the water edge and snatch them up as soon as a fish is thrown out on land and left by the receding water. The hogs are fattening fast and no cost for food."

Sutter.

J. C. Frasier was up from Grand Island Friday and stated that, notwithstanding the fact that all of his grain was drowned out in Colusa county, he will have 1000 acres in Sutter county, says the *Colusa Sun*. About 7000 acres of Mr. Frasier's grain was drowned. If it lets up raining soon, he thinks that he will yet get in a crop on a portion of his land.

Ventura.

Observer: The steamer Lakme of San Francisco is at the wharf loading beans to be shipped East. She will take about 12,000 or 15,000 sacks.

OREGON.

Salem *Statesman*: Two carloads of potatoes were shipped over the Southern Pacific railroad to Texas from Salem yesterday. Two more carloads will follow the latter part of this week.

WASHINGTON.

A Coming Industry.—Walla Walla *Statesman*: The beet-sugar industry is undoubtedly destined to cut a big figure in this State. It has been demonstrated by actual experiment that our soil is capable of producing beets that will yield 24 per cent of saccharine material, while in other States where sugar beets are grown 14 per cent is considered a big average.

Wilbur *Register*: As if to add greater havoc among the herds of the Indians, gray wolves are said to have made their appearance on the reservation and the already half-famished horses and cattle are being killed by them in great numbers. It is estimated by persons who have been on the reservation that 90 per cent of the stock on the reservation, from opposite the Spokane river to the boundary, line are already dead. Coyuses will bring a good price next summer.

Trumbull & Beebe's Seed Catalogue

This old reliable seed house sends its illustrated catalogue for 1893 to all who desire it. Their stock is new and of the highest quality that can be obtained. The firm reports business for the past year satisfactory, and the outlook for the coming season very encouraging. It is hoped that the patronage of old friends will be continued, and that many new patrons may be added.

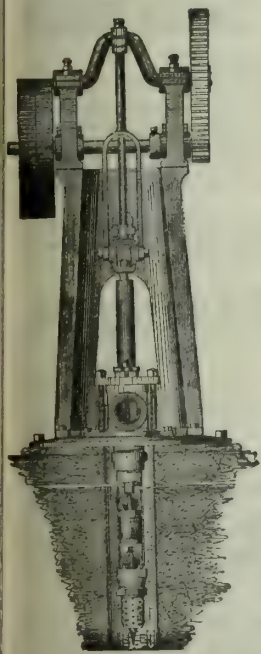
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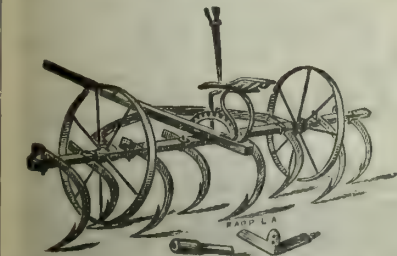
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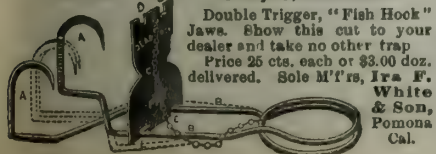


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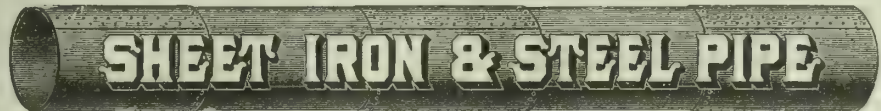


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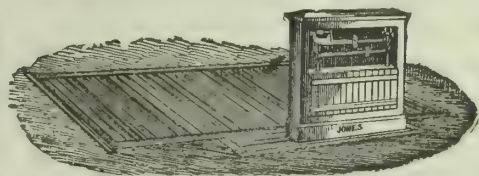
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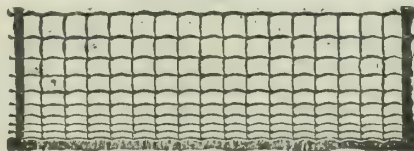
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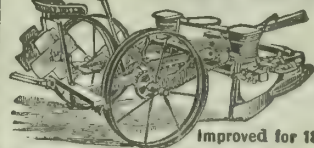
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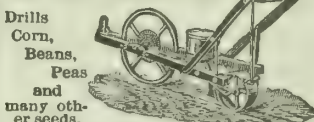
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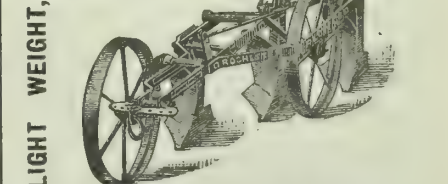
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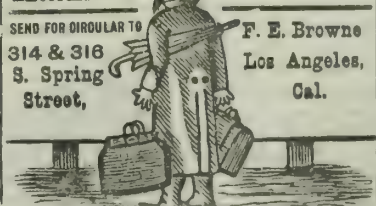
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"I have now in use 5 of your Rochester Gang Plows and desire to say that they give excellent satisfaction, and I find them indispensable. The price is so much reduced from that formerly paid for a like implement that no orchardist should do without a Rochester." [Signed.] **N. P. CHIPMAN.**

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PATRONS OF HUSBANDRY.

Notes from the Worthy Master.

Don't forget to observe Children's Day. Select your own time in the month of May or June. But be sure to have it known that it is to be a "gala day," and that the exercises be appropriate for the children of the Grange and the farm home. Invite all friends of the Grange to be present.

Merced Grange, No. 7, has arranged to hold a public meeting on Saturday, May 7th, in honor of the children of its jurisdiction. May other Granges do likewise.

The Patrons of Contra Costa county expect to hold a union picnic some time in the early spring, at a point where all can easily attend. Announcement will be made in due time. That the affair will be a success goes without saying to those acquainted with Contra Costa Patrons.

The executive committee of the State Grange of California will meet, as required by law, at 220 Market street, San Francisco, on Tuesday, April 4, 1893, at 10:30 A. M. Any one having business before that body will take due notice and govern themselves accordingly. E. W. DAVIS, Chairman.

Those local "notes" from your Grange have been few and far between of late. What is the matter? The Grange organ is very anxious for Grange news. Send items, pithy, pointed and newsy, of your Grange and its doings. Send them now. Don't wait. There are 25 Granges that ought to send "notes" every week. Come to the front, fellow-Patrons. Let us know what you are doing and how you are succeeding. If you don't look a "little out," we shall call on you by name, through the RURAL, for an account of your stewardship.

Take up a collection in your Grange some day for the Grange Temple. Send the proceeds, under seal of the Grange, to John Trimble, Secretary National Grange, P. O. H., 514 F street, Washington, D. C., to the credit of "Grange Temple Fund." He will send receipt for the amount.

Are you profoundly impressed with the idea that the Grange is the best organization in existence for the farmers of America? By the co-operation which is possible in the Grange the material relations of life can be made to be largely under the control of the members of the Grange. It is of greatest importance that we use to advantage all the important means of the Grange which have been provided for the benefit of its members. Among these, don't forget the trade-card plan of buying your goods. There is a good margin of profit in it for you, as can be verified by those Granges that have acted unitedly in purchasing. By the enactment of the legislature, mutual insurance will soon be available. We believe great good will follow for the farmers, but we urge our members not to plunge headlong into any and every wild scheme of insurance that may present itself. Remember our Grange adage, "Go slow and keep in the middle of the road."

Open Letter From Worthy Master Davis.

TO MASTERS OF SUBORDINATE GRANGES IN CALIFORNIA:—The season for renewing Grange work is at hand. Upon you devolves a most important duty. To your skill and intelligence, as well as to your fidelity and love for the Order, the members of your Grange have intrusted its welfare for the year 1893. How well are you going to meet that responsibility, and how fully redeem the pledge you took on the day of your installation? It is a well known law of mechanics that no machine will run without some sort of power—perhaps unseen—outside of itself. So with your powerful machine—the Grange. It must have help—You are the engineer. On your efforts a great deal depends. See to it, that each one of the members has a work to do. Encourage by well-directed thought the full attendance of all members, and then see to it that they are well paid for such attendance. Don't allow any of the time of the session to "drag"! Confer the degrees in a feeling and thoughtful way. To do this you and your officers will have to study the Ritual. Pass on parliamentary questions promptly, yet correctly! To do this you will have to study the Digest and Cushing's Manual. I especially urge upon Masters to see that all persons, in the jurisdiction of their Grange who are worthy and eligible, are made acquainted with the Grange; with its constitution, by-laws, declaration of purposes, history, achievements, aims for the future, as well as with its social, moral and

educational advantages. Especially engage the attention of the young people of your section. Take your team, buggy or light wagon, family, and some application blanks and spend part of a day now and then this year, in calling on your neighbors who do not belong to the Grange—you see your Grange neighbors at every meeting—and try to get them to become Patrons of Husbandry. By such interest on your part you will be surprised to see how your Grange will grow in numbers, in interest and in usefulness? The Master must be zealous, earnest, progressive, faithful and interested if he would make a success of his work. If he is, and will communicate and advise freely with his members, he cannot fail. Success is sure. One more suggestion. Have you, in your Grange, a committee on "WOMAN'S WORK"? If not, my suggestion is to appoint such a committee at once. Name the sisters who are wide-awake Patrons, and give them full authority. They will soon start your Grange to work; for the mothers and sweet-hearts will see that "Children's Day" is observed, that sociables are given, that music is furnished, that a class is ready for the degreess and a harvest feast is waiting for the candidates. They will see that your Grange hall is ornamented, and that some method of raising funds for a Grange Temple is devised. They will not forget Flora's, Pomona's and Ceres' day, and the women of the Grange will never, never forget the girls and the boys who ought to join the Grange. Let us, with a fixedness of purpose, build up the Grange as it ought to be built up. See that a few new Granges are organized in your own or in a neighboring county! The State Grange will pay you for such work. Meet the County or State Deputy at the depot or at the neighboring Grange the day before your meeting or ask some one of your officers or members to do so if it is impossible for you to do it, when your Grange is to be visited. See that said officer gets a fair start on his way to the next appointment. Go with him if you can do so, and ask a delegation of your members to accompany you. It adds much pleasure to the occasion to have all these details looked after by some one. The Master is the proper person to do it, or to see that it is done. His Grange naturally expects him to be vigilant for the good of the Order, and when he shows the will, the members will always help him find the way. Let us work unitedly, persistently, intelligently for the Grange we love so well! E. W. DAVIS.

Santa Rosa, March 20th, 1893.

The Secretary's Column.

By A. T. DREW, Secretary State Grange of California.

SAN JOSE MEETING.—Eden and Temescal Grange will no doubt respond well to the invitation of San Jose Grange, for a grand turn-out to listen to Master Davis, Lecturer Huffman and other able speakers.

ARTICLES for this column must be received always as early as Tuesday forenoon (and sometimes on Monday in case of holidays, etc.). Send us news, when practicable, with your quarterly reports.

STORM AND DEARTH.—The recent protracted storm seems to have prevented Grange meetings, causing a dearth of Grange items for the Secretary's Column. We hope a fruitful season (for items as well as farm products) will follow.

PICNICS.—Many Grange and farmers' picnics will no doubt be held during April and May. Wherever attempted they almost universally prove a grand success. It is well that they should be announced early. Pains should be taken not to have appointments interfere with one another.

READY FOR THE FIELD.—Past Master Overhiser has sent for a supply of free Grange literature and other equipments for soon taking the field in the recruiting service of the Grange. His route will soon be announced. Wherever he goes, farmers will find an earnest and faithful husbandman in their field.

THE EXECUTIVE COMMITTEE will meet Tuesday, April 4th. Meanwhile it will be well for members to consult in regard to the best time and manner of holding special meetings to be addressed by State officers and Lecturers in each locality. All suggestions feasible should be sent in previous to that meeting, which is the regular semi-annual session.

BRO. S. P. SANDERS, whose fruit farm is near San Jose, has recently put down a well to be used for irrigation purposes by pumping process, according to the following description in *Tree and Farm*: "He first made an excavation 5x8 feet in size to the depth of 83 feet, finding quite a flow of water at that depth. Then he bored down to a depth of 120 feet, finding another stratum of gravel, and then still farther to a depth of

144 feet, where the water seems inexhaustible. Mr. Holburn, near by, is also sinking a well for the same purpose." As orchard trees in that section become larger, irrigation seems desirable.

FROM CONNECTICUT.—Bro. L. J. Wells, of Winstock, Conn., Secretary of the State Grange during our old friend J. H. Hale's term as Master, called in on Monday. He has been in Colorado the past three years and will spend a few weeks in California with his wife and son, Frank A. Wells. They will probably visit Stockton and some other Granges en route to Southern California on their way home. Sojourning Patrons are always welcome within our California gates.

TEMESCAL GRANGE held a very interesting and instructive meeting last Saturday. A very able paper on Silver Question, written by Bro. Stevens, was read by Sister Stevens. A very lively discussion ensued which was participated in by Bros. Good-enough, Woodhams and Frink.

Sister Libby, from Watsonville Grange, was also present and made some very pleasing remarks in regard to the Grange work at Watsonville. Excellent memorial resolutions on the death of Sister Frink were read by Sister Paine, chairman of the committee and adopted.

THE GRANGE CAMPAIGN FOR 1893.

The next two months will probably be the best season of the year for organizing and reorganizing Granges. We believe that good and effective work could be begun at Placerville, Newcastle, Salinas, Paso Robles and many other places. Every patron who is willing to go to work in the cause should buckle on his armor and do battle where help is wanted.

The Grange is the oldest and most substantial farmer's organization. Without disparagement to any, it is a fact that while other fraternal organizations are losing ground is an opportune time for Patrons to put forth active and strong efforts to increase the number of Granges and members in this State. If special help is needed in any quarter, the Master of the State Grange will be pleased to designate able lecturers and helpers to labor wherever they may do the most good.

By action of the State Grange in 1891-2, the Sisters were especially invited to engage in recruiting work, and concerning those who are willing and ready notice should be given to the Master or Secretary.

ADULTERATIONS.—The Grange has taken the lead in efforts to secure legislation against the adulteration of food, with good hopes of success. The *Farmers' Friend* well says:

"No one can deny that adulteration is a swindle, and it should not be permitted except the manufacturer stamps the character of the article in the package. There is no objection to cotton in woolen cloth if the article be labeled and sold for cotton mix.

Nor is there any objection to chicory in coffee if people know it is there, and are willing to buy it. We should have some strict laws in this country against swindling adulterations, and heavy penalties for their violation. If a man can't be punished for chopping coffee berries out of chicory, a farmer shouldn't be fined for putting stones in wool to make it weigh heavier.

"Over in England they have a good law, under which government analyzers are appointed in nearly every town, and it is their duty, on application, to analyze, for a small fee, any article the purity of which is suspected. He is required to make a record of this analysis, and to take all precautions against injustice to either seller or buyer. In Germany the inspection service is thorough and searching, and when a merchant is caught handling impure goods, he must either tell where he purchased them or have his shop closed up. In this country we need some such laws."

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Jewels, Badges, Working Tools, Seals, Etc.,

GOLD AND SILVER TRIMMINGS.

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NOTICE.

THE ANNUAL MEETING OF THE STOCKHOLDERS of the Grangers' Business Association, a corporation, for the election of a Board of Directors, and for the transaction of such other business as may properly come before it, will be held at No. 108 Davis street, San Francisco, at 10 o'clock A. M. WEDNESDAY, April 12th, 1893. I. C. STEELE, President.

CHARLES WOOD, Secretary.

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They sell here for \$25.00, and harness not as good is often sold for \$35.00 in retail shops. If harness is not as represented, money will be refunded.

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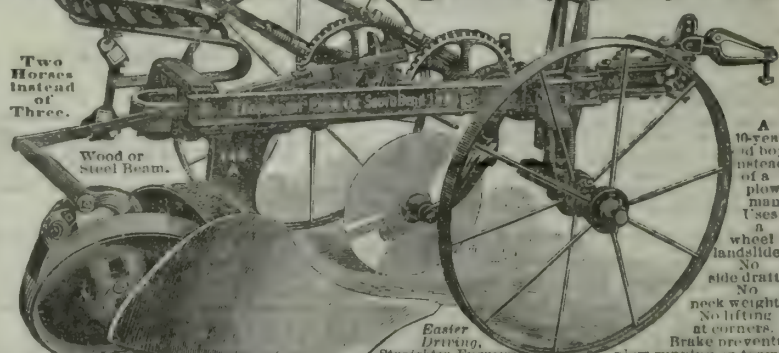
Collar and Hames, instead of Breast Collar, \$2.00 extra.

Please state if you want single strap Harness, or folded style Harness, with traces double throughout.

Shook's it on **ST. JACOB'S OIL** is the sworn enemy of Pain. It fights to Kill. It wins its Battles and comes off Conqueror?

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Breeders' Directory.

Six lines or less in this directory at 50c per line per month.

HORSES AND CATTLE.

BEST A. J. C. C. Prize Jersey Herd is owned by Henry Pierce, San Francisco. Animals for sale.

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JOHN LYNCH, Petaluma, breeder of thoroughbred Shorthorns. Young stock for sale.

CHARLES E. HUMBERT, Cloverdale, Cal., Importer and Breeder of Recorded Holstein-Friesian Cattle. Catalogues on application.

PERCHERON HORSES.—Pure bred horses and mares, all ages, and guaranteed breeders, or sale at my ranch near Lakeport, Lake Co., Cal. New catalogue now ready. Wm. E. Collier.

P. H. MURPHY, Perkins, Sac. Co., Cal., Importer and Breeder of Shorthorn Cattle and Poland China Hogs.

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BEWARE OF CHEAP IMITATIONS.



One gallon, mixed with 60 gallons of cold water, will dip thoroughly 180 sheep, at a cost of one cent each. Easily applied; a nourisher of wool; a certain cure for SCAB. Little's dip is put up in red, iron drums, containing 5 English or 61 American gallons, and is sold to the trade by the English gallon. For the convenience of our many customers it is also put up in one-gallon packages, for which we make no extra charge. Each drum and package bears the label of "Little's Dip."

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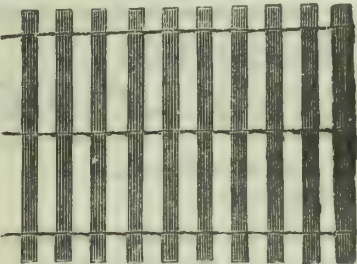
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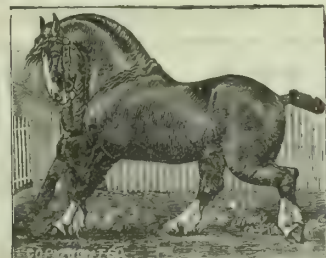
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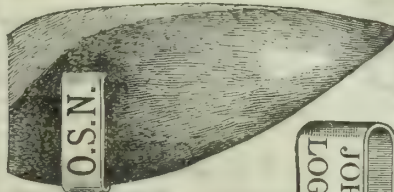
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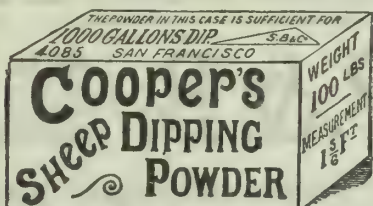
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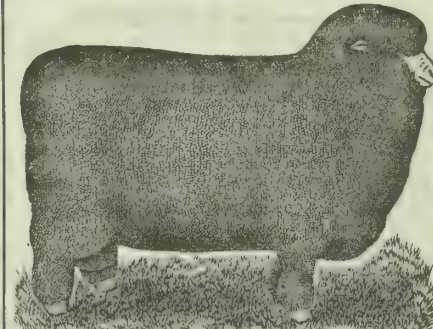
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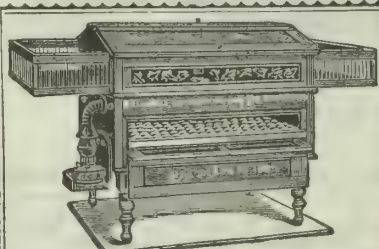


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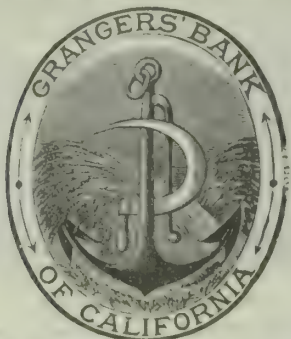
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This Scraper is all steel—the only one manufactured in the State.

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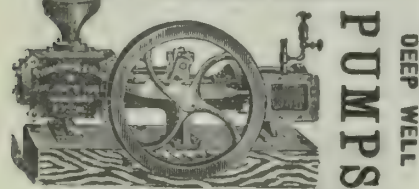


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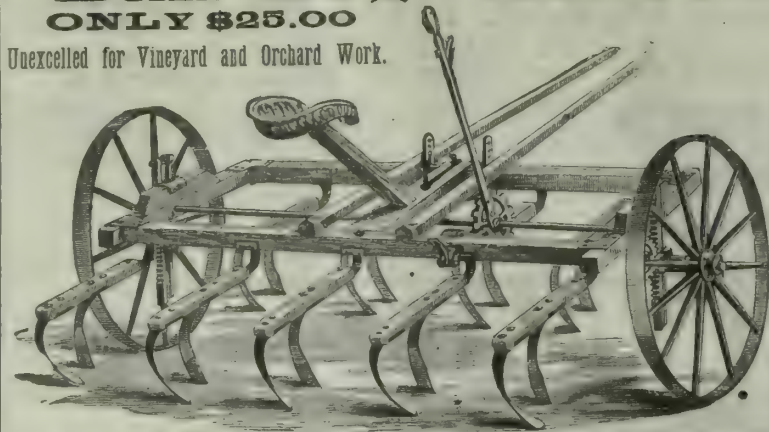
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Instead of a single tooth, drawing straight through the ground, the teeth are attached in pairs (which have a spread of seven inches) to a short beam. Every tooth has a quarter turn (to the right or left respectively), thus presenting a cutting edge to the ground, and giving to each the position and appearance of a moldboard of a plow, or the shovel to a cultivator. This form of tooth, together with the relative positions assumed by the teeth to each other, gives to them the power of cutting and pulverizing tough soils, and hard, baked ground, which is possessed by no other form of tooth yet invented. By this peculiar disposition of the teeth, they have the advantage also, that one acts as a brace or landaid to the other, and so prevents their clogging, which is a serious fault existing in all spring tooth harrows whose teeth are made of one long, continuous spring. In the "BULL DOG" HARROWS the short beam which holds each pair of twisted teeth is attached by a stiff spring to the main framework of the tool. Thus these implements have the combined elasticity which exists in the teeth themselves, and in the spring which attaches the short beam to the cultivator frame. Hence the harrow retains all the vibration necessary for the successful working and cleaning of the machine, whilst it is also stiff enough to be held down to its work in the most obstinate soils without difficulty.

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—USE—

One pound to 5 gallons of water.

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S. F. MARKET REPORT

Market Review.

SAN FRANCISCO, March 22, 1893.

The wheat market during the week has disclosed no new features and the fluctuation of prices from day to day has been very slight. A slightly improving tone, however, has been noted and the downward tendency appears to have been checked. The late report of the Government Statistician, showing 135,000,000 bushels of wheat in farmers' hands in the United States, had the effect of preventing any bullish movement, which seems to have been contemplated. If the report had shown not more than 100,000,000 or 110,000,000 bushels, it is likely that an advance would have occurred all along the line. On the other hand, the 135,000,000 bushels was less than the bears hoped, and no sustained movement has been made by them. General conditions and uncertainty as to the growing crops have been the real weakening influences, and, under no encouraging factors of a positive nature, the market has been altogether unable to hold its own. For the present it is a waiting market, and it is not likely that there will be any decided change until the condition of the coming crop is definitely known.

Elsewhere we publish reports of crop prospects in the West, and they confirm previous advices that a low yield be the average is to be expected. In none of the States is there confidence in an unusually heavy yield, and in some of them a shortage of greater or less dimensions is anticipated. If a yield below average is the result—and there appears every reason to anticipate a small crop—the effect on the market must be improvement. Meanwhile the United Kingdom is slowly eating into her own available supplies and absorbing imports from other nations. By the time of the new crop we may confidently look for a normal condition of supplies.

In California reports are already being circulated that a great deal too much rain has fallen and that a smaller yield than the average is to be expected. It is undoubtedly true that there has been altogether too much water in northern California and that the yield on the adobe lands, bottoms and islands will be materially shortened. But the region west of the San Joaquin will produce a large surplus over the average—so far as we can judge from prospects—and in southern California we may expect a crop 20 per cent above the average. These favorable and adverse circumstances—so far as the entire State is concerned—at least balance each other, with strong probabilities for a larger crop than usual. The wet years in California are the years of big crops. The cry of too much rain is generally raised during such seasons. This year it is true of localities but not of the whole State.

The local market is dull, weak and featureless. Sellers are not at all anxious, and will not, with occasional exceptions, meet the offers of buyers. Occasionally a weak holder is found who must sell for what he can get, but such instances are fortunately rare.

It is interesting to note what has been the condition of the wheat supply in the United States in preceding years when Government reports were made. They have been as follows:

	Op of, bushels	Amount in hands, farmers'	P. c. in farmers' hands.
March 1, 1893.	135,000,000	135,000,000	26.2
March 1, 1892.	112,000,000	112,000,000	28.0
March 1, 1891.	112,000,000	112,000,000	28.0
March 1, 1890.	112,000,000	112,000,000	28.0
March 1, 1889.	112,000,000	112,000,000	28.0
March 1, 1888.	112,000,000	112,000,000	28.0
March 1, 1887.	112,000,000	112,000,000	28.0
March 1, 1886.	112,000,000	112,000,000	28.0
March 1, 1885.	112,000,000	112,000,000	28.0
March 1, 1884.	112,000,000	112,000,000	28.0
March 1, 1883.	112,000,000	112,000,000	28.0
March 1, 1882.	112,000,000	112,000,000	28.0

The quantities of wheat and flour on passage for the United Kingdom are 26,000 quarters more than a week ago, and 19,000 quarters more for the Continent. The "visible" supply of wheat in this country east of the Rocky mountains is estimated at 83,000 bushels less than a week ago. There has been a steady decrease for some time past. English wheat declined to 24s 9d per quarter during the past week, the lowest yet reported. Since the first instant 11 cargoes of wheat have been cleared at this port for the United Kingdom, against six for the corresponding time in 1892.

Other Cereals.

Choice qualities of feed and brewing barley are in good tone, though the local demand is not heavy. Millers and malsters buy only for their own immediate wants. Brewing has been in active export demand, for it is expected that early shipments to the United Kingdom will be heavy. Strictly choice feed is in small supply. Any change in values is more likely to be upward than downward.

Oats show no change, with the same quotations. Shipments from Oregon are said to be over for the season.

Corn is in better tone, though values are not advanced. Holders are not willing to meet offerings of buyers.

The Raisin Crop.

The J. K. Armsby Company sends out the following circular from Fresno relative to the raisin crop: "California is being swept of dried-fruit stock as clean as if it was done with a broom propelled by horse-power. Apricots were exhausted long ago; peaches have already followed suit, and we question if there are more than 20 cars of prunes left in the whole State. Certainly, there is not half enough dried fruit left to supply the local coast demand up to the time the new crop makes its appearance."

"The raisin stock is also nearly exhausted. There are less than 300 cars left here, and those are nearly all three-crown in sacks. Londons and two-crowns in any shape have all gone forward. The crop of last year was over 2600 cars, and the crop year has not yet passed its first half, and the stock is already about exhausted."

"The consumption of this year has set at rest the idea that was gaining ground for the past year that the California crop was larger than the consumptive demand. The facts are that we can easily consume 1000 cars more of California raisins than have been produced in 1891 or 1892; but, in order to do it and at the same time keep the home market in good shape, prices must be made on the lower grade of

loose raisins in the commencement of the crop that will bar the importation of Valencia or any low grades of foreign raisins. This fact the large shippers here are already recognizing the necessity of, and prices will probably be made on the low grade of California raisins that will very largely shut out the importation of foreign."

"With our higher grades of raisins, like choice Londons and clusters and fancy loose, the demand has always been in advance of the production and will be so for years to come."

"The low prices of the past two seasons have done the growers some good in one way—it has put almost an entire stop to the setting out of new vineyards, and, if the consumption increases as fast in the future as it has during the past two years, the increased acreage that is coming into bearing this year and the next will not meet the fast-growing demands."

"We look for an advance of more than one cent per pound on present stocks before new-crop raisins make their appearance."

Winter Wheat in the West.

Reports to the Farmer Review from the principal wheat growing States in the West show that the crop is at that stage when not much can be told by appearances, but a few weeks will show the true situation.

In Illinois the appearances are decidedly against a full crop, but it is probable that a few weeks will improve the outlook. At present on many fields the tops of the wheat plants have been killed, but the roots seem to be all right. Judging by present appearances, almost half of the reports indicate a condition 20 per cent below an average; one-fifth of the reports indicate a full average, and the rest are decidedly poor. The following report from Effingham County is characteristic of others: "I don't think it has been injured by the winter. A great deal got a poor start last fall, and looks bad. The early sown looks well. Some of the late sown never came up last fall. If the weather is favorable from this on we will probably have an average crop." Johnson County reports: "Very poor; it has made no growth. Many fields are a bad stand from drouth in the fall and freezing in the winter."

In Indiana the general condition is reported at fair, which means a little below an average. The following reports are samples of all: Bartholomew: "Wheat is in good condition, though some complain of freezing drawing it out of the ground." La Port County: "Very, very uncertain, 90 per cent of an average condition at present, but covered with ice, and the crisis will not be past for two weeks." Madison County: "Wheat rather feeble. Not more than 25 per cent is frozen out, and with favorable weather we will have 75 per cent of a full average crop."

In Ohio the present condition is much ahead of that in Illinois and Indiana. More than half of the correspondents report the outlook as good, and that the crop appears to have come through the winter in fine shape. Most of the others report fair. Ashtabula county reports the condition as only 80 per cent of an average and the correspondent says: "The snow is now off, and the serious time for wheat is at hand. Danger will not be over until the middle of April." Butler county: "The prospect is improved. The cold in February damaged it some, but not so much as feared. The plant is small but healthy." Franklin county: "Wheat has suffered a great deal of late by cold and excessive wet. It now looks bad, though not frozen out much."

In Michigan the condition is similar to that in Ohio, half of the counties reporting the outlook as good. In some localities the wheat is still covered with snow. In a few localities it is believed that the wheat has been greatly injured, but there is no certainty of this, as the ice still remains. In other localities the snow is rapidly disappearing and wheat looks quite as well as it did last fall. In a few counties it is small from the effects of the fly and drouth. On low ground some wheat is known to have been smothered out by ice.

In Kentucky the general condition is fair. It has been damaged in some counties by freezing and thawing, and has been lifted out of the ground, but is again taking root and promising a fair crop.

In Missouri the condition is hardly fair. Only one-fourth report the condition as a full average. Some correspondents report the wheat frozen out in places, and that the fields will have to be plowed up. In some of the fields the crop cannot be over one-half the average. Generally speaking, the early-sown fields are good. Late-sown fields are of doubtful condition.

In Kansas and Nebraska the condition is fair to good. The plant in some counties is starting to grow and has a good color at the roots.

In Iowa the condition is nearly an average. Snow is going rapidly.

In Wisconsin the snow came early and kept the plant covered all winter. In some places where the snow has melted the condition appears to be fair.

Oranges.

The Eastern orange market has improved somewhat over a week since, but it is yet in a very unsatisfactory condition. Foreign and Florida fruit arrive in bad shape, and the result has been that it is a little easier to dispose of the California product than for some weeks. Values have advanced, and the outlook for continued improvement is fair. The dissensions among orange-producers in Southern California are attracting much attention, and have caused general renewal of the old discussion as to the best method of marketing the fruit. The practical failure of the Riverside Association once more proves the absolute necessity of complete co-operation to handle the fruit intelligently and to secure the best prices. Important growers stayed outside the association, and shipped without regard to the needs or condition of the market. Dissatisfaction has been found with packing and commission houses, and their charges are seriously complained of. Various remedies are suggested. One is to hold local fruit auctions, the idea being that Eastern houses will have their agents in California ready to attend such sales and to give the highest prevailing market price. Of course, by such method, all risk to the grower in shipment would be avoided. The Redlands method commends itself to many, and it may be generally adopted, ultimately, in view of the fact that it has worked in a satisfactory manner, all things considered. The Redlands Association contracted with the Haight Fruit Company to pack

and ship its fruit, the agreement being that the Haight Fruit Company should pay for all fruit f. o. b. at market prices, and stand all risks of shipment and delivery. The manager of the company can sell only as the managers of the association agree, and all acts of the company have been subject to and endorsed by the managers of the association. The conduct of the business both for the past and the present season has been wholly satisfactory, the growers indorsing the methods by which their fruit has been handled. This plan seems to be the best yet adopted, as the growers say at what price the fruit shall be sold, and receive pay for the same f. o. b., incurring no risk whatever. The interests of the packers (the Haight Fruit Company) are best subserved by securing good prices for the fruit, and the same interests necessitate that the fruit be packed in a first-class manner to protect them from possible loss, as they assume all risk for the same.

It has been learned here that Eastern dealers, finding that the growers of California intended to hold their oranges until late in the season, bought largely in foreign markets. Inasmuch as the California fruit has not been held back as generally as was desired, and as importations from abroad and from Florida were quite large, demoralization ensued. Eight or ten weeks remain in which to market the fruit. Within that time the World's Fair will have begun and rival fruits will be pretty well out of the market. That fruit which can safely be held, therefore, is likely to be taken at good prices. Oranges which must be marketed soon will not fare so well.

Locally the situation is favorable to buyers. The weather has not been good for active demand and supplies have been large, and prevailing low prices are frequently shaded to dispose of consignments.

Fresh and Dried Fruits.

Choice apples are becoming scarcer and prices are firm and high. Inferior grades are coming in less freely, but do not find an active demand. California lemons are slow and dull. Sicily lemons sell poorly. Mexican limes are weak in anticipation of further receipts. Raspberries have appeared from San Leandro and sell at 40 cents per basket.

A local authority says as to dried fruits: "The trade in dried fruits was remarkably quiet the past week, as the unsettled state of the weather caused a holding back of what little there is left in the country, and orders are necessarily light. The continued rains for the past ten days are having an injurious effect upon fruit trees now in blossom, especially apricots. Prospects a few weeks ago were very bright for a heavy crop of this fruit, but in the early sections, where they are now in blossom, reports of great damage are received. In some cases growers report the crop entirely ruined and others state that the trees in several orchards have been killed, the excessive moisture causing the roots to be affected by what is known as 'sour root.' It is impossible at present to estimate the damage done and will be until the weather becomes settled, but the crop will certainly be much lighter than was anticipated a short time ago. The same conditions prevail East as here and markets there are correspondingly affected, as the weather has been such as to prevent distribution of stocks now there. The little business that is being done is entirely on consumptive orders, but with pleasant weather a brisk trade is anticipated."

Provisions and Pork Products.

No change in the condition of the hog market has taken place locally during the past week. The fight among commission men is still on, and values are somewhat affected. But conditions remain essentially the same.

In Chicago speculators have made an onslaught and caused a break. But there is no ground to fear that there will soon be an over-supply. It can only occur in the course of nature and not through the speculative manipulation of great packers and 'ringsters.' The situation is thus sized up by the Chicago Breeders' Gazette, March 15: "The weakness noted of the hog market when we last wrote has been the most prominent feature of the situation since. Prices continued to work downward until near the close of trading yesterday, when the best light sorts sold at \$7.50 and choice heavy grades were off to \$7.80. That was a reduction from the prices ruling one week ago of 50 to 60 cents per 100 pounds and a decline from the highest prices of the season of \$1.00 per 100 pounds. The break cannot be ascribed to excessive receipts, for we have not had them. The total for the last six days is barely 83,000, as against 90,000 for the previous week and 168,000 for the corresponding week last year. There was a slight increase in the average weight, which may be taken as an indication of freer arrivals in the near future, though the most unreasoning of the 'bears' does not venture the opinion that the supplies for some months to come will nearly equal the average of recent years at a corresponding period. The hog market is simply being used as a means to elevate or depress the market for hog products in the interest of the packers' 'ring,' and we may expect to see the market value of the live animal pushed up and down as suits their fancy. There was a firmer feeling to-day."

Vegetables.

Potatoes continue firm and prices rule the same as for some time past. Onions are higher than a week since. The California product has been absent from the market lately. Asparagus is very plentiful and there is a material cut in prices. Peas are in light receipt and the demand is good. Beans have been comparatively quiet during the past few days, but for most descriptions, especially colored, prices have ruled firm at the recent advance. The movement in the past week was mostly in Limas, the shipments of which have been unusually heavy for this season of the year. Cucumbers sell rapidly at high figures. Rhubarb meets a good demand. Marrowfat squash has advanced very sharply owing to light stocks. The deficiency is probably only temporary.

Butter, Cheese and Eggs.

Supplies of eggs are not so abundant and a much better tone prevails. Eastern shipments are very light because of low prices here and an improving condition in the East. As yet no advance has occurred in values, but dealers feel certain that one will take place very soon.

Butter has come in heavy of late, and the market

is at present overstocked. There are some special creamery brands, however, which do not seem to be affected by the congested condition of affairs. The export movement is small, though shipments of solid-packed East have afforded some relief. Much defective stock is offering and is closed out at any figure, affecting demand for better grades.

The cheese market is in fairly good condition. Supplies are plentiful and the consumption reasonably good.

Poultry.

During the week, poultry weakened a little, owing to receipt of two carloads from the East. But quotations to-day are unchanged from a week since, except for turkeys, which are lower. Young stock brings fancy figures, and the demand in all lines is excellent and likely to continue.

Wool.

The bad weather has interfered with the beginning of shearing, and it will not be fairly under way until early in the coming month. Receipts so far of the new clip have been about 200 bales from Kern county, while about 100 bales have come in from Nevada. No change in conditions is to be noted. No reliable quotations can yet be given.

Miscellaneous.

Beef is dull at unchanged prices. Large calves continue scarce. While fat mutton is not plentiful, spring lambs are coming in more liberally. Hogs continue firm.

There is no particular demand for game. Prices for hare are low.

Stocks of honey and beeswax continue small, and the market is firm.

Receipts of hay have been free, and have further depressed the market. Choice grades, however, are in good demand.

Soft-shell almonds and walnuts are scarce and high. Consignments of new crop of Brazils are expected soon.

Demand for seeds is light.

There is no inquiry for hops.

Grain Futures.

Liverpool.

The following are the closing prices paid for wheat options per cwt. for the past week:

	Mar.	April.	May.	June.	July.	Aug.
Thursday....	5s06½d	5s07d	5s07½d	5s08½d	5s09½d	5s10d
Friday.....	5s06½d	5s07½d	5s08½d	5s09d	5s10d	5s10½d
Saturday....	5s06½d	5s07½d	5s08d	5s09d	5s10d	5s10½d
Monday.....	5s06½d	5s07½d	5s08½d	5s09½d	5s10½d	5s11d
Tuesday....	5s07d	5s08d	5s09d	5s10d	5s11d	5s11½d

The following are the prices for California cargoes for off coast, nearly due and prompt shipments for the past week:

	O. C.	P. S.	N. D.	Market for P. S.
Thursday....	29s0d	30s0d	29s0d	.....Slow
Friday.....	29s0d	30s0d	29s0d	.....Slow
Saturday....	29s3d	30s3d	29s6d	.....Firm
Monday.....	29s3d	30s3d	29s6d	.....Steady
Tuesday....	29s0d	30s0d	29s3d	.....Easier

To-day's cablegram is as follows:

LIVERPOOL, March 22.—Wheat: Quiet but steady. California spot lots, 5s 11½d; off coast, 29s; just shipped, 30s; nearly due, 29s 3d; cargoes off coast, very quiet; on passage, heavy; Mark Lane wheat very quiet; French country markets, rather easier.

Eastern Markets.

The following shows the closing prices per bushel of wheat for the past week at

New York.

	March.	June.	July.
Thursday.....	75½	78½	79
Friday.....	75½	78½	79
Saturday.....	74½	77½	78½
Monday.....	73½	77	77½
Tuesday....	73½	77	77½

The following is to-day's telegram—per bushel:
New York, March 22.—Wheat: 75½c for May and 77½c for July.

Chicago.

	March.	June.	July.
Thursday.....	73½	77	77½
Friday.....	74½	77½	74½
Saturday.....	74½	77½	73½
Monday.....	73½	76½	73½
Tuesday....	73½	76½	72½

The following is to-day's telegram—per bushel:
Chicago, March 22.—Wheat: 76½c for May and 72½c for July.

San Francisco.

WHEAT.

	March	May.
Thursday, highest.....	\$1 30	\$1 27½
" lowest.....	1 26½	1 26½
Friday, highest.....	1 27½	1 27½
" lowest.....	1 27½	1 26½
Saturday, highest.....	1 30	1 26½
" lowest.....	1 26½	1 26½
Monday, highest.....	1 30	1 26½
" lowest.....	1 26½	1 26½
Tuesday, highest.....	1 26½	1 26½
" lowest.....	1 26½	1 26½

*Milling. *Buyer option.

The following are to-day's recorded sales on Call:
Wheat—Morning—Informal—December, 2 0 tons, \$1.20½; May, 2200 tons, \$1.25; 100, \$1.25½ @ cti. Regular Session—December, 109 tons, \$1.31; 100, \$1.31½; 200, \$1.31½; May, 500 tons, \$1.25; 700, \$1.25½ @ cti. Afternoon—May, 1000 tons, \$1.25; 800, \$1.25½; December, 900 tons, \$1.31½ @ cti.

BARLEY.

	March.	May.
Thursday, highest.....	.....	.....
" lowest.....	.....	.....
Friday, highest.....	100	84½
" lowest.....	87½	84½
Saturday, highest.....	87½	84½
" lowest.....	83½	84½
Monday, highest.....	84½	85½
" lowest.....	84	85½
Tuesday, highest.....	84½	85½
" lowest.....	84½	85½

*Sample market—choice brewing.

The following are to-day's recorded sales on Call:
Barley—Informal—December, 100 tons, 83½; Seller 1893, new, 100 tons, 84½; May, 500 tons, 86½ @ cti. Regular Session—May, 40 tons, 86½; 100, 86½; 1100, 87c; 200, 87c; December, 100 tons, 88½; Seller 1893, new, 100 tons, 84½ @ cti. Afternoon—May, 100 tons, 86½; Seller 1893, new, 100 tons, 84½ @ cti.

Markets by Telegraph.

British Grain Trade.

LONDON, March 20.—The Mark Lane Express says: Quotations of Central Indian Wheat futures have declined 6½d. At Liverpool 1d per cental advance is paid for California. Red winter declined 9d in London. Australia has shipped 40,000 quarters weekly since January 1st. The quantity of Wheat on passage for Great Britain on March 18th amounted to 2,692,000 quarters. In twelve markets Corn is firm. Prices have risen 1d in Liverpool.

Visible Supply of Grain.

NEW YORK, February 20.—The visible grain supply is as follows: Wheat, 79,021,000 bushels, an increase of 83,000; Corn, 15,241,000 bushels, a decrease of 568,000; Oats, 4,876,000 bushels, a decrease of 257,000; Rye, 946,000 bushels, a decrease of 37,000; Barley, 1,290,000 bushels, a decrease of 130,000.

California Fruits in Chicago.

CHICAGO, March 21.—Oranges—California oranges are easy, with Navels a shade lower. Some of these show indications of being soft. The general market

box, 123 to 216 to the box, \$2.25; 250 to 300, \$1.75@1.90 is rather quiet. California oranges—Seedlings, per Riverside seedlings, 123 to 216, \$2.25@2.50; 250 to 300, \$1.90@2.15; Navel, 200 to 216, \$2.25@2.50; 250 to 300, \$2.75; fancy to extra, \$3.25@3.50. No change in California dried fruits.

The World's Crop.

WASHINGTON, March 21.—Professor J. R. Dodge, Statistician of the Department of Agriculture, includes in his monthly report dates and official statistics of the principal crops of foreign countries. Present conditions are very favorable. The world's wheat crop for 1892 is given as 2,347,968,035 bushels. "In Great Britain," says the report, "there is a great reduction in the stock of live hogs, a decrease of over a million head. The shortage in Ireland is estimated at 1,200,000 head. The abnormally high price of bacon and pork as contrasted with other meats will, it is thought, greatly stimulate hog breeding."

Hops in London.

MARK LANE Express, March 6:—During the last few days there has been a better inquiry for English hops at the late reduction in values, and a fair amount of business has been done, mainly for consumption. Continental hops are slow of sale, and consequently there is not much buying on the other side for export to this country. The better class Pacific Coast hops continue to sell freely and to maintain their values, but lower prices have to be accepted for the secondary qualities, which are much more inferior than those that came earlier in the season. The American markets have been dull of late, and prices are not so firm, though quotations remain nominally unaltered. Both in New York State and California holders are waiting in expectation of a recovery in the markets, many declining to sell at present figures.

General Produce.

Extra choice in good packages fetch an advance on top quotations, while very poor grades sell less than the lower quotations. MARCH 22, 1893.

BEANS AND PEAS.		Do good.....	1 22 1/2 @	—
Bayo, cts.....	2 75 @	Do fair.....	1 20 @	—
Butter.....	2 75 @	Do off grades.....	1 05 @	1 12 1/2
Peas.....	2 75 @	Sunora.....	1 20 @	1 30
Red.....	2 75 @	HOPS.		
Pink.....	2 70 @	1892, fair.....	15 @	—
Small White.....	2 55 @	Choice.....	19 @	—
Large White.....	2 70 @	FLOUR.		
Lima.....	3 20 @	Extra, city mills 3 90 @	—	—
Old Peas, bly eye 1 10 @	1 65	Do country m's 3 90 @	—	—
Do green.....	2 00 @	Superfine.....	2 50 @	3 00
Split.....	4 50 @	NUTS—JOBBING.		
BUTTER.		Walnuts, hard	6 @	8
fair, b.....	15 @	shell, Cal. b.....	13 @	12
Do g'd to choice.....	18 @	Do soft shell.....	10 @	12
Do Giltedged.....	22 @	Do paper shell.....	12 @	13 1/2
Do Creamery.....	22 @	Almonds, sft sh'l.....	13 @	14
Do do Giltedged.....	24 @	Paper shell.....	7 @	8
Eastern, ladie.....	15 @	Hard shell.....	10 @	—
Cal. Pickled.....	16 @	Brazil.....	10 @	—
Cal. Keg.....	15 @	Pecans, small.....	8 @	10
East'n Cr. any.....	19 @	Do large.....	14 @	16
CHEESE.		Peanuts.....	34 @	4
Cal. choice.....	11 @	Filberts.....	10 @	12
cream.....	10 @	Chestnuts.....	7 @	8
Do fair to good.....	10 @	ONIONS.		
Do Giltedged.....	13 @	Silverskin.....	2 00 @	2 25
Do Skim.....	5 @	POTATOES.		
Young America.....	12 @	River Reds.....	80 @	—
EGGS.		Early Rose, ctd. 1 00 @	1 10 @	—
Cal. "as is," doz.....	10 @	Peerless.....	80 @	90
Do shaks.....	17 @	Do do Oregon.....	1 15 @	1 25
Do candied.....	10 @	Sweet.....	1 50 @	1 75
Do fresh laid.....	17 @	Extra choice sell for more	—	—
Do do s'cil white.....	16 @	money	—	—
Do selected.....	16 @	POULTRY.		
Outside prices for selected		Hens, doz.....	7 00 @	8 00
large eggs and inside prices		Roosters, old.....	6 50 @	7 50
for mixed sizes—small eggs		Do young.....	7 50 @	9 00
are hard to sell.		Broilers, small, 4 50 @	5 00 @	—
FEED.		Do large.....	5 50 @	7 00
Brans, ton.....	50 @	Fryers.....	7 00 @	8 00
Feedmeal.....	25 @	Ducks.....	7 00 @	7 50
Gr'd Barley.....	19 @	Do large.....	8 00 @	9 50
Middlings.....	19 @	Geese, pair.....	2 50 @	3 00
Oil Oake Meal.....	37 @	Turkeys, gob't.....	19 @	20
HAY.		Turkeys, hens.....	19 @	20
Compressed.....	7 00 @	Do dressed.....	20 @	22
Wheat, per ton.....	7 00 @	All kinds of poultry, if poor		
Do choice.....	12 @	or small sell at less than	—	—
Wheat and oats.....	7 00 @	quoted; if large and in good	—	—
Wild Oats.....	7 00 @	condition, they sell for more	—	—
Cultivated do.....	6 00 @	than quoted.	—	—
Barley.....	7 00 @	Manhattan Egg		
Alfalfa.....	8 00 @	Food (Red Ball	—	—
Clover.....	7 00 @	brand) in 100.....	35 @	—
Straw, bale.....	50 @	lb. Cabinets.....	—	11 50
GRAIN, ETC.		PROVISIONS.		
Barley, feed, ctd.....	75 @	Cal. bacon.....	12 @	13
Do good.....	81 @	heavy, per lb.....	13 @	14
Do choice.....	82 @	Medium.....	14 @	15
Do brewing.....	92 @	Lard.....	11 @	15
Do do Giltedged.....	92 @	Cal sm'k'd beef.....	10 @	—
Do Chevalier.....	92 @	Hams, Cal salt d.....	15 @	—
Do do Giltedged.....	15 @	Do Eastern.....	16 @	17
Buckwheat.....	1 75 @	SEEDS.		
Corn, white.....	1 05 @	Alfalfa.....	10 @	10 1/2
Yellow, large.....	1 05 @	Oats.....	15 @	—
Do small.....	1 05 @	White.....	30 @	—
Oats, milling.....	1 40 @	Flaxseed.....	22 @	3
Feed, choice.....	1 37 @	Hemp.....	44 @	—
Do good.....	1 35 @	Do brown.....	5 @	5 1/2
Do fair.....	1 30 @	HONEY—1892 CROP.		
Do common.....	1 25 @	White.....	94 @	124
Surprise.....	1 50 @	Do do 1-b frame.....	113 @	134
Black feed.....	1 05 @	White extracted.....	8 @	8 1/2
Gray.....	1 25 @	Amber do.....	7 @	—
Rye.....	1 10 @	Dark do.....	6 @	—
Wheat, milling.....	1 30 @	Beeswax, lb.....	24 @	26
Giltedged.....	1 30 @	Live Stock.		
Good to choice.....	1 27 @	BEEF.		
Do fair to good.....	1 24 @	Stall fed.....	6 @	—
Shipping, choice 1 22 @	1 24	Grass fed, extra.....	6 1/2 @	—

Fruts and Vegetables.

Choice selected, in good packages, fetch an advance on the quotations, while very poor grades sell less than the lower quotations. MARCH 22, 1893.

Limes, Mex.....	5 00 @	Okra, dry, b.....	12 1/2 @	—
Do Cal.....	2 50 @	Pumpkins, ctd.....	1 00 @	1 25
Lemons, box.....	2 50 @	Peppers, dry, lb.....	5 @	6
Do Hicly choice.....	50 @	Turnips, ctd.....	5 @	6
Apples.....	35 @	Cabbage, 100 lbs.....	75 @	85
Do Good.....	75 @	Garlic, 100 lbs.....	3 @	13
Do Extra choice.....	1 50 @	Mar fat Squash.....	25 @	30
Pears.....	25 @	Onion.....	40 @	50
do Winter Nel.....	1 00 @	Celery.....	50 @	60
Persimmons.....	50 @	Mushrooms, 100 lbs.....	5 @	10
Oranges, pr bx.....	2 50 @	Do, Common.....	15 @	20
Naveis, River de.....	2 50 @	Do, Button.....	15 @	20
Do Butte Co.....	2 00 @	Tomatoes, box.....	15 @	20
Seedling, River de.....	1 25 @	String Beans.....	15 @	20
Do Fresno.....	1 25 @	Rhubarb.....	5 @	8
Do Butte Co.....	1 25 @	Green Peas.....	5 @	8
Extra choice fruit for special		Asparagus.....	6 @	12 1/2
purposes sells at an advance		Cucumbers, doz 1 50 @	2 00 @	—
on outside quotations		New Potatoes.....	3 @	4
Beets, sk.....	50 @	Artichokes, doz.....	50 @	60
Carrots, sk.....	50 @			

Live Stock.

BEEF.		MUTTON.	
Stall fed.....	6 @	Wethers.....	8 1/2 @
Grass fed, extra.....	6 1/2 @	Ewes.....	8 @
First quality.....	6 @	Do Spring.....	15 @
Second quality.....	5 @	HOGS.	
Third quality.....	4 1/2 @	Light, 100 lbs, cents.....	6 1/2 @
Bulls and thin Cows.....	2 @	Medium.....	7 @
VEAL.		Heavy.....	7 1/2 @
Range, heavy.....	6 @	Soft.....	6 @
Do light.....	5 @	Feeders.....	6 1/2 @
Dairy.....	5 1/2 @	Stoek Room.....	6 @
		Dressed.....	10 @

Dried Fruits.

The quotations given below are for average prices received by commission merchants for consignments by growers. Something very fancy fetches an advance on the highest quotations, while poor sells slightly below the lowest quotations. Prices, unless otherwise specified are for fruit in sacks; add for 50-lb. boxes 1c per lb. and for 25-lb. boxes 1/2 c per lb.

APPLES—1892.		Do do choice.....	15 @	21
Sun-dried, fair.....	4 1/2 @	Do do fancy.....	—	21 1/2
Do sliced.....	5 1/2 @	Evap., peeled, in box.....	13 1/2 @	—
Evap. bl., 50-lb. bx.....	8 1/2 @	Do choice.....	30 @	21
Fancy, higher.....	—	Do do fancy.....	—	21
APRICOTS—1892.		PLUMS—1892.		
Do bleached.....	13 1/2 @	Pitted, sun-dried.....	10 @	10 1/2
Do do fancy.....	15 @	Do evap. boxes, choice.....	12 @	—
Evap. choice, in boxes.....	15 @	Unpitted.....	4 @	5
Do do fancy.....	15 1/2 @	Cal. French, ungraded.....	7 1/2 @	8
FIGS—1892.		Do graded, 50 to 100.....	9 1/2 @	10
Sun-dried, black.....	4 @	Do do 40 to 60.....	11 @	12
Do white.....	3 1/2 @	Fancy sell for more money.	—	—
GRAPES—1892.		RAISINS—1892.		
Sun-dried, stemless.....	2 1/2 @	Do choice do.....	1 50 @	1 60
Do unstemmed.....	1 1/2 @	Do prime pr bx.....	1 25 @	1 40
NECTARINES—1892.		Loose Muscatis.....	75 @	1 00
Red, sun-dried.....	7 @	2-crown, pr bx.....	1 10 @	1 20
Do Evap., in boxes.....	11 1/2 @	Do 3-crown do.....	1 10 @	1 20
White, sun-dried.....	9 1/2 @	Do do do faced.....	1 20 @	1 25
Do evaporated.....	12 1/2 @	Unstemmed Muscatis.		
PEACHES—1892.		Do choice pr lb.....	2 1/2 @	3
Sun-dried, quarters.....	2 1/2 @	Stemmed 2-crown.....	3 @	—
Do sliced.....	4 @	Stemmed 3-crown.....	3 1/2 @	4 1/2
Evap., sliced, in boxes.....	5 @	Se'd's Mac'Claskis.....	4 @	5
Unp'd, q't'd, b'ched.....	5 @	Do do in box.....	—	21 00
PEACHES—1892.		Do Sultanas, ska.....	6 @	7
Sun-dried, unpeeled.....	7 @	Do do.....	—	21 40
Do do prime, b'ched.....	9 @	Halves, quarters and eighths	—	—
Do do choice.....	11 @	25, 50 and 75 cents higher re-	—	—
Sun-dr., p'd, b'ched.....	10 @	spectively than whole boxes.	—	—
Do do prime.....	14 @		—	—

Cutting Potatoes for Seed.

A few facts which will be of interest to farmers and potato-growers.



FIG. 1.



FIG. 2.

Fig. 1.—Shows the potato-cutter complete. Fig. 2.—Shows the arrangement of the knives.

It is a laborious task to cut potatoes for seeds by hand with case or jack-knives, and the whole household is generally brought into service when this part of the work is to be done. The sore, bleeding fingers impress the objectionable features of it upon the minds of those having had former experience. Fully realizing that a remedy for this evil would be received with delight, a very simple cutter has been invented and put on the market by the Aspinwall Manufacturing Co., of Jackson, Michigan, whose potato and corn-planting machinery is unequalled on the face of the globe. It cuts the potato and divides the eyes in a most satisfactory manner and removes and cleans the seed ends, doing the work of eight men. It is easily operated by a boy. The cuts herewith will give the reader a fair idea of the machine. It is also very useful in cutting beets, turnips and other roots for stock.

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During the last month, which contained only 28 days, the sales far exceeded any previous month. An enlargement has been made to the working force of the factory. There are now connected with the business 28 hands at steady work. If demands for goods continue to increase in the same proportion as during the past month, the factory will have to be more extensively enlarged.

A visit to the factory will prove interesting. Mr. Byce in his good nature shows you through, and everything is explained. Men and machinery are to be seen on all sides. Here a saw, there a planer and everywhere a rush and bustle that is only found in places of business. Mr. Byce is one of the most extensive advertisers in this city. He has now an office force at work sending pamphlets to every male voter in this State. The present success of the factory is largely due to the advertising, and there is no doubt of its future success under the present management.—Daily Imprint, March 3, 1893.

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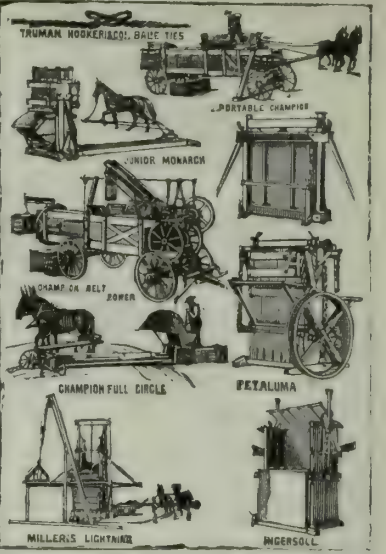
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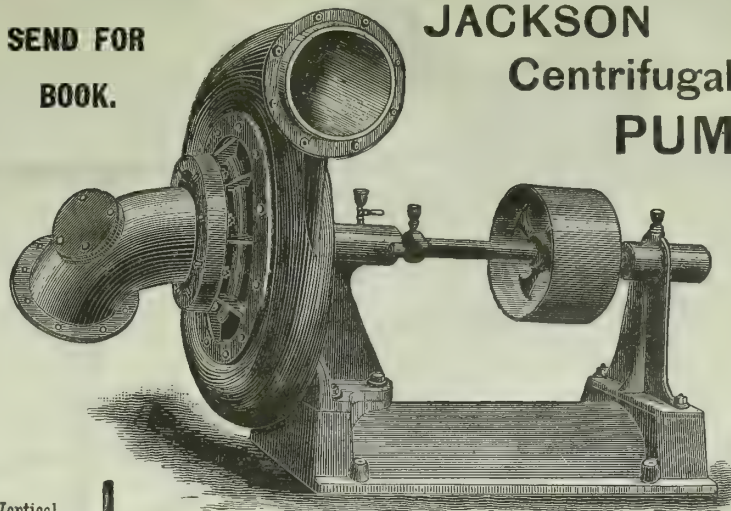
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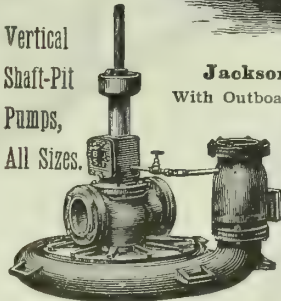
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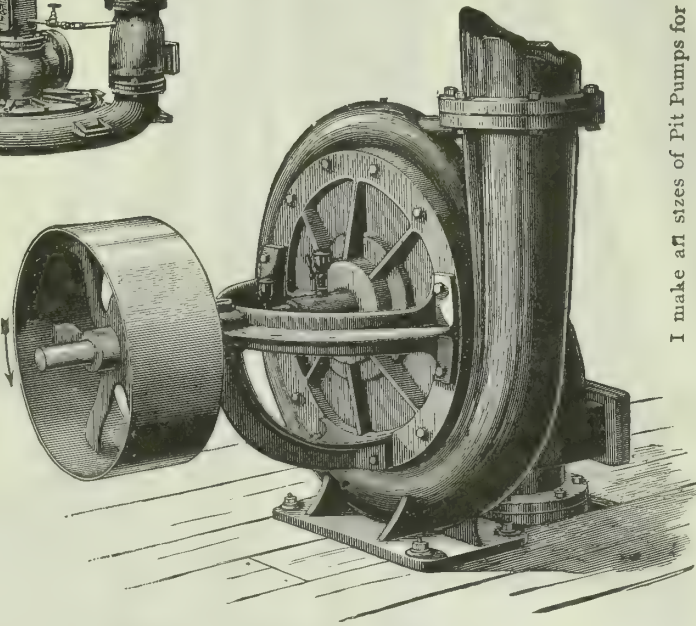
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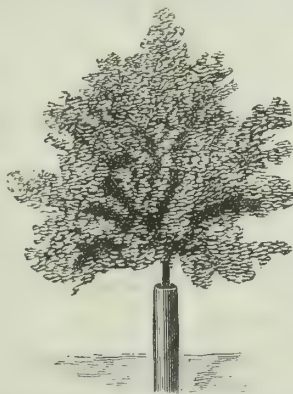
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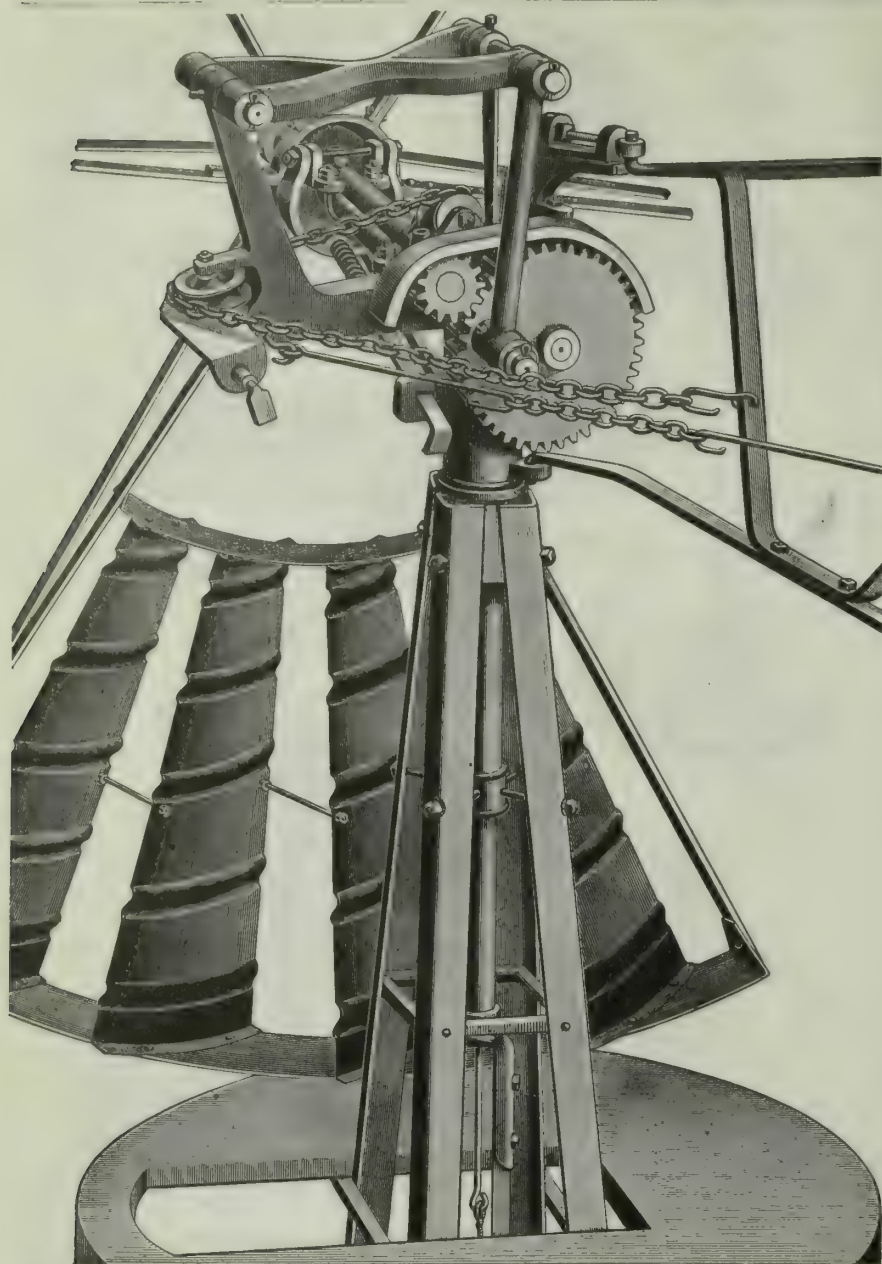
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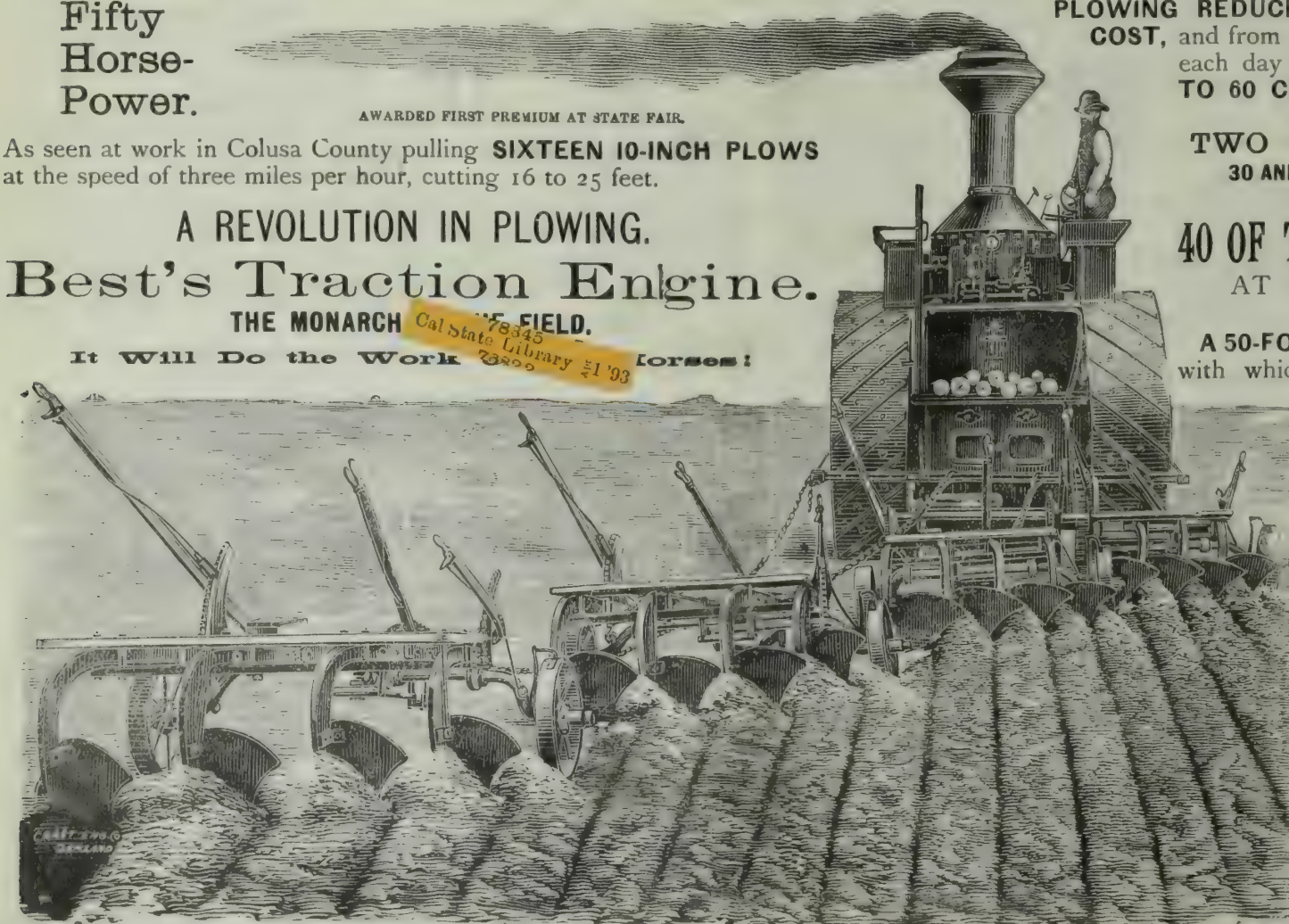
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DANIEL BEST'S AGRICULTURAL WORKS, SAN LEANDRO, CAL.



Vol. XLV. No. 13.

SAN FRANCISCO. SATURDAY, APRIL 1, 1893.

THE DEWEY PUBLISHING CO.
Office, 220 Market St.**The Southern California Boys' Band.**

Probably California will make no more taking contribution to the attractions of the World's Fair than that shown in the photo-engraving on this page. All the world loves a bright boy, and building upon this pervading sentiment a group of California boys, with a taking accomplishment, will need no commendation to the public regard. We expect to hear that they win a name even among the hundreds of attractions which will vie with each other for public favor.

The boys shown in the picture have already scored a local success. Their career at the Southern Citrus Fair at Colton last month was brilliant. Both as a full band and as soloists they did remarkably well. Their ages range from seven to eleven years, and they are residents of Colton, San Bernardino county. Master Shibley, the cornet soloist, is ten years of age, and Master Kelly, who gives solos on the saxophone, is but eight years old. It is stated that the music of the full band would do credit even to a larger band of older players. Their band-master and teacher is Mr. J. O. Hubbard.

The band will start for Chicago about May 1st, and will play a six weeks' engagement in the California building. No doubt many of our boy readers will regard with deep interest the way in which these young chaps raised the wind to go to the World's Fair.

THE State exhibit and a number of county exhibits are on their way to the World's Fair, and will be in position by May 1st, the time of opening the exposition. Judging from the preparation made by the various counties, as well as by California at large, it is not too much to expect that the California exhibit will be one of the most complete, artistic and interesting at the fair. Indeed, it is doubtful if any State in the Union will be able to show products as unique, as attractive and of such wide range. Certainly none have been prepared with more care, intelligence and or with a more laudable desire to represent this great State in the most advantageous manner possible. We expect direct returns from this fine and expensive display.

THE Cudahy Packing Company has purchased the large Nadeau vineyard property, adjoining Los Angeles, and an extensive plant for the killing and packing business is being completed. A market for 500 head of hogs per day will thus be opened up to the producers of the State, and the result will be an improvement in market conditions throughout all California. The hog may not be a very

poetic creature, but just now he possesses qualities of a pretty substantial and satisfactory nature.

THE famous seedling orange tree at Bidwell's bar has recently made itself the cynosure of vast wonderment in Butte county. It is reported to be developing strange characteristics as it attains age and supposed respectability. It is credibly stated that a large percentage of its yield this year is of the naval variety, although the tree has never been grafted or budded with this kind of orange. Navels grow on branches with seedlings. It is believed that pollen from navel trees has been carried by winds to the blossoms



John Tregear.

Hubert Finley.
Harry Wright.

Edward Rau.

Charley Easton.

Noel Davenport.

Lee McIntosh.

Wilson Hanna.
Allie Kelly.

Kenneth Shibley.

Raymond Fletcher.

Alfred Snow.

THE SOUTHERN CALIFORNIA BOYS' BAND, BOOKED FOR THE WORLD'S FAIR.

of the old tree, although no navel tree is within ten or twelve miles of Bidwell's bar. It is unfortunate, perhaps, that this veteran tree is neither solitary nor original in its behavior. Such things are not uncommon at the south, even at considerable distance from naval trees. As a matter of fact the navel variety has for its leading characteristic a misplaced seed capsule and this freak which attained permanence in the Bahia orange may of course reappear in oranges anywhere. When the vegetable physiologist explains the first manifestation of this phenomenon we may better understand its subsequent appearances.

VALUES OF LANDS about Oroville are said to have been enhanced in a few years several hundred per cent, largely due to fruit cultivation. In 1886 there were no orange groves, and now there are 3500 acres within a few miles of Oroville. Then Thermalito and Palermo were unknown, but now there are 150 orchards and orange groves in these colonies, while many fine groves, orchards and vineyards have been planted in other places. Then not a foot of fruit was planted at Rio Bonito; now there are 5500 acres of flourishing groves. The golden days in Butte county were not more the days of '49 than '93.

Results from the Fat-Tailed Sheep.

Last year, it will be remembered, considerable comment was made upon a consignment of fat-tailed sheep from Persia by Hon. Truxton Beale, then minister to that country; and no little fun was poked at the enterprising diplomat by an irreverent daily press. But it appears that most gratifying results are about to ensue from the importation of these sheep. One ram, three ewes and a lamb were sent to Kern county, in this State. One ewe was very old and reached here in an enfeebled condition, and died last fall. The others are at Bellevue and have

thrived. The ram was crossed with French merino ewes, and recently, at San Emigdio ranch, two lambs were born. The little things are described as perfect beauties. They are a trifle larger than ordinary lambs at that age, and have the Persian sheep head, which resembles that of a goat, with long, pendant ears. The other end starts out like a fat tail, but is not as long as that of the Persian sheep. The fleece is unusually fine, as soft as silk, of long fiber and very thick. A goodly number of lambs of this crossed breed are expected this season, and it would appear, if the present two serve as a criterion, that the importation and cross will prove a very valuable addition to American sheep interests.

The ewes of this breed at the Golden Gate Park and at the University Experiment Station at Paso Robles, have both reproduced their kind. Crossing the ram with local sheep, in San Luis Obispo, is also being accomplished.

WE UNDERSTAND that the late legislature failed to pass an appropriation for the maintenance of State Citrus Fairs, and these exhibitions will not be held, at least for the coming two years, under State auspices. The omission of the legislature will occasion serious regret among fruit-growers and the public at large. The fairs have been of great value, not only from an artistic and advertising standpoint, but they have stimulated wholesome competition between various sections of the State in the production of citrus fruit and in its better preparation for presentation to public view. We regard the failure of the appropriation as a positive misfortune.

HUMBOLDT COUNTY is felicitating itself upon the fact that a large order has been placed with the Fortuna cannery by the Palace hotel of this city, for canned strawberries and huckleberries. The order from so famous a hostelry is rightly considered a valuable testimonial to the quality of Humboldt fruits.

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ALFRED HOLMAN, General Manager

San Francisco, April 1, 1893.

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The Week.

The last week in March has proved a pleasant departure from the prevailing style of the month and has been welcomed as truer to the characteristic California spring-time. The first warm wave of the season has covered the whole coast. Blossoms and foliage which have been held back by the low temperatures have rapidly put forth; flowers in field and garden have unfolded, the grass and clovers have made their first grand growth of the season. The distant reader of these lines might think his own region as well circumstanced as California, for probably in most parts of the temperate zone similar phenomena pertain to the close of March, but California comes to them by a route of her own. It does not lie through snow or slush nor over frozen ground. Our low temperatures are only those which pertain to rain and hoar frosts. And yet the chill of the rainstorm is cold enough to answer moderate human needs, and our rejoicing over the return of coat-removing warmth is probably as genuine in its way as the Easterner's gratitude over his escape from snow-banks and frozen ground.

The season's outlook, except, perhaps, in certain localities where some fruits have failed to set from rain-drenched bloom, is as fine as could be desired. There are, of course, predictions likely to occur which make crop conditions unsafe thus early, but certainly at this date the outlook is full of promise.

THERE is talk of opening the old beet-sugar factory at Isleton, Sacramento county. Herman Kruger of Anaheim is said to be ready to take hold of the enterprise and start the factory as soon as the first beet crop can be grown. The Isleton factory was built in 1878 at a cost of \$207,000, and was operated several years at a profit. The machinery is yet in very good condition. The operation of the factory would mean an important addition to the agricultural and industrial interests of Sacramento county.

Co-operation in Fruit Handling.

As much attention is given on other pages of this issue to the subject of co-operation among farmers as illustrated by the results obtained in Sutter county, it may not be amiss to essay an allusion to co-operation as especially related to the promotion of our fruit industries and the prosperity of those engaged therein. Ever since the beginning in Sutter county, there have been spasmodic attempts at great co-operative combines among growers of fruit. There were at least two before the California Fruit Union was born, and there have been several since that birth in 1885. Of all these undertakings the California Fruit Union alone has survived, and that has undergone such changes in policies and methods that its own progenitors hardly recognize their offspring. Though none of these great enterprises has accomplished what was expected of it, all of them have done something to meet immediate difficulties and have conferred residuary benefits in the wider acquaintance, greater confidence and better knowledge of business principles and methods which they have begotten among California producers. Thus, although the dream of a universal combine among our fruit-growers for business purposes seems as far from realization as ever, our growers are unquestionably in better condition, speaking generally both as to persons and trade facilities, than they were ten years ago.

We imagine the disinterested reader asks how this can be true when even the latest attempts at combination come near to naught. How it can be true, when the raisin producers declare that their only hope lies in certain legislative enactments, and these enactments fall beneath the Governor's veto as unconstitutional? How can it be true when the southern orange growers meet only to wrangle and adjourn in the hope that heated tempers will ere long cool enough to be manipulated. Our conclusion from these apparently forbidding manifestations is not that there can be no such thing as effective co-operation among fruit-growers, but that the popular conception of the aims and policies of effective co-operation is wrong and the steps taken thereto halting and indirect.

It seems to us first that all these great schemes of combination among producers have undertaken too much. A situation regarded as desperate seems to call for strong remedies, but this may not be true either in industries or in medicine. It certainly seems now that undertakings which aim to success through whipping all producers at once into a combination or a pool of products may better be abandoned at the outset than afterwards. The motive power cannot be mustered; they do not go. They contemplate revolutions in trade, radical reforms, the abandonment of all grounds formed by experience and custom and the creation of new interests, policies and methods by the adoption of a set of by-laws. Such efforts have failed hitherto; they are likely always to fail.

And yet the failure of such undertakings does not leave the situation hopeless. The experience with them has really been educational. As we have already suggested, they have left valuable bequests upon their several demises. Building upon such legacies, we believe we are nearer the realization of effective and satisfactory co-operation than we have ever been before. The comments made in another column upon the results in Sutter county have application also to the situation among fruit-growers in all parts of the State. Co-operation must be based upon confidence and intelligence and upon correct conceptions of human interests and relations. These were at the foundation of the Sutter county undertaking, and the appreciation of them was readily propagated in the narrow region involved. Any scheme, no matter how wisely drawn, but having a great State to win, cannot succeed in a short time.

It seems to us that the present appreciation of the requirements of effective co-operation among fruit-growers is in full accordance with the philosophy of the Sutter county movement as elsewhere laid down. Local organization is now the favored idea and local driers, canneries, shipping-houses and exchanges are to be the units out of which some future aggregate will be accomplished. Educate the localities first in understanding of commercial principle and methods; build up the vicinities and neighborhoods in mutual confidence and trust and we believe it will be found that the wisdom and force will be developed which will lift our producers out of the difficulties against which they now contend and which at times seem so desperate.

The course leading to these benefits need not be a long one. Local co-operative societies in fruit manipulation have succeeded wherever they have been well tried. Collapses have been for lack of manifest essentials to success. Some results have been notably encouraging. We shall seriously err in prediction if the coming summer's experience does not make this whole matter clearer, so far as the fruit industry is immediately concerned.

An Issue in the Local Meat Trade.

There seems to be arising something of an issue among the great slaughtering concerns which furnish material to the local meat purveyors. According to reports current in the daily papers it appears that a new slaughtering enterprise, which has proposed to vastly stimulate and increase the trade in meat and meat products by introducing eastern methods of slaughtering and packing, has called upon local butchers to buy their meats instead of taking flesh from the old line of wholesale butchers. It is claimed that they have announced that if the retailers would not buy of them they themselves would become retailers. This the retailers do not enjoy and have held meetings for mutual support and protection. Presumably the old style wholesalers are behind the retailers and will urge them to resist the blandishments and menaces of the new slaughtering concern. Thus there seems to be an issue somewhat sharply defined between the old and the new in slaughtering and if the issue is pushed we may have cut rates in meats as well as in patent medicines, railroad rates and false teeth. While it lasts the consumer will get sirloins at brisket prices and soup bones as rewards of merit.

This may be well for the consumer for the time being, but he will only gain who eats and runs to escape the reaction which will come when the weaker of the contestants goes to the wall or both agree to bury their differences in a trust which will be more autocratic and grasping than either party could have been before. Then the consumer will have to reverse his bill of fare, and he will have to be thankful for shoulder steaks at what he paid for tenderloin before the trouble began.

This might merely be set down as an incident in municipal history, and hardly worth comment were it not that in all this play of tradesmen the value of the marketable live stock over all this region will be involved. The low rates for meats which may result will be cited and urged to the utmost of its possibility in depressing values to the grower. The farmers' and rangers' property will be made, so far as possible, the fuel to maintain the heat of the conflict. Herein lies the danger in any such rivalry as now seems threatened, and for this reason we trust it may not be realized. The producer will suffer while the battle is on, and he will not realize any commensurate benefit after the settlement, for a combination to raise retail values will forget to instruct its buyers to pay more; and, unless supplies are withheld, the advance will only be a portion of the loss during the depression.

So far as sympathies go, we do not see that the producer has cause to exercise any. He is under no obligation to the old-line slaughterers. They have ground him out of every fraction possible. He has so far only prospectuses upon which to base an opinion of the extension and benefit which the new parties can bring to the stock industry on this coast. Evidently, he can look with no satisfaction upon an issue and a contention in which he will have for himself the usual consignment of the hindmost, no matter which party wins, or even if they decide to combine instead of contend.

AMONG numerous measures vetoed by Governor Markham last week was "Assembly Bill 90, to prevent deception in the manufacture and sale of imitation butter." The governor says tersely that, "This bill appropriates a large sum of money creating an expensive commission for work which could as well or better have been committed to some of the many commissions already in existence, especially that of the State Agricultural Society, to which institution it rightfully belongs." We do not understand that this veto effects the short-weight butter bill, which, it is presumed, has received the executive signature. The public ought to applaud the governor's desire for economy, and admit the soundness of his objection to the creation of new commissions. The State has quite enough of these expensive bodies. But it is to be seriously regretted that the weight of his criticism should have fallen on so praiseworthy a measure as an anti-oleomargarine bill. Bull butter counterfeiting the refined dairy product is as gross and harmful a fraud as "skimmed milk masquerading as cream." It is not butter. It should never be allowed to be sold as such.

BOSTON'S GLORY as the center of bean culture will be completely dimmed at the World's Fair by Ventura county. A bean pagoda is to be erected. There will be 8560 pieces of polished redwood used in its construction. The spaces for beans number 590, and are so partitioned with glass that the frijoles can be seen from both outside and inside. It is finished below the windows and eight panels in the roof, on the inside, with selected curly redwood. Around the outside edge of the roof there will be placed sixteen flower pots with growing beans in them. The whole will be set off with light from sixteen incandescent electric lights inside, and one arc light outside.

THE governor has vetoed the Raisin Growers' bill, of which frequent mention has been made in these columns.

From an Independent Standpoint.

In the early part of this month (it is still March as we write) the editor spent three days in that fine section of Sutter county contiguous to Yuba City. In company with one or another of the good folk of the district, he drove south as far as Mr. Kimball's place, west until stopped by the marshes, and north close up under the shadow of the Buttes. He traversed not alone the highways but the by-ways, drove not only past but through fields and orchards, and stopped for dinner and for lodging wherever meal hour or night-time overtook him. In short, he visited not only the district but the people who live in it; and it was such an experience as one who loves the country, and who knows no pleasure like association with his fellow-men, will not soon forget. The charm of springtime was over everything. The days were crystal; the evenings purple and gold; the orchards, aflame with white and pink and crimson, sweetened all the air; the fields were in exquisite dress; the Buttes, as of old and forever, glorified the northern horizon—but these charms, or something like them, are everywhere in California at this season; and it is of more practical things that we are to treat. The thoroughness of the tillage, the thrift of the orchards, the excellence of the roads, the spaciousness and comfort of the dwellings and the obvious health, prosperity, intelligence and content of the people—these happy conditions were even fairer to see than the freshness and the splendors of nature.

The exceptional circumstances of industrial and social condition which distinguish the Yuba City district are the direct outcome of a system of co-operation among the people, organized twenty years ago as an experiment, and now established as the rule and policy of the community. The origin of this movement, its plan, its method, its growth and its results are given on another page by Mr. George Ohleyer, in a letter written at the request of the editor. We have the feeling that a story so full of purpose and achievement, and so valuable in its suggestiveness, should be told by one who had a share in doing the things told about, and who is thus able not only to report results, but show the spirit and the means by which they have been accomplished. Mr. Ohleyer goes back to days of oppression and general hardship and traces through its successive steps the record of a movement which is entitled to wide fame as a pattern for the imitation of every rural community in California. More than this, he points out the special means taken to inaugurate and conduct a system which can do anywhere what it has done in Sutter county. We heartily commend the example thus outlined to the attention and judgment of our readers, and hope that it will be the means of starting other communities upon courses of industrial and business co operation.

There is no part of the history of this co-operative movement more interesting or suggestive than the report of the first committee which is incorporated in Mr. Ohleyer's letter, for it shows that the scheme was projected upon broad and sound lines. This report proposed a combination of producers for mutual benefit without hostile or unfriendly purpose toward any other vocation or class. It proposed to assume for its members what was rightfully theirs, and no more. That the undertaking was a difficult one; that it would take time and effort and patience was expressly set forth. There was no waste of energy or temper in denunciation. "You have," this report declares to the farmers of Sutter county, "preponderance of numbers, of physical and mental energy;" and it then goes on to suggest a plan of action. This plan, developed by time and experience and modified to meet new conditions and an enlarged sphere of operation, is still the working basis of the co-operative system.

The secret of the success of this movement is the fact that it attempted no revolution in the business world but adapted itself to the recognized laws of trade. The men who organized the Farmers' Union did not assume to know more than all the generations of business men who had preceded them; on the contrary, in seeking to apply the recognized and accepted laws of business to the administration of their own affairs, they were content to look for benefits as the result of honest dealing and diligence in regular ways of doing business. In other words, they had the good sense to know that the laws of business, as they are understood in the business world, are the condensed wisdom of ages, and that whoever attempts to go counter to them starts toward failure and ruin. It is the fatal error of many, if not of most, co-operative enterprises to attempt by irregular methods to accomplish unnatural results, and they succeed just as did the man who undertook to lift himself over the roof of the meeting-house by the straps of his boots. There is no virtue in co-operation to overcome the established laws of business which are as real and as positive in their operation as the

law of gravity or the laws which govern the succession of the seasons.

It is notable that the success at Yuba City has been brought about solely by members of the co-operative bodies. No attorney, manager or clerk has ever been imported. Whenever a man has been needed somebody has been selected from the ranks, placed under responsibilities and required to develop to meet the conditions. Experts in half a dozen lines—in banking, insurance, shipping, fruit preserving and fruit marketing—are employed, but all of them have been developed from the body of the community and each has a proprietary interest in the business in hand. From time to time outside capital and expert business skill have sought a share in one or another of the co-operative projects, but the farmers have wisely felt that they were better off to keep their operations within limits and under their own control.

It is not in the nature of things for such an enterprise as the Farmers' Union to escape popular criticism. Although many who had the opportunity to join in the project declined to do so, they expected direct benefits and were openly discontented when they found that it was not part of the scheme to unite benevolence with business. They seemed to think that the Union was under obligation to "bear" the prices of grain bags, to store and market grain without charge for profit, to lend money to whoever wanted it at half-rate interest—in short, their idea seemed to be that the Union ought to run counter to all ordinary rules of business in the "interest," not only of its promoters, but of the public in general. But this, as we have already stated, was no part of the plan. This plan was to do business upon business principles and by business methods. It was fully realized that there was no other road to success. The special and direct benefit was to belong to those who took the risk and bore the labors of the enterprise; the public share in it was to follow scrupulously honest dealing and the retention at home and addition to the public wealth of profits which usually go to middlemen not of the producing class. As time went on, the Union became an established feature of the local business life, and as it brought into existence other lines of co-operative effort, these complainings ceased, and it is now locally regarded with confidence but with entire respect.

It is interesting to trace the ways in which it has been, and continues to be, a benefit to the community; how it has promoted and wrought out the exceptional conditions of industrial and social and even of domestic life which distinguish the Yuba City district. First, it provided a close connection, absolutely fixed in the general confidence, with the outside business world. Every farmer could trust his interests to the Union with perfect assurance that they would be honestly, diligently and intelligently looked after. The middleman, instead of being a possible "rascal" to be carefully watched, was a neighbor who could be trusted like a brother. Thus, confidence—the first essential of healthy business life—became the rule. Second, the Union formed a basis for further extension of the co-operative system. It took the lead in bringing into life the association which took the vandal miners by the throat and stopped those operations which threatened destruction of the Yuba and Feather rivers and of the fertile and populous lands adjacent to them. Third, it brought into existence the newspaper—the *Sutter County Farmer*—which for so many years fought the battle against hydraulic mining, and which to-day, with its contemporary—the *Sutter Independent*—is a source of popular enlightenment. It led the way to the organization of the Sutter County Horticultural Society, to the creation of the Sutter Canning and Packing Company and the Sutter County Fruit Shipping Company, not to mention the similar enterprises, noted by Mr. Ohleyer, in other parts of Sutter county, the direct offspring of the Yuba City movement.

Of these several institutions, Mr. Ohleyer's letter gives an account which it is not necessary to repeat here. It is enough to say that they cover almost all the business interests of the community, and that the development and volume of these interests are largely related to the co-operative movement.

The business advantages following the co-operative movement at Yuba City, important as they have been, are in our view the smallest fraction of the general benefit. The higher advantages are of a sort not to be expressed in figures but nevertheless very real and very substantial. Their sign and evidence is the high development of the social, intellectual and moral side of life in the contiguous country. No district in the State has more or better schools in proportion to population; in none are those social organizations which make for intelligence, refinement, human brotherhood and good morals better

organized and more popularly attended; nowhere can be found a people better informed, better clothed, better housed, better mannered or more hospitable.

The co-operative movement has, by eliminating the middleman, prevented the growth of a mercantile population. The people in and about Yuba City are thoroughly homogeneous. There is no class prejudice or class jealousy because there are no classes. The co-operative citizen is at once a tiller of the soil, a merchant, a banker, a fruit packer, a fruit shipper. It is easy to see how individual intelligence broadens under such a wide reach of personal interest and relationship. A man who owns shares, be they ever so few, in the Farmers' Union or in any of its allied enterprises, is led to study the conditions and laws of the several lines of business involved, and inevitably the sphere of his knowledge and the scope of his understanding expands. That sort of prejudice which rests upon a narrow range of information and thought—and this is the basis of most prejudice—finds no place to take hold of such a man. He is at once able to look at public and private questions from half a dozen different standpoints. Meet any one of the two score or more men of Yuba City who are in the co-operative associations and you will find him a man whose view goes beyond his mere home concerns, a man whose knowledge and whose sympathies have been enlarged by study of and contact with business questions and conditions.

Another fact: Those who conduct industrial enterprises are, under the co-operative system, people who, with their families, live in the neighborhood. They are in a position, as the employers of labor, to regulate to a very large extent the *quality* of the employed population. With them, naturally, it is not more a question of getting work done well and for reasonable wages, than of bringing into the community persons who will be useful and not harmful as members of society. Thus, vagabonds and wayfarers—the scum of industrial population—find no harbor at Yuba City. It is possible that this fact has a direct relation to the circumstance that in the whole of Sutter county there is not a saloon.

It requires no great sagacity to see that the broad fact back of the Yuba City movement was the mutual helpfulness of the community. If there had not been mutual confidence and esteem and general effort toward a common purpose, success—at least in the measure in which it has been attained—would not have been possible. The history back of this spirit is an interesting part of the story. As long ago as 1861-2 there was a general flood in the region about Yuba City, the whole country being submerged. At the time it was credited to natural causes, but later it was learned that the beds of the river were being raised by hydraulic mining operations in the mountains. Very soon it was found that individual effort could do nothing to fence out the waters and the people came together in an organized movement for protection. The final result of this organization was the construction of a levee eighteen miles long at a cost of a million dollars and upward, this sum being raised by a bond issue supported by heavy local taxation. But it was many years before the levee was a sure defense, and in the meantime the district was divided into sections, and each section chose a captain whose duty it was to watch the levee at times of danger, and, in case of a break, to summon his forces and direct their labors. It was this common danger, and the organization which it made necessary, that disciplined the community to a point leading to the co-operative policy now in force. In the fight against flood, and in the contest with those whose selfishness and greed caused the floods, the community learned who had had the capacity to lead and who could be depended upon. This lesson of how to direct and how to follow, like many another good lesson, came through adversity and trial.

We cannot take leave of this subject without naming a few of the men of the early days, for those times and events cannot be recalled by persons who lived through them without thought of the heroic characters whose foresight, enterprise and spirit saved the country from devastation and laid the foundations of the present industrial and social structure. Dr. S. R. Chandler (deceased), the father of horticulture in Sutter county, was the colossus of those trying times; and with him, and deserving of honorable mention, were S. E. Wilson (deceased), Thos. Lockhart (deceased), T. B. Hull, George Walton, B. F. Walton, Thos. Brophy (deceased), P. L. Bunce, Wm. Coats, J. H. Kimball, G. W. Carpenter, Daniel O'Banion, Jas. Littlejohn, George Ohleyer, S. R. Fortnav (deceased), J. C. Gray, Wm. Gray, Dr. Hamlin (deceased), Tracy Hamblin, G. F. Starr, Henry Johnson, Samuel Hutchinson, J. C. and J. T. Smith, Mrs. A. Steward, Eli Weaver, J. Keck, T. B. Henderson, A. F. Abbott, James Humphrey, Cris. Smith, George Baily, M. Kerns, W. W. Ashford, Fred. Cooper, Samuel McClure, R. Barnett, Phillip McCune, Wesley Moore, E. Whyler, J. A. Oastott, Geo. Harter, W. P. Harkey, J. Hardy—these are not all, but the list grows out of bounds. The whole community was heart and soul in the work—and this is why it was done so well.

Notes from San Jose.

TO THE EDITOR:—These glorious days of warm sunshine, urging every bud to sprout outward and upward, prompts even this landless lover of growth to send you a few thoughts and facts from this old (probably soon to be new) capital city of the "Golden State." Whether we have the Capitol, or not, this is a most capital place to live, to love, to observe, to experiment and to grow in. Teachers here are very numerous and of all grades, from the D.D. to the wayside tincan. I love the lessons of the former and have accepted many hints and favors from the latter.

As I write I look at a row of old cans (the rustier and fuller of holes the better) placed on the rail of the high board fence that surrounds the back yard. Each bottom can has at its base a wisp of straw to keep the dirt in place. Slightly telescoped into this is a smaller can held in place by a circle of small stakes, stuck into the lower can, and reaching well above the top of the upper can, in which I have planted some varieties of nuts or pits. I expect by frequent watering to start a fair growth and be able to transplant to where a tree is wanted, without disturbing the grand essential of nut trees, the tap root.

Last season I started pecan trees and date palms and gave them to friends with instructions to set the cans in the ground with the top an inch or more below the surface.

I think gophers seldom go over the edge of a can to bark a tree and are seldom known to cut the tap root a foot below the surface. I'd much rather think of a friend, cherishing a nut tree I have given him, than as polishing the most expensive set of wine-glasses I could have bought for him in any market.

I believe the men who gave us Burbank's seedling potato did more for his day and generation than the average member of Congress. I think the man who could take a leading part, or prominent position, in the work of filling our country with nut trees, would, at the end of a century, enjoy a more wholesome and toothsome memory than an average President of these United States.

"Arbor Day" is established. May we not have one more day devoted to future generations, a day to be enjoyed, especially by children, viz., Nut Planting Day?

CHAS. A. WYMAN.

San Jose, March 27, 1893.

Secretary Morton on Fruit Pests.

A dispatch from Washington, March 26th, has the following:

"The *Call* correspondent talked with the Secretary of Agriculture Morton to-night concerning the work that is to be performed in California under the direction of the entomological division. The agricultural bill of last year carried an appropriation, as usual, for experiments under this branch. Heretofore experiments have been conducted in the hothouses of the department, where fruit-tree pests were propagated, but to obtain more practical results the last appropriation bill provides that experiments shall also be conducted in orchards by special agents of this division. Experiments will also be made to protect California orchardists against the introduction of diseased plants from nurseries. Where pests are discovered in any nursery, a special agent will be sent there to make his experiments. This fact in itself, when made known, will be enough to warn orchardists against receiving plants from such a nursery. If the nurseryman should refuse to allow experiments to be conducted on his premises, this fact becoming known will also act as a warning to intending purchasers of nursery plants, the presumption being that such nurseries must be badly infected with pests.

"A year or so ago there was an attempt to smuggle 250,000 young trees from the island of Tahiti in at San Pedro. They were examined, found to be diseased and confiscated by order of court. Another time 74,000 diseased orange trees were stopped and prohibited entry at the California State line.

"It has been explained to Secretary Morton that California expends \$30,000 or \$40,000 per year for such purposes, or more than any ten States in the Union. California being the great orchard State of this country, it may reasonably be expected that the greater part of the money appropriated for experiments in the Division of Entomology will be expended in the State."

Additional Sheep Prizes at the World's Fair.

In order to mark their appreciation of the large and increasing patronage accorded them, and desiring to help make the sheep-breeders' portion of the World's Fair a grand success, the proprietors of the Cooper sheep dip have decided to give the following prizes for sheep and wool:

\$30 silver cup for rams winning the sweepstake premiums in each of the following classes: Cotswold, Leicester, Lincoln, Southdown, Shropshire, Oxford and Hampshire.

\$30 silver cup for ewes winning the sweepstake premiums in each of the following classes: Merino (A), Merino (B), Delaine Merino, Dorset Horn, Cheviot and French Merino.

\$100 silver cup for winner of the sweepstake premium in the fat-stock exhibit.

\$100 silver cup for best pen of five range ewes bred on range by exhibitor west of the Mississippi river. No limit as to breed or age. Best carcass and fleece combined to rule. In other respects official regulations to govern.

\$100 silver cup for best fleece of range wool grown by exhibitor west of the Mississippi river. Official judges to decide and official regulations to govern.

The New Vacaville Fruit Union.

TO THE EDITOR:—A new fruit-shipping organization has been formed at Vacaville, called the Fruit-Growers' Co-operative Association. They elected Saturday last as president, Dr. W. J. Dobbins; secretary, S. W. Hoyt; directors, I. K. Buck, Charles Ball, W. C. Montgomery, J. Nathan Rogers and J. R. Rogers. Wm. P. Cantelow will be their manager. They have already leased shed room and side track from the railroad company, and will proceed to put in a supply of boxes, etc., which, as they will work wholly on the co-operative plan, will be furnished members

at about the actual cost. They also will reduce loading charges, etc. The company starts out with a very large membership, and will doubtless prove quite a factor in the shipping from that point.

H. A. FAIRBANK.

Sacramento, March 28, 1893.

Big Sale of Washington Hops.

A dispatch from Seattle, March 28th, is as follows:

"The main talk of hop-dealers in this city to-day is in regard to the large sale of 589 bales made at 18 cents by M. Patterson of Olequa for Noakes, Son, Collard & Co., of London, England. The facts are explained that these goods are all of the very choicest kind, and even that having been bought in one lot the large price could well be afforded, the trouble with the small lots being that they are expensive to handle, both in buying and dispatching. Olequa samples also had been before London dealers for months, and therefore were well known. The sale, however, is undoubtedly a surprise to the bear element of the market, and may have the effect of making the farmers still more unapproachable as to sales.

"The purchase price of the Quillayute bales a week or two ago by Phil Neis has heretofore not been published, but to-day is reported as 17 cents. Like the Olequa bales, however, the quality was particularly good and the quantity large. There is a great contrast in the price of these, with 43 bales at 12 cents reported in hop circles in this city to-day. An Orting consignment sold at 12 cents, and 100 bales of very poor quality at Orting also sold at eight cents. The last edition of the *Puyallup Citizen* gives the item that the last 16 bales in the Meeker warehouse were shipped to New York this week. Twelve bales have been shipped from Puyallup in the last few days, ten bales going to Tacoma and two to San Francisco, and Julius Pincus, for Lillenthal, bought 22 bales of John O'Farrell and 40 bales of John Beckett, both of Orting, and 40 bales of Michael O'Brien of O'Brien station, on White river, at 12 cents and eight cents."

Letter from Arizona.

TO THE EDITOR:—Southwestern Arizona is jubilant over a general rainfall. As compared to a California (big ram) we have only had a shower; but our rivers are up and our mountains are white with snow (low down), which means a good season to the mountain cattle ranges and abundant water in our irrigating canals.

Owing to the abundance of grass in California of late, and the threatening of scanty pastures in stock ranges, many feeders have been taken direct from our ranges to southern California pastures, to be fattened on their luxuriant grasses, giving our alfalfa fields the dodge; so it transpires that our alfalfa-growers have not "got the string on" our range men just now. Well, to kick back is natural. One business man never swallows up the business of another unless opportunities are favorable.

It now looks as if poor cattle from our ranges will not crop down our alfalfa before it blooms, as they did last year, which means much in favor to our honey-producers. Our bees, too, have wintered very well. Schemers and capitalists are still among us, planning and estimating. D. M. Ferry & Co., of fame as the millionaire seedsmen of Michigan, are spending a great deal of money here on canal schemes. There is no doubting that they mean business, for their steam dredger drove one river out into our desert last year, and they are only beginning. Our Mexicans say that they will have to go back to Mexico, for when such "iron fire devils" as that, with only three men to run it, tears a river bed open across our plains, there is no show for a Mexican, a mule and a dump-scraper to get a job.

GEO. KAY MILLER.

Tempe, Arizona, March 23, 1893.

More Oranges for England.

A private dispatch to Los Angeles announces that the second carload of oranges shipped to England by a local fruit company had been sold in Liverpool at an average of 22s 6d per box. This carload was made up at Riverside as an experiment, previous shipments having gone from Azusa. The price named will net the grower about three dollars a box. This is highly satisfactory and far above their expectation on this trial shipment. It is believed at Los Angeles that an extensive orange business can be worked up with England, especially in large sizes, which are much liked there but difficult to market in America.

Gleanings.

BAKERSFIELD sports an ox that can trot a mile in 3:30.

It is now amicably settled that the American Concentrated Must Co. will remove its plant to Healdsburg.

The *Orange Belt* estimates that 10,000,000 tons of rain fell on the Rialto track during the late rain. When you tell one, tell a good 'un.

The Sonoma county *Tribune* has passed the sixth milestone of a prosperous existence. It deserves all the congratulations it is receiving.

A FEROCIOUS MOUNTAIN LION has appeared in Ross valley, Marin county. Either a lion, or a cheerful liar has appeared in Marin county papers.

It is claimed that a plowhorse, which worked seven years on John Boggs' Colusa ranch, has developed such speed as to warrant the expectation that he will beat Nancy Hanks. He hasn't done it yet, however.

THE Ontario exhibit, which took first premium at the State Citrus Fair, has been bought by the World's Fair Association of San Bernardino county. It will be sent to Chicago to represent the county at the World's Fair.

THE bill amending the law so as to form a new agricultural district of Yolo and Colusa counties has been approved by the Governor. He has also approved of the item making an appropriation of \$5000 for the district for the next two years.

THE thought-it-was-a-deer-and-killed-a-man fool has brought down his victim this season. He is perennial. He will always be with us. But when he goes hunting he ought to be obliged to take a squirt gun as a weapon, and be sent after grizzlies.

THEY have been having a mild cataclysm of rain down south, and the oldest inhabitant is in sore straits to recall a season in the musty past (short of the good old days when Noah and his menagerie had a

monopoly of water routes) when water was more abundant. But now it doth appear that winter is over and gone, and the season of bloom, beauty and spring poetry is at hand.

THE suburban citrus region of Chula Vista has just shipped the first two carloads of oranges from its orchards, four and five year trees, from the ranches of E. C. Williams, Peter Morse and Mrs. L. L. Webb, all consigned to St. Louis.

GENERAL BIDWELL is making important improvements at Rancho Chico, Butte county. Among other things a railroad switch has been constructed 800 feet to his warehouse, for the more convenient marketing of fruits and other farm products.

MR. CLEVELAND announces that he will not draw the line against editors in appointments to office; and a gleeful bleat of joy arises from the sanctum sanctorum of many a bucolic editor who sings, "To the victor belongs the spoils; to the vanquished the spoiled."

AN EMPLOYEE on the Sargent ranch near New Hope is probably one of the strongest men in this locality, says the *Lodi Sentinel*. He claims to be able to easily lift 1,000 pounds, carry six sacks of wheat or perform other feats requiring powerful muscles. His name is Frank Dimond.

A WOODLAND MAN had a horse that slobbered so much as to excite the owner's disgust. He read an advertisement in an Eastern paper where a man for a dollar promised to send a receipt that would cure the horse of this annoying habit. He sent for the receipt, which simply read, "Teach your horse to spit."

A WILLOWS YOUNG MAN, out hunting, was treed by a wild hog and compelled to remain out in the cold world all night swinging onto a swaying limb. It rained about two inches during his sojourn in the tree. Next time the young man hunts hogs he will take along a cannon, a full suit of armor, climbing apparatus, a mattress, and an umbrella.

A CALIFORNIA INVENTOR, who has an eye to business and who is trying to sell a vapor process for preserving eggs, recently told a Kansas City newspaper that California is a great egg-consuming State. It consumes now 3,500 tons of eggs annually. There is one house in San Francisco which receives seven cars of eggs daily. Shades of Ananias!

THERE are few ills without compensating advantages. A house in Redding was struck by lightning, and, says a local paper, "Mrs. Vedder was sick in bed at the time, otherwise she might have been fatally injured." Mrs. Vedder has doubtless become an unwavering convert to the theory of many brave women that the best possible place during a thunder storm is in bed.

A FRUIT-CANNING COMPANY organized at San Jacinto will be capitalized at \$30,000, one-third to be paid in for the erection buildings, etc., one-third at the beginning of the canning season, and the remaining \$10,000 assessment held in reserve. The persons organizing the company are Messrs Daggett, Green, Reinhardt, Shaver, Baker, McLaren, Barber, Munn, Tibbetts and Parker, all of San Jacinto.

CHARLES BAROSS, secretary of the Hungarian Agricultural Society at Buda-Pesth, has written to Mayor Ellert notifying him that a delegation from the society will visit this city after taking in the Chicago fair. The delegation will make a prolonged tour of the State, with special reference to studying its vineyards and agricultural development. Mayor Ellert has forwarded the letter to President Gregory of the State Board of Trade.

Now is the time to trap gophers, advises the *Santa Maria Times*. Don't neglect it until the surface of the ground becomes dry and hard because then they become much more cautious and are very hard to trap. March and April are the best months for trapping gophers, after that poisoning is more effectual. There are not nearly so many gophers on your place as you imagine and a few well directed efforts will get rid of them and save you many good trees and plants.

THE Napa cannery, which has been idle the past two seasons, is to be started again as soon as cherries are ripe, under the management of J. R. Coe, Wm. Hunter, S. M. Tool and W. M. Fisher. The gentlemen are practical business men, owners of orchards and packers and shippers of fruit. Several important essentials to success are therefore present. It may be remarked incidentally that the city of Napa, which for several years has been just a little quiet, shows unmistakable signs of a vigorous awakening. Good.

THE following is vouched for by the *Gilroy Gazette*: "The Soap lake catfish will probably develop into fairly good trotting stock if the weather clerk keeps his lick up. The lake has overflowed the roads, and Manuel Payne, who lives by the lake, obtains plenty of lenden food by catching racing catfish on the road. Last week he had a neck and neck run with two fellows, one weighing four and a half and the other six pounds. Manuel tells those who are piscatorially inclined that there are plenty of much bigger chaps over in the hills feeding and getting away with Miller's pasturage."

THE Tehama County Agricultural Association, on Saturday last, elected J. S. Cone president, R. H. Blossom vice-president, and M. R. Hook secretary, for the ensuing year. No date was fixed for holding a fair, as it was not known what the result of recent legislation is, relative to the new Woodland district. The *Sacramento News*, in speaking of the northern circuit, says it is very likely that the fair at Willows will come first, followed by Red Bluff, Chico and Marysville, prior to the State Fair. But this is certainly wrong, says the *Woodland Democrat*, for if the new district was not formed the circuit would commence at Woodland, and there will be no regular fair held in Marysville this year.

THE following touching story is told by the *Maxwell Mercury*. It may serve to point a moral and adorn a tale—the kind of tail will be known by reading: "Some weeks ago, Station Agent Coons had a box of nice apples sent him from a friend, and, to keep them in good condition, he stored them away in a small barrel. One day last week he went to get an apple and found a small mouse in the barrel unable to crawl out. With a tender, passionate heart, Mr. Coons took his ratship by the tail, pulled him from the barrel and let him go. The following day this was repeated, and for a few days was continued till the little mouse had become so well educated that when he heard Coons coming, he would stick up his tail to be lifted out. This may sound a little fishy, but it is a fact nevertheless, or some one has told a fib."

IN the following statement, officially made by the Secretary of the State Agricultural Society, is given the acreage in orchards in this State:

San Bernardino	43,993
Los Angeles	31,659
Santa Clara	22,177
Solano	17,190
Alameda	15,096
Orange	14,098
San Diego	11,822
Sonoma	11,990
Butte	11,761
Tulare	11,445
Ventura	10,799
Santa Barbara	8,866
Sacramento	8,725
Placer	7,082
Santa Cruz	6,863
Tehama	6,403
Fresno	5,969
Yolo	4,667
Kern	3,382
San Joaquin	3,799
San Luis Obispo	3,690
Napa	3,242
Contra Costa	3,191
Twenty-nine other countries	29,252

Total 298,202

Co-operation Among Farmers.

Some of the Effects of Practical Combination Among Producers in Sutter County.

TO THE EDITOR:—In compliance with your request I beg to offer you a short review of what may be termed the co-operative era of Sutter county. In scanning the records however, I find so much of interest and that doubtless would be entertaining and instructive, that if merely touched upon would extend the length of this paper beyond admissible limits, hence, I must content myself with so much as shall convey a fair idea of the subject allowing the reader to enlarge or diminish according to taste and disposition.

To begin then. Sutter county is one of the smallest agricultural counties in the State. Large areas of it being Government land it was settled chiefly by farmers from the older States of the Union, nearly all of them being represented in its make up. The land was taken up in small tracts according to the homestead system, except where Mexican grants prevailed, and these in time were subdivided to small holdings compared with other sections of the State. To this circumstance may largely be attributed the course of events under review.

It is only fair to state, the people were young, strong, industrious and enterprising as were all the restless pioneers who came here from many States of the Union, over the several routes by land and by sea, whence it took many months to make the journey through hardships and privations.

The fertile soil of the county soon began to yield bountifully under the touch of this people, and its productions not only astonished and tickled the palates of the other end of the Union, but its fame spread across seas to the East and the West where it fed and clothed millions who hardly knew from whence it came.

Ships came and a great commerce sprang into existence as if by magic. Fortunes were made in a day, and often in a single transaction, the farmers of the State furnishing the basis in the shape of wheat, barley, wool, hides, wine and an endless variety of products. There was but one door of ingress and egress—the Golden Gate—through which all surplus had to pass. The desire of sudden wealth caused men to attempt to toll the Gate so heavily as to leave only a bare existence to the producer, no matter what the value of his products might be when once beyond the Gate.

These tolls came in the shape of exorbitant ocean freights, the ships being chartered by combinations long prior to their arrival. There was also the bag ring, the wheat ring and the money ring. It was said that the manipulators paid interest to the banks in the city on their surplus to prevent it from going to the country in aid of the farmers, thus compelling them to sell their wheat at the price fixed by the toll-keepers, in order to meet their obligations.

These were the farmers' grievances of 20 years ago, and became more odious and oppressive as time waxed on until it seemed for a certainty that their task-masters were determined in their haste for wealth to "kill the goose that laid the golden egg."

Mutterings of discontent were heard among the farmers everywhere beginning about the year 1870. To meet and treat the combinations, counter organizations promised the only relief. This idea on being promulgated called into existence "Farmers' Clubs" in every farming community in the State, their rise and progress occupying extensive space in the RURAL PRESS and other friendly journals of the time, and is well and faithfully preserved in "The Patrons of Husbandry on the Pacific Coast," by Prof. E. S. Carr, M. D., LL. D., late professor of agriculture in the University of California and Past Master of Temescal Grange. The volume was published by A. L. Bancroft & Co. in 1875.

The farmers of Sutter county were among the first to organize themselves into a club with headquarters at Yuba City. They held regular meetings and discussed various questions appertaining to their calling, but always with the view of breaking the chains that fettered their business. After a time it was realized that, without being incorporated, no club had a legal existence and could transact no business that required a tangible head.

At the meeting of January 18, 1873, a committee was appointed "to consider the propriety of forming a joint stock organization under the incorporation laws of the State of California for the mutual benefit and protection of the farmers of Sutter county," and, having had the matter under careful consideration, made their report on February 1st following, and recommended the proposition to the club.

The report reviewed the deplorable situation at some length, setting forth its grievances (as narrated above) and proposed remedy in the following language:

Farmers, learn wisdom from the coral insect, of which each individual of itself is so weak as to be prostrated by the slightest force, but by combined effort is enabled to resist the joint navies of the world. Then let the farmers organize, combine, not for the purpose of aggression, not to oppress, or aggrandize yourselves at the expense of any other honorable occupation or vocation, but to elevate yourselves to the position to which the great benefits you confer on the world and humanity so justly entitle you.

This great labor cannot be performed in a day. Wishing will accomplish nothing; denouncing will produce no effect; but go to work as you would against a great fire that was about to consume you, back-fire, fight monopoly with monopoly, and you have the preponderance of numbers, of physical and mental energy, of the material wealth of the world in your favor, as against any human interest or vocation.

There is a law on our statute books which, by availing yourselves of its privileges and provisions, will enable you to do all this; and your committee do unanimously recommend that you incorporate under the name of the Farmers' Co-operative Union of Sutter County, the object to be to promote the agricultural and general welfare of the farmers of Sutter county; with power to build, buy and own, lease, rent or sell warehouses or such other buildings as may be needed for the purposes or uses of this Union; to buy, hold, sell or convey to a market all farm products; to procure, buy, sell or distribute among

the stockholders or other persons any or all goods, wares or merchandise; to buy, import and sell any or all live stock for propagating or other purposes; to acquire, keep, borrow or loan money; to build, charter, buy, sell and navigate all ships, steamboats, barges or other water craft now in use or that may hereafter be used either in foreign or domestic commerce; and to do and perform any or all acts necessary and proper to carry out the objects of this Union.

Yuba City was to be the principal place of business, and the corporation was to continue in existence 50 years. Its business was to be conducted under the supervision of seven directors to be chosen annually. The capital stock was fixed at \$50,000, of which 40 per cent was paid in. The shares were fixed at \$50, and originally half of it was subscribed, since which time no more assessments have been levied, but the residue of the stock was taken three years ago by the original stockholders and by the payment of the 40 per cent, as in the first instance.

The report of the above committee was adopted and the Farmers' Co-operative Union of Sutter County became a fixed fact on March 29, 1873, and the following named citizens became its first board of directors: S. E. Wilson, A. L. Chandler, B. F. Walton, Francis Hamlin, Geo. E. Brittan, George Ohleyer and Henry Elmer. S. E. Wilson was elected president, B. F. Walton secretary and George Ohleyer treasurer. The officers chosen were all cautious and conservative men, hence they approached their duties with much care and circumspection.

DEVELOPMENT OF THE "FARMERS' UNION OF SUTTER COUNTY."

On April 8, 1873, a great farmers' convention was held in San Francisco, attended by delegates from the various farmers' clubs. The Sutter club was represented by a quorum of the directors of the recently organized Farmers' Union of Sutter county. They took part in the convention where the need of a legal head was quite as apparent as it was to the farmers of Sutter county. Nothing of an immediate benefit was accomplished by the convention, and at its close the directors of the Farmers' Union of Sutter county met at the office of the PACIFIC RURAL PRESS, at 2 P. M.; present, Wilson, Chandler, Walton and Ohleyer, when the following business was transacted: Upon a proposition of Cross & Co., of San Francisco, to sell the Union 45-inch Hessian at 13 cents per yard on 90 days' time, decided to purchase 100,000 yards and get the same manufactured in San Francisco or Marysville. At 3 P. M. met at the office of Cross & Co. and purchased 113,733 yards Hessian (burlaps) at 13 cents per yard, free storage and insurance until May 27th, payable in gold coin, 90 days from the 20th of April.

This was their first transaction and was the only one by all the farmers present, owing to their want of legal organization which, however, was followed by several others soon after in different localities, notably by Santa Clara and San Joaquin farmers. The bags were made and distributed at home to the stockholders in proportion to the stock taken, and worked a great saving to all concerned.

In 1874 a large brick grain warehouse was built in Yuba City, followed by a large frame in 1877. This gave a capacity of 7500 tons of grain. In 1880, the great crop year, the capacity had to be doubled and 16 500 tons of wheat were stored. These ventures became a necessity and a great convenience, as the wheat could not be transported to tide-water, transportation being wholly inadequate, besides not being wanted at the seaside for want of ships. Warehouse receipts were issued and on these cash advances were obtained at a reduced rate of interest. The Union itself went into the money market and secured accommodations for all desiring their aid, and, when necessary, the directors backed the Association with their personal credit to tide over the pinch.

They bought and sold largely of produce on their own account and on commission, thus endeavoring to carry out the spirit and intentions, the objects for which they had incorporated.

The business prospered and produced a surplus, which was distributed to the stockholders in four dividends of \$10 per share, or twice as much in coin as they had been called upon to contribute, leaving the property and business unimpaired. Handling so much ready money, the Union naturally drifted into the banking business almost without knowing it, for which they doubted their powers under their articles of incorporation. This defect was remedied by an amendment, since which time a prosperous banking business has been added to the other business of the Union. It is an interesting fact, again illustrating the advantages of co-operation, that the amendment to the State laws essential to the development of the business of the Union was accomplished through the agency of one of its members. Mr. A. L. Chandler, one of the directors of the Union, represented Sutter and Yuba counties in the State Senate at the time, and he introduced and carried through the Legislature a bill authorizing the stockholders of a corporation by a two-thirds vote to amend the corporate articles.

A NEWSPAPER VENTURE.

The next co-operative movement of the people resulted in an organization having the object of securing an authoritative expression as to the rights of the hydraulic miners to dump their debris into the public streams, to their great injury and to the destruction of the valley farming lands. This was managed by five directors—a president, secretary, treasurer and manager. After a fierce legal conflict the issues were decided in favor of the farmers, since which time (January 4, 1884) such use of the streams has been illegal.

While this formidable battle was raging in the courts and before public opinion the spirit of co-operation again asserted its active presence in the month of April, 1881, after the fearful floods of that year which came near desolating so large a portion of the country. Owing to obliterated channels by hydraulic mining the waters broke over their artificial barriers and strewed the country over with wreck and mud. An advocate was needed in the shape of a newspaper. Stock was subscribed, half the money paid in, and the venture was christened the *Sutter County Farmer*, which was also a success from the begin-

ning. It contested the claims of the miners in every is for nine long years until the farmers themselves resolved that the objects for which the paper had been instituted had been accomplished and the paper was sold, to be carried into general channels of newspaper business.

The next movement of the people, important in its results, was the incorporation of the Sutter Canning and Packing Co., which took place in 1883, with a capital stock of \$50,000, with \$25,000 paid in. The adaptability of our soil to a great variety of the choicest fruits, its growth, and the want of a market for fresh fruits, and the advantage to be gained by reducing it into a condensed and imperishable state, and last, but not least, the success attending each former effort at co-operation, suggested the cannery, and the institution is a fixed fact, and is one of the most successful and well-appointed canneries in the State. It began active operations, though, in a small way in 1884. It enlarged with the increased fruit production until now it has three times its original capacity. It has employed, since its organization, 1854 persons; has paid for labor \$101,097.26; has paid for fruit \$175,926.14; boxes, \$20,341.96; wood, \$7,834.35; number of cans packed, 4,766,874. Total moneys disbursed for all purposes, \$305,199.71. This is virtually all foreign money brought here for fruit, but is by no means all. Since transportation has been reduced, large quantities of fresh and dried fruits have gone abroad, the production directly traceable to the creation of the cannery.

The Sutter County Horticultural Society was organized in March, 1887, and numbers some 75 members of fruit-growers and farmers. Its objects include everything from cultivating and planting to harvesting and marketing. Many prominent speakers have addressed the society, and much useful knowledge has been received and distributed to the members and the public during its existence. A number of fine and valuable fruit exhibits have been made under its auspices at the District, State and other exhibitions, and always with marked success.

The Sutter County Fruit Shipping Association was first spoken of last year, but was not organized until recently. It is composed wholly of fruit-growers, and is intended as a co-operation between growers and shippers. It is merely an association without capital stock, and members can withdraw by giving due notice. Its necessary expense is met by those shipping in proportion to the amount shipped. It is merely an outgrowth of the Horticultural Society, as a sort of business arm, the society being largely a social organization and for mutual improvement. To enhance this feature, every other meeting was devoted to visits at some of the members' homes, where horticultural efforts were inspected and refreshments partaken of, all of which tended to popularize these co-operative institutions. It must also be stated that the spirit which called the first institution into existence spread to other portions of the county; hence we have the Lomo Warehouse Company and two at Live Oak, these on the California & Oregon Railway. Then there are two at Nicolaus and one at Vernon on the Feather and Sacramento rivers, and quite a number of others throughout the county, the result of private enterprise.

In conclusion, Mr. Editor, it will be seen that whatever there was to do, the people sprang together and did it, acting upon the co-operative theory that in union there is strength. They have long since become satisfied that combination must be met with combination; organization by counter organization; and it is by these methods that they have succeeded.

GEORGE OHLEYER.

Yuba City, March 25, 1893.

HORTICULTURE.

Raspberries and Their Cultivation.

TO THE EDITOR:—Raspberries are a paying crop, and generally yield well every year. To do well they should occupy rich soil and be cultivated every year. The weeds should all be kept down as much as possible. For field culture the plants should be three feet apart in the rows, and the rows six feet apart. By planting thus it will take 2400 plants to the acre. If preferable, the plants can be planted four feet apart each way (2700 to the acre). This is, no doubt, the best way to plant in a country where irrigation is not practiced, but if irrigation must be resorted to, the former method is best. Raspberries require a great deal of water, in the mountains and foothills especially. An abundance of water greatly prolongs the fruiting season. The red and yellow varieties of raspberries are propagated by suckers and the black-cap by layering. That is, after the canes have become sufficiently long they are bent down and the tip covered with dirt. Many varieties of black-cap do well in California. I lately visited a small fruit-grower who speaks very highly of them. The reason that persons fail with their black-caps is that they have some poor, inferior variety. Get a good variety and I think all will be well. The most superior varieties of raspberries cultivated at the present day are as follows:

The Barter raspberry is an extra large, red berry, sometimes almost an inch in diameter. It is a good shipper, splendidly flavored and immensely productive. This variety is well known in California and is extensively cultivated.

Royal Church is a very heavy cropper, from seven-eighths of an inch to fifteen-sixteenths in diameter; the flavor is very delicious. It is exceedingly handsome and generally outsells other sorts. It is a splendid variety for jams and jellies. The thorns on the bushes are few and small. The Royal Church is a very vigorous grower. Prof. H. E. Van Dieman, United States Pomologist, of Washington, D. C., says: "Royal Church is one of the best red raspberries."

The Superlative is a long, tapering berry of an extra large size, dull red in color, and the flower is *par excellence*; a splendid dessert variety. Six good fruits are said to weigh an ounce; very vigorous and productive.

Gladstone Everbearing is a large, dark red berry; the flavor is above the average, and it is a perpetual fruiter

from early in the season until late in the fall. It bears a good crop the same season that it is planted; the young canes that come up also bear a crop every year.

Schaeffer's Colossal is an extremely productive variety. The berries are of a dull purplish color and a rich, sprightly flavor; the fruit of this variety is very desirable for canning and is planted extensively in the East for that purpose.

Cuthbert is an old standard variety. The fruit is large, of the finest flavor; the berries are dark crimson in color; a splendid shipping variety; probably more extensively cultivated than any variety of red raspberry.

Turner is another old variety that still retains all its good points over other varieties. It is a superior berry for home use, very beautifully colored and as sweet as honey; a very productive sort.

Brandywine is of a beautiful crimson color, of a good size and very firm; a desirable early market berry; requires rich soil to bring to its height of productiveness.

Crimson Beauty is a highly colored, attractive market berry; canes very vigorous and immensely productive of medium-sized fruits of a spicy, tartish, flavor.

Thompson's Early Pacific is a variety that is rapidly coming to the front on account of its superiority; the berries are large, of a beautiful red color, exceedingly fine flavor, and a wonderful shipping variety.

Golden Queen is one of the best of the yellow varieties. It is very large, deliciously flavored, of a glowing yellow color and very productive. This variety succeeds well in California.

Caroline, a good-sized fine-flavored berry; a lemon-yellow in color; is too soft for distant shipment but is splendid for a near-by market; very productive.

Gregg is a celebrated black-cap variety; canes are very vigorous, rapid growers; berries are large, of a delicious flavor, and are covered with a thick bloom. This is the variety that is planted so extensively for evaporating purposes.

Souhegan is an early black-cap; fruit large, very black in color, and a decidedly sweet, pleasant flavor; a splendid variety to cultivate for early market.

Kansas, a black-cap variety; of great value; berries large, of excellent quality; very productive, season medium.

Japanese Raspberry (or Wineberry) is a singularly beautiful plant, of dazzling red and green foliage, which makes it very desirable as an ornamental plant, to say nothing of its valuable fruit. The fruit itself is exceedingly attractive, and when coloring it runs from a glowing amber to a vivid red, making a sight not soon to be forgotten. The Japanese wineberry, or raspberry, is very productive; the fruit is greatly valued for making jams, jellies, etc.

Grizzly Flats, March 20, 1893. S. L. WATKINS.

Grow Deciduous Fruits.

E. T. Earl, president of the Earl Fruit Company, said to a Los Angeles reporter:

"There is an impression abroad that southern California deciduous fruits, such as peaches, pears, grapes, etc., cannot be shipped to Eastern markets successfully on account of poor keeping quality. This impression is without foundation, as we shipped grapes from the gravel land near Santa Ana as early as 1878, and these shipments demonstrated that southern California grapes have good keeping quality. The great trouble in marketing southern California deciduous fruits in previous years has been the scarcity of suitable cars. This difficulty is now overcome, however, and returns from shipments of deciduous fruits from southern California last season showed conclusively that the fruit has good keeping quality, and that there is a market for same throughout the Eastern States.

"Apricots, peaches, pears, plums and grapes were shipped successfully last season, and there is no good reason why the shipping of deciduous fruits from southern California cannot become as prosperous an industry as the citrus industry is at present. I believe there is practically an unlimited market for deciduous fruits throughout the Eastern States. All that is necessary to develop these markets is proper attention to the cultivation of orchards and careful attention to the details of picking, packing and shipping. The railroads are now well supplied with refrigerator cars and make uniformly fast time, which guarantees arrival of the fruit in the Eastern market in good order. To show the volume of this deciduous fruit business in northern California, it is only necessary to cite the figures of 1890 and 1892.

"In 1890 there were about 3500 carloads of deciduous fruits, of ten tons each, shipped from northern California to various Eastern markets, and in 1892, two years later, there were about 5500 carloads shipped. Southern California deciduous fruits ripen later than the same varieties in northern California. This may be some disadvantage in catching the early markets, but it has a great advantage in securing almost a monopoly of the late Eastern markets. For instance, Bartlett pears grown in northern California are all shipped and marketed before Bartlett pears are ready for shipment from southern California. The best varieties of fruit to grow for Eastern shipment are peaches, pears, plums, prunes and grapes. The best varieties of peaches, in the order of their ripening, are the Early Crawford, Late Crawford, Sasquehanna, Salways and Orange Cling. Freestone peaches are more desirable for Eastern shipment than clingstone.

"Among the leading varieties of pears may be mentioned the Bartlett, Beurre Hardy, Comice, Clairgeau, Winter Seckel, Winter Nelis and Easter Beurre. There are many varieties of plums suitable for Eastern shipment. Colored plums are preferred to white plums. The best shipping varieties of prunes are the Tragedy, Hungarian and German. The principal varieties of grapes, suitable for Eastern shipment, are the Muscat, Tokay, Emperor and Cornichon. There are many other varieties of deciduous fruits shipped East, but those named above are the principal ones.

"In growing fruit for Eastern shipment orchards should be well pruned, cultivated and irrigated. Peaches should be thinned. With the superior railroad facilities of southern California our fruits are as near the Eastern markets

as those grown farther north, and there is no reason why this industry should not be a very profitable one for the southern section of the State."

A Citrus Grove in the Hills.

The following excellent sketch of the Brown's Valley irrigation district, Yuba county, is from the Marysville *Appeal*:

The spectacle of teams and plows up-turning the hitherto untouched sunny slopes of the foothills of Yuba county embraced within the Brown's Valley irrigation district has set many of the quiet, easy-going denizens of that select section to thinking. They are thinking whether they, too, will have to go with the great bands of sheep that the march of progress is rapidly moving to other parts, or whether they will have to awaken from their silurian slumbers and prepare to emulate the examples that are now unfolding themselves to their view.

"Fer 40 yer, hev I bin in these hills," said an old fellow to an *Appeal* representative, who made a trip up through the hills recently, "and I never seed the time till now, that a man thought these yere hills 'ud raise anything 'cept pasture. Water costs money, but I tell you, young feller, it's done two things—it's killed the sheep business and made land for fruit-growers. I don't know anything about fruit-raising, and I guess I'll stick ter herding sheep, but all the hard luck I wish these hills and them young men is that they may some day have as many people living here as I have seen sheep."

And this old fellow, who has been a herder in these parts for over a quarter of a century, was mournful in both tone and looks. No doubt his tone and looks are but a reflection of the sentiments of those others whose shiftless ways have been disturbed by the ruthless hands of progress. Throughout the Brown's Valley irrigation district the evidences of enterprise and the infusion of new blood and new life are everywhere apparent, but the particular spot in which the reconstruction is most prominent at present is at Olive Hill Farm, embracing some 2000 acres formerly owned by Joseph Brown and Leslie Coombs, and now the property of Messrs. Juch and Ehman. The enterprising owners of the tract, which is on the western borders of the district, have made many improvements in the matter of roads and buildings during the past few months, and the 40-acre olive orchard which they planted last season and sold to Bretherick & Pease is in a prosperous condition. This orchard was described in the *Appeal* some time ago. It is on the old Brown place.

Activity at present is on the Coombs place, where 125 acres of fine sloping land have been laid off and surveyed into lots, most of which have been sold and preparations for planting begun. There are some 40 or 50 men employed there at present in the work of preparing, planting, grading and fencing. The subdivision of 125 acres is divided in two parts, through which an avenue 60 feet wide runs, extending from the present road and going east and then north into the old road. This avenue, which is to be ornamented with fine, large palms and trees, is to be perfectly graded, and as the slope of the entire piece is, natural drainage is exceptionally good.

It is on this tract that the largest lemon orchard in northern California is to be planted by R. W. Skinner, superintendent of the Marysville cannery. It will consist of ten acres, Mr. Skinner being the owner of 11 1/2 acres.

Besides Mr. Skinner, the following parties have purchased lots, given orders for orange tree stock, and provided, under contract, for the care and maintenance of the orchards:

C. A. Beechgood, Marysville, five acres.

C. W. Thomas, of Indiana, a relative of Mr. Beechgood's, ten acres.

Bruce H. Sutliff, Yuba county, five acres.

Norman Rideout, five acres.

William Trayner, formerly owner of land adjoining, ten acres.

O. H. Campbell, principal B street school, ten acres.

Mrs. Mayo, Quincy, Ill., ten acres.

Dr. Rooney, Quincy, Ill., 15 acres.

Frank Westhoit, ten acres.

The total shows that there will be a planting of over 90 acres in that tract.

Besides these, Messrs. Juch and Ehman will plant about five acres of oranges around the old Brown residence, and this, with the olive orchard, will show a total of 135 acres planted. Certainly such a showing will demonstrate the capabilities of the soil, and it should prove an incentive to others who are equally as well favored with regard to water and land.

Apples in Tulare.

Tulare county produces some of the best apples that are grown in our State. Take the headwaters of our numerous water courses and the little valleys lying contiguous to these streams in our mountain district; and wherever apple trees have been planted and attended to the fruit is perfect. I notice in our valley that apple trees are subject to wooly aphid; and as there is no known cure for this trouble, and it has been demonstrated that the root of the "Northern Spy" apple tree is impervious to the attack of the aphid, it seems to me advisable that any one contemplating planting an apple orchard should be forewarned in his selection of stock that will resist the attack of the aphid. There seems to be another variety of apple-tree root that is claimed will resist the aphid. It comes from Australia, but as we have the "Northern Spy" root at home, it would be as well to confine ourselves to home grown products. It seems to be an error on the part of apple growers to permit their trees to grow in a wild way. No pruning and what little is done is in a very injudicious manner. Spraying establishes a new season for pruning. The old thick neglected orchard—these cannot be sprayed to advantage. Too much time and material is used and the spray cannot reach

all parts of the top, and it is doubtful if it pays to spray for the inferior fruit which such trees must produce.

The first requisite to spraying is pruning. Labor is cheap when pruning is done; it is very expensive when spraying is done. Prune in February and March. Some people prune in December. I do not advocate it. Spray in May, June and July. The spray that will kill the injurious insects when he is housed up or in egg form will injure the tree. All herbivorous insects are quite easily destroyed when they are they are engaged in doing the most damage. Two important facts have been emphasized by the experiments of the last year, that for most fungus diseases the spray should be applied before the flowers appear and it does not pay to spray in a wet season although I do not think there is as much likelihood of trouble from injurious insects after a wet season as there is after a dry season. Spraying in wet seasons has been discouraging, but wet seasons produce fungi and it spreads very rapidly. The same spray for insects is not good for fungi in my opinion. If there is no spraying in wet seasons or rather a little of it, and he who does spray gets a crop of good fruit and he who don't gets a crop of poor fruit, it seems to me it is best to spray. So all experience now emphasizes the value of the arsenical, copper and sulphur sprays for every year. There should be no half-heartedness, no timidity, no procrastination—luke-warm armies are never victorious.—C. J. Berry in Tulare Times.

The Marysville Lemon.

In all countries where citrus fruits grow the lemon (*citrus limonium*) is considered a more valuable tree than the orange; from the fact, however, that the lemon is very susceptible to cold its culture has been greatly restricted. Even in the famous Mediterranean countries lemon culture is a precarious business at times on account of the sudden cold snaps, which greatly injure the trees.

For many years scientific horticulturists have been looking for a hardy lemon, one that would stand as low a degree of cold as the orange; so far it has not been found. Several varieties have been recommended for their hardiness, but a severe frost generally proves them to be very tender indeed.

Many hundreds of different varieties of imported lemon trees have been planted in the northern citrus belt during the past 20 years, but not one of them remains. The only lemon trees that we have are the seedling varieties, which are a fitting example of the survival of the fittest, as they have stood the frosts and borne crops for upward of 30 years.

The fruit produced by the many fine lemon trees growing in the orchards and gardens in Marysville, has for several years past elicited remarks of praise from visitors as well as from home folks; and not only has the fruit attracted attention, but the hardy, magnificent growth of the trees themselves have caused considerable wonderment.

These trees are all seedlings raised in Marysville from seeds picked up in various ways by the owners, and it would probably be a somewhat difficult task to trace their origin at this late day, inasmuch as some of the trees are over 25 years of age.

That we have developed in Marysville a lemon tree possessing characteristics different from other lemon trees is quite certain; it remains to be determined by experiment and investigation whether it is entitled to be named as a new variety.

When Charles Howard Shinn, the noted writer and horticulturist, visited Marysville in October last, his attention was called to the Marysville lemon; at his request several lots of a dozen each, selected from various trees, were sent him for experiment. The result is told in the following letter:

BERKELEY, March 16, 1893.

Gen. Harney. MY DEAR SIR:—The lemons sent me, after being properly "sweated out" were analyzed by our chemist, Mr. Colby, and the results are very interesting. The full report will be printed later, but since acid is the main point, I give you results of the three largest and smoothest sorts:

Seedling from A. J. Binney, 8.12 per cent.

Seedling from Thos. Dougall, 7.50 per cent.

Seedling from Mrs. M. Karr, 7.70 per cent.

The seedling from one other place has also a high acid, but like some of the others, deserves more cultivation. A lemon tree in a lawn has a poor chance compared to one in orchard, fertilized, cultivated and pruned.

In order that you can understand the value of the above seedlings, i. e., the desirability of more tests in your district, let me add that the highest acid analysis of a hundred or so different lots is 8.33 per cent, while the average acid is 6.65 per cent on young trees, and 7.32 per cent on mature trees. So all the three above noted are much above the average.

Shape, color and smoothness are very important, likewise shipping qualities. Some kinds never seem to color up well. The Lisbon and Genoa are good models of lemons. All the four seedlings from Marysville, mentioned above, seem nearly right in the matter of size.

Yours truly,

CHARLES H. SHINN.

To sum up: The Marysville lemon is hardy, it will stand a frost as well as the seedling orange, it is above the average in acid and it is of the right size for commercial purposes. The one thing that remains to be determined, before we can pronounce it the best variety for orchard purposes, is its shipping qualities. This will be worked out in due time. The attention of the outside world is hereby called to the Marysville variety of *citrus limonium*.—G. W. Harney in Marysville Appeal.

The Cottony Scale and Lady Bug.

The 25-year-old orange grove on the late Gen. M. G. Vallejo's place, in the northern part of Sonoma, was attacked by the cottony cushion scale some six years ago, says the Sonoma *Index-Tribune*, and in three years thereafter the entire grove was given up as lost. The trees were literally covered with the scale. Then they ceased growing as looked as though they had passed through a forest fire. In 1890, Secretary Lelong, of the State Board of Horticulture, hearing of the devastation being wrought by the pest on the Vallejo place, forwarded to the General about two

dozen Australian lady bugs, which were put upon a portion of the infected trees. After destroying the pest on one tree the lady bugs would fly to another and clean them out on that tree, and so on, until every tree in the grove was free of the destructive insect. Then the blackness disappeared from the trunks and main branches of the trees; they put on a new and vigorous growth and to-day are green and healthy and as productive as ever.

The Time to Spray.

I do not recommend any particular make of pump or nozzle. I use a Lewis pump—cost \$5.50. My neighbor, Professor Traber, has had a \$9 Jackson pump, that for years has sprayed a number of orchards successfully. A company of my other neighbors have a Bean pump, value \$40, which does excellent work.

Last year a boy came to my house and asked that I'd allow him to cut a long bamboo pole. He got it, and casually remarked: "Ma is going to spray our trees with it." The next day I drove by their place to see spraying done with a bamboo pole. She had a ten-gallon box, made tight by the use of melted resin; had it full of water, with an ounce of paris green stirred in. On the end of the bamboo she had suspended an old gallon fruit can, finely perforated in the bottom and lower portion of the sides. She'd fill the can, then slowly move it over every part of the top of the trees. The work was quite speedy, and as perfect in results as any I have ever seen. I would remark, this lady had previously obtained from me a description of the codlin moth, and had found them in great numbers among her trees, and her husband being busy with other work, she improvised and carried out the above successful method.

Codlin Moths.—The first codin moth of the season got into a dish of preserves at our supper table three days ago. The pest is a small four-winged miller, with spread of wings about the same as the common house fly—length of body a little longer than that of a house fly, but much slimmer. The head and breast are brown, mingled with grey; the hind wings and abdomen are yellowish brown, with a satin-like luster. It has a large oval brown spot, edged with copper color, on the hinder margin of each fore wing. The first eggs are laid in the eye or blossom end of the fruit, soon after the blossoms fall. Eggs, after the first laying, are deposited anywhere on the skin of the young fruit, preferably in the shade, and made to adhere by a paste like substance. The object in spraying is to have your poison ready when the young worm hatches so that he will get a dose of it as soon as he begins to eat. The newly hatched worm is too small to be readily seen. At six days it is a quarter of an inch long. At ten days it is three-eighths of an inch long, and as thick for slightly thicker than No. 6 Coates' thread. The worm at first is white; later it is flesh colored, and has a black head.

When to Spray.—While the fruit is young, say for eight days after the blossoms have fallen, the young apple has its eye or calyx, turned upward. Do your first spraying during this period, before the apple has become heavy enough to bend its stem, and turn calyx downward. Then spray after every rain. A twenty-gallon box of spray is used for the first time of spraying on every ten 12-year old trees, twenty to thirty feet tall. At each subsequent spraying about half as much is used in my orchard, or one gallon per tree. Many persons use a much less quantity; but remember if your poison is not right at the place where the newly hatched worm begins to eat, he is soon inside of the apple out of harm's way. He may get poisoned by eating his way out into another apple, but then the harm is done.—W. A. Sander in Fresno Republican.

Storing Apples.

TO THE EDITOR:—I have paid San Francisco several visits this winter, but I have seen no better Yellow Newton Pippins than those shipped by myself to Messrs. Eveleth & Nash. These gentlemen confirm my opinion.

This is how we handled them: They were carefully hand-picked into baskets and at once transferred to ordinary apple boxes. They were just put in loose, not packed tight as for shipping. These boxes were hauled to the fruit-house with as little jar as possible.

This fruit-house is built of rough boards (fastened on a heavy frame) with inch-thick battens covering the cracks, and rustic nailed outside the battens, thus leaving an inch air-space between the boards and the rustic. It is of two stories—the upper devoted to tools and stores, and drying onions; the lower used for fruit, and arranged with shelves accordingly. This lower story has only an earthen floor. One object of this is to give no lodgment for rats and mice. The other is to serve as a means of maintaining a cool, damp atmosphere. To this end it is kept well watered in apple-keeping season; and, to avoid mildew or mold, it is also liberally sprinkled with ground sulphur. By day doors and windows are mostly kept shut, by night open; this, of course, is to exclude the heat and allow free circulation of the cool night air.

It is a very effectual and simple method of keeping winter apples. Others may have hit on the same plan, but I have never seen it in operation elsewhere, or heard it spoken of, or read thereof in print. I have tried a variety of other ways, but this has given me most satisfaction. I commend it to your readers. EDWARD BERWICK.

Carmel, March 24, 1893.

It Gets Rid of Bees, But It Kills Them.

TO THE EDITOR:—In reply to L. B. Cadwell's article of March 18, I will give the Pasadena way of getting rid of bees on fruit drying grounds. Last year they ate my drying pears, so that all ripe ones had to be thrown away:

Place a sulphuring box so that the wind will carry the fumes over your drying ground. Place some old comb honey in the box and burn it. The bees will collect in the box.

Then set fire to some sulphur in a pan, put the pan in the box, shut it up and sulphur them. Then burn some more honey when they bother you again, etc. E. A. BONINE.

Los Angeles County, March 25.

Thomson's Navel Orange.

We have received by mail a couple of Thomson's navel oranges which was fully illustrated and described by the RURAL of May 30, 1891. The fruit now sent us shows the same thin and polished skin which attracted so much attention when the fruit was first shown by Mr. A. C. Thomson, of Duarte, Los Angeles county, on whose place this peculiar phase of the navel orange was first noticed. Mr. Thomson now offers a limited stock of the trees for sale as shown by his advertisement in another column.

THE GARDEN.

Celery.

TO THE EDITOR:—About 30 years ago my good, old grandmother initiated me into the secrets of successful celery-growing. I can distinctly recollect my maiden effort. A long, deep trench was dug, the rich surface soil being placed on one bank and the clay on the other. When the trench was of sufficient depth about an inch of chickens' manure was evenly distributed over the bottom of the trench; over this was sifted about two inches of the most loamy part of the surface soil. The plants were set in the evening, watered and cross-pieces laid across the trench with boards placed over these to protect the plants from the sun's rays until they should become well rooted. As the plants grew the soil thrown out of the trench was gradually filled in between the plants, care being taken that the center leaf was never covered. Rains were frequent there, but, when they lacked, water was carried and the ground kept moist. When winter came on and it became necessary to take up the celery, barrels were secured. These were laid on their sides, a layer of soil put in, then a layer of celery—soil and celery—until the barrel was full, when it was set upright, shaken down and earth added until the barrel was full, when it was rolled down the cellarway, stood along the wall and covered to keep the rats from destroying it. During the winter following, this rich, white, crisp, nutty celery added very materially to the general excellence of those good old-fashioned Pennsylvania tea parties. My greatest rival was an old saddler, who utilized a very dusty, shaded garden to grow most excellent celery, that he insisted was just a little larger, whiter and more crisp than that grown by myself, while in an adjoining town a successful grower utilized his large cellars to grow a snow-white, crisp celery I could not compete with. Throughout California, very little celery is grown. True, our gardeners sell us something they call celery, a dwarfed, woody, stringy, tasteless, green vegetable that resembles the celery of our memory about as much as a pumpkin does a watermelon. I induced a friend to try Pennsylvania methods in California. The celery grew, but not willingly; and as slow growth is tough growth, the results were not very satisfactory. When fall weather came the celery was simply hilled over, and at mid-California-winter we opened it. My friend had about the same experience that I had in hilling in apples, viz, the gophers got the crop.

Now, I would like some of the readers of the RURAL who possess good soil, so situated that they can keep it moist all the time by irrigation, to try a more modern way and report at the close of the season. If you wish to experiment on a small scale, strip a piece of ground three feet wide and as long as you please, and about four inches deep. Fill in an inch of chicken or goat manure, or, in the absence of this, two inches of rich, well-rotted manure; cover this two inches deep with good soil. In this set your plants, not over seven inches apart each way. If the sun is very hot set the plants out in the evening, water and cover by driving stakes at each side. Lay cross-pieces over the plants and stretch burlap or muslin over this, removing the cover early each evening until the plants are able to stand the sun. Dig a ditch along the upper edge of the bed and keep the ground moist. Weed and cultivate until the plants are too large to admit. If the ground is very rich and kept moist the plants will grow very rank—being set so close to each other they will shade themselves, blanch and be tender. Eastern gardeners claim they realize \$1200 an acre from celery grown in this way, which is not so very far behind a citrus orchard. Give it a trial and see if we can't grow as good celery in California as Kalamazoo is capable of producing, and when the turkey is "done to a turn," call. E. H. SCHAEFFLE.

Murphys, Cal., March 25 1893

THE FIELD.

A Good Fruit and Grain Season.

TO THE EDITOR:—I have not seen anything of late in the RURAL PRESS regarding San Luis Obispo county. Thinking that perhaps a few lines at this time concerning that portion of the country in the immediate vicinity of Paso Robles would be of interest to some of your many readers, I will say in the first place (to break the ice, or rather the mud) that locomotion hereabouts is attained only under very great difficulties. The repeated washouts and continuous softening of the roadbed makes it impossible to get along with any degree of comfort, and we make it a point not to leave home unless we have to, and then never to have business so urgent as to be compelled to go in a hurry. I do not say this meaning any disparagement to Paso Robles or surrounding country, for I am well convinced that the whole State is pretty well softened up by

this time owing to the frequent and protracted storm, and while I am writing another storm is upon us, promising to equal, if not exceed, any of its predecessors in quantity of water and extent of duration.

The grain out here on the east side of the Salinas river is suffering in many places from excessive moisture, and not having had sunlight enough to overcome the chilling effects of the frequent frosts, the coldness of the soil adds to its stunted and yellow appearance. The farmers all have had their seeding done since January, and many of them before that date. The grain is all well rooted and ready to respond to the first warm days of spring.

Almonds, apricots, most of the peaches and the Oriental varieties of plums are in bloom. Just what effect the continued rains will have on the blossoms I am not in a position to state at present. I am quite certain, however, that the rain and frost has injured the almond very materially, but should the weather, after the present storm, come off warm, other fruit will be safe. Tree planting has been indulged in to some extent this season in the vicinity of Paso Robles, especially on the west side of the Salinas, which, in my judgment, is much better adapted to the growth of fruit trees than the east side, notwithstanding it is more mountainous. The soil on the north slope of the mountains is a black loam, comparatively free from frost, and, judging from the amount of large liveoaks and shrubs having been cleared before plowing, trees and vines must certainly do well. Owing to the continued inclemency of the season I have not been able to visit many of the orchards in the neighborhood, but in those I have been I was forcibly struck with one thing, and that was the entire absence of scale insects. Whether it is that this climate is not agreeable to their growth and production, or owing to the scattered area of orchard planting, I cannot tell. Perhaps if orcharding should be carried on to any extent, orchards being more numerous and getting more age, the scale will get a foothold here as elsewhere, although the tree-planters are using every precaution not to purchase or plant infested trees.

Coming as I did from Alameda county, where scale-bugs and other pernicious insects confront one on every side, it was with surprise and pleasure I looked upon the clean, thrifty branches of the fruit trees of the Paso Robles district. Whether or not this is the only favored locality in the county I have not been informed. It is my intention, at my earliest opportunity, to make an extended visit to the orchards of the county, and shall then be fully informed as to the conditions of the orchards in the different localities, as also the products of the county in general.

Agricultural Experiment Station.

W. H. TYSON.

Labor-Saving Gophers.

The California gopher is not the deep-dyed villain his reputation would indicate, as the following story, which, if true, would show, and of its truth we have no doubt, as it is vouched for by at least two of our most reputable ranchers. Some time ago the heavy rains did sad damage to the pipe being put in place by Contractor French, tearing out whole sections and filling up the vitrified water veins with sand. In one place there was about 70 feet of the line of 30-inch pipe filled solidly with sediment, and how to get that big pipe cleaned out without taking it all up was a question for man to ponder over. Not for very long, however, for Geo. Ott soon discovered a neat way out of the difficulty. Knowing that Directors Marshall and Rubins were to meet Monday morning for consultation at the point where the pipe was blocked, George caught a couple of gophers and sent the little burrowers over to the pipe-line in a slatted box. The directors were not slow to take the hint. Mr. Marshall put the gophers into that sand-filled section and sent J. C. to the lower end of the line to watch. In just 23 minutes the gophers made the 70 feet in the race of their lives, doing the distance so rapidly that they didn't have time to back-fill the holes. After congratulating each other a few moments on the success of the experiment, the water was turned into the gopher-holes and the pipe soon cleaned out from end to end, verifying the well-known fact that water will run into a gopher hole when it won't run somewhere else.—Azusa Pomotrophic.

Grains Promising at Newman.

TO THE EDITOR:—The grain crops are the most promising they have been in many years. A larger acre has been seeded this season than ever before, and one of our best farmers, A. L. South, is still sowing wheat. There has been a large amount of land below the Kings river and San Joaquin canal seeded to alfalfa this winter.

A good many of our farmers are turning their attention to dairying. We have five cheese factories in our vicinity.

A large number of fruit trees have been planted out this spring in the vicinity of Newman, and this locality is fast becoming famous throughout the San Joaquin valley for the fine quality of fruits produced here, and we believe no other part of the State can surpass us in the quality of our apricots, peaches and prunes.

Newman, March 25, 1893.

A NUMBER of experimental stations located in the grape-growing sections of the State are being established by the State Viticultural Commission. The purposes for which they have been established are principally to test the adaptability to the soil of various varieties of resistant vines, some of which have been imported recently from France, and to ascertain the best results that can be obtained with grafting stock. Stations have been located in Los Guillos Valley, near Glen Ellen; also in the vineyards of I. de Turk, Santa Rosa; W. H. Crabb, Oakville and George West, Stockton. One will be established in Santa Clara county, although the definite location has not yet been fixed. About two acres in each vineyard has been set aside for this purpose. The results of the experiments to be made with the vine stock may determine what are the varieties which will best resist phylloxera.

THE STOCK YARD.

The Trotter.

The odium that once justly or unjustly attached to the trotting horse breeding industry has, under the modern influences which have surrounded it, and by reason of a greater public interest and, consequently, a better acquaintanceship, so entirely disappeared as to be now little more than a memory. The terms, "fast horses," "horse racing," etc., were practical synonyms for loose morals, gambling and general wickedness. In those old days the goody-good moralists were absolutely certain that the trotting horse and his master were under the direct management of his satanic majesty, who, it was believed, made no other use of them than to contaminate the good morals of the children of earth. The race track was the devil's favorite playground. Much of this was the result of the densest ignorance on the part of the pharisaical critics, who were so blinded by prejudice and the bias of early and faulty training that they were unable to distinguish the good things from the greater of lesser that was undoubtedly connected with the industry. But step by step the bad has been compelled to give place to the higher and better, until now, while not pretending it is absolutely free from corruption any more than any other commercial industry, we present the light harness-horse breeding industry to the world as being strictly moral, legitimate and high-toned, and last, but not least, profitable. Men can make evil of anything, but the light harness-horse industry has called to its support, and is calling, such a class of men as make it probable that in the aggregate no other branch of commercial activity is represented in morals, intelligence and enterprise in a more satisfactory manner than it. Such has been the revolution of feeling in this direction that judges of our supreme courts, members of the national senate, members of the cabinet, scholars, statesmen and capitalists form a very considerable portion of its active membership. Ministers of the gospel as a class, are well represented, and it is no longer a rare thing to see a horse paper ornamenting a preacher's study table. They do not propose letting the devil have all the good things. All this is highly pleasing, and matter for sincere congratulation; but the good is not complete. Like every other business, there are certain wrongs and evils which must be daily combated and righted to insure the desired ends, and as the ultimate life and success of this broad industry rests almost entirely in the proportion of strict right and business principles upon which it is as a business conducted, the search-light need to be turned into the sulky, into the judges' stand, into the sale ring, upon the pedigree-maker and the pool box, and the legend, "Drop a sum of money in the slot and see the light go out," must be taken down at once; the signs point to this end. It is now a rare thing to meet a breeder who misrepresents his stock; on the contrary, it is the rule for the purchaser to be agreeably disappointed. This is wise and means that the breeders and turfmen are rapidly focusing to a point where the platform shall be "an honorable business, honestly conducted."—Clark's Horse Review.

Bots in Horses.

The common gad-fly (*Gastrophilus equi*) attacks the animal while grazing late in the summer, its object being, not to derive sustenance, but to deposit its eggs. This is accomplished by means of glutinous exertion, causing the ova (eggs) to adhere to the hairs. The parts selected are chiefly those of the shoulder, base of the neck, and inner parts of the fore legs, especially about the knees, for in these situations the horse will have no difficulty in reaching the ova with its tongue. When the animal licks those parts of the coat where the eggs have been placed the moisture of the tongue, aided by warmth, hatches the ova, and in something less than three weeks from the time of the deposition of the eggs the larvæ have made their escape. As maggots they are next transferred to the mouth and ultimately to the stomach along with food and drink. A great many larvæ perish during this passive mode of immigration, some being dropped from the mouth and others being crushed in the fodder during mastication. It has been calculated that out of the many hundreds of eggs deposited on a single horse scarcely one out of fifty of the larvæ arrive within the stomach. Notwithstanding this waste the interior of the stomach may become completely covered (cuticular portion) with bots. Whether there be few or many they are anchored in this situation chiefly by means of two large cephalic hooks. After the bots have attained perfect growth they voluntarily loosen their hold and allow themselves to be carried along the alimentary canal until they escape with the feces. In all cases they sooner or later fall to the ground, and when transferred to the soil they bury themselves beneath the surface in order to undergo transformation in the pupa condition. Having remained in the earth for a period of six or seven weeks, they finally emerge from their pupal cocoons as perfect dipterous (winged) insects—the gad-fly. It thus appears that bots ordinarily pass about eight months of their lifetime in the digestive organs of the horse.

According to Prof. Michener, bots seldom—not more than once in ten thousand times—cause colic. They may, when present in large numbers, slightly interfere with digestion, but beyond this they are, with few exceptions, entirely harmless. It is entirely useless to attempt to dislodge them from the stomach, and they will go at their appointed time, which is mostly during the months of May and June.—Ohio Agricultural Experiment Station.

Feeding of Lambs.

The Agricultural Experiment Station of Cornell University reports in Bulletin 47 an interesting experiment in the feeding of corn ensilage to lambs.

The lambs were grade Shropshires about eight months

old, and were fed in two lots of five lambs each, the experiment continuing from December 8th to April 27th.

Each lot received a grain ration, composed of one part linseed meal, two parts cotton-seed meal and four parts bran by weight, of which mixture each lot received practically the same quantity, 673 pounds, 135 pounds per lamb, during the 20 weeks of the experiment.

In addition to this ration, one lot received 905 pounds of hay during the test, while the other lot had 606 pounds of hay and 1166 pounds of corn ensilage. The gain was practically the same in both lots, averaging 25 pounds per lamb, the average weight being 59½ pounds at the beginning and 85 pounds at the end of the test.

The ensilage, therefore, took the place of 300 pounds of hay, or about four pounds of ensilage equaled one pound of hay. If the hay were worth \$10 per ton, the ensilage would therefore be worth \$2.50 per ton.

The lot fed on dried food consumed more water than the one fed on ensilage, but when allowance is made for the water in the food it is found that the ensilage-fed lot consumed considerably more water than the lot on dry food.

THE DAIRY.

Danish Dairy Practice.

We alluded last week to the highly scientific character of Danish dairy policies and practices, and promised to present in this issue some conclusions reported to the U. S. Department of Agriculture by Prof. Georgeson, who is now abroad studying the subject locally. From this source we take the following descriptions:

I here found two pieces of dairy apparatus which are not generally known to our American dairymen, and which I find in every well-appointed dairy in Denmark. One is the Lawrence milk-cooler, and the other is a contrivance for heating the milk or cream to a temperature which kills all, or nearly all, bacteria which it may contain. This process is called "pasteurization," after the great French scientist, who first called attention to this practical method of killing injurious bacteria. The milk-cooler is a hollow metal plate with corrugated sides. It is about an inch thick and of any size, though usually about two feet square. It stands on edge, with the corrugation running horizontally. A stream of ice water runs through the inside of the plate, back and forth in a zigzag course, while the cream or milk is poured into a little trough with many fine holes in a row along the bottom, which is placed on the upper edge of the cooler and from which it spreads in thin sheets over both sides of the cooler; as it slowly moves to the bottom. It has the great advantage that it is easily cleaned, since the sides are not covered. There are other forms of coolers, but in those I have so far seen the principle is the same. This cooler is in general use when the cream is to be cooled rapidly to any desired temperature.

The principle of the "pasteurizing" apparatus is equally simple. Steam is let in between the double walls of a small, barrel-shaped tank or reservoir, which contains the cream or milk, and it is so arranged that the cream runs into the machine in a constant stream and out again at the same rate after having attained the desired temperature. A thermometer in the discharge pipe tells how hot it is, and the heat is regulated by admitting more or less steam through the valve on the steam pipe. This, too, is found in every dairy worthy of the name, and it is considered well-nigh indispensable when a fine grade of butter is aimed at. It is essential when an artificially prepared pure ferment is used for the cream, as it then becomes necessary to kill all other bacteria the cream may contain before it is added.

And this brings me to that point in their dairy practice which above all others places the Danes ahead of the rest of the world, and which is perhaps the leading secret of the uniformly good quality of their butter. Pure culture of cream ferments are in common use in all good dairies. I shall not now attempt to describe in detail what a "pure culture" is, further than to say that it consists of bacteria, which, in causing the fermentation of the cream, give the desired flavor and character to the butter, and which have been isolated and artificially cultivated. These "pure cultures" are offered for sale by two or three laboratories, and they have met with the practical dairymen's approval, who, as stated, makes use of them in his daily practice. This pure culture is used as a starter in skim-milk at a given temperature, and when fermented this is again used as a starter for the cream.

A DANISH DAIRY FARM.

At this stage I cannot do better, perhaps, than describe briefly the practice followed in a large private dairy which I have visited. I refer to the farm named Rosenfeldt, situated near the city of Vordingborg, and which belongs to Kammerherre Oxholm. The farm contains 1300 acres. The actual number of cows on the place was 276, which number will, however, be increased to upward of 300 by the addition of heifers soon to come in. Of the above number of cows, 223 were in milk at the time of my visit, and they produced on the average 3400 Danish pounds per day, or 3747 pounds avoirdupois. This gives an average of but 17 pounds per day per cow, or say two gallons. If this seems like a small output, it should be remembered that it was right in midwinter when many of them were about to go dry, and that the native Danish dairy cow is but a small animal. The average weight would perhaps scarcely reach 900 pounds per head. When these things are taken into consideration, the milk yield was not small. These cattle were fed as follows: The first feed was given them at four o'clock in the morning, and consisted of oat straw or barley straw, as the case might be. They got a liberal amount, and what was left was used for bedding. At 7 A. M. they were fed their grain, which averaged about seven pounds per head, and consisted of three pounds of

barley and oats mixed and crushed, two pounds oilcake, usually half rapeseed cake and half palm cake or sunflower cake (of rapeseed cake they never fed more than 1½ pounds), and two pounds bran. At 8:30 A. M. they got 20 pounds sugar-beet refuse each. The beets are grown on the farm and delivered to a neighboring sugar factory, but the refuse pulp is hauled back for feed. Or if the pulp is missing, mangels are fed instead. Next they are watered in the stable, the water being turned right into the mangers, and after this they get ten pounds each of hay from the meadow. The hay is of mixed grasses, containing also some clover. This completes the feeding for the forenoon. At 1 P. M. the feeding begins again with the same feeds in the same quantities, beginning first with the grain, then roots, water, hay, and straw, keeping them busy eating all the afternoon, the straw being fed at 7 P. M., and this time wheat straw.

The milking begins at four o'clock in the morning and at four o'clock in the afternoon. It is all done by women, who each milk 20 cows, and they do it in two to two and one-half hours. The churning temperature is 55° F., and butter comes in about 30 minutes.

The particular ferment which was used in this dairy received the following treatment: It is sold in bottles holding about a pint, all of which is used at one time. It is not added directly to the cream, but is first propagated in skim-milk. For this purpose the milk from a fresh cow should, if possible, be selected. The milk is set in ice water for 12 hours and then skimmed by hand. It is next sterilized by being heated to 180° F., at which temperature it should be kept for two hours. It is then cooled to 82° F. and the bottle of ferment is added, and this temperature should, as far as practicable, be maintained during the next 20 or 24 hours while the ferment is growing, which takes about that time. At the close of this process another batch of skim milk is sterilized as before. It is next cooled to 50° F., then again warmed to 82° F., and ten per cent of its weight is added to it from the ferment made the previous day. This stands again another 24 hours at the same temperature as near as may be, and then it is ready to be added to the cream, for which purpose the cream should be at 70° F.

A herdsman styled "feed-master" has charge of the feeding. The milk is, of course, weighed as fast as it arrives at the dairy, but twice a month there is a "trial milking," at which the milk is weighed from each cow, which enables them to get an approximately correct idea of the yield of each cow. The cows do not get out of the barn all winter. When tied up in the fall they remain there till they are put in pasture the following spring, which usually occurs the latter part of May. This, I find, is the practice on nearly all dairy farms.

The morning milk is run through the separator as fast as it arrives in the dairy from the barn, and the evening milk stands in the vat and is separated also in the morning.

The cream runs from the separator into the "pasteurizing" or sterilizing apparatus, where it is heated to 167° F., after which it is at once cooled on the cooling apparatus to 44° F. This heating and cooling is completed by about half-past seven in the morning, and from that hour until 10 A. M. it stands in ice water. It is then heated again, but this time only to 70° F., at which temperature the prepared cream ferment is added, and it now stands for about 20 hours, or until 6 A. M. the next morning, at a temperature of 56° to 58° F. as far as possible, while the ferment does its work, and then it is churned. The amount of ferment added to the cream will in a measure depend upon the season, the cows, and other conditions. In the dairy to which this refers it was found that of this impregnated milk four to five per cent of the weight of the cream should be added at this season to have the proper effect. And now, to perpetuate the ferment, another batch of skim-milk is prepared, as above described, to which 10 per cent of its weight is added from the lot used to impregnate the cream. And so it goes on from day to day. The ferment is perpetuated in sterilized skim-milk, which is prepared fresh every day, and what was made yesterday is to-day used both to ferment the cream and to start a new lot in fresh skim-milk. On Mr. Oxholm's dairy farm, it is found necessary to get a fresh lot of ferment from the laboratory about once in six weeks.

I have briefly described the process followed on this farm because the butter made there stands in high repute. It frequently takes prizes at the national butter exhibits, and I was told that it brought usually six crowns per 100 pounds above the top market quotation. It is all exported to England. Nearly all the work in this dairy was done by women, and the chief dairymaid was certainly a competent person. Most of the skim-milk was made into cheese of good quality. It is possible to make good cheese from skim-milk, but the success lies in the knowing how, and I believe the time is coming when good skim-milk cheese will find a market in America.

At Rosenfeldt it required at this season 29 pounds of milk to make a pound of butter. The cream loses some of its butter by being sterilized as it was here.

Notes of the Dairy.

Air milk thoroughly after milking.

Grass and hay should be the principal food until the cow comes in.

The Jersey calf is especially rapid in its advance towards cowhood and needs good treatment.

In breeding, in the dairy, the farmers should be sure that the sire is at least as good as the dam.

If a really good milker is allowed to become poor, her milk will be deficient in both quality and quantity.

It is often the case that the flavor in the milk is due to lack of cleanliness rather than to something in the feed.

The average ration for a dairy cow is 2½ per cent of her own weight in dry food, but of course this will vary greatly.

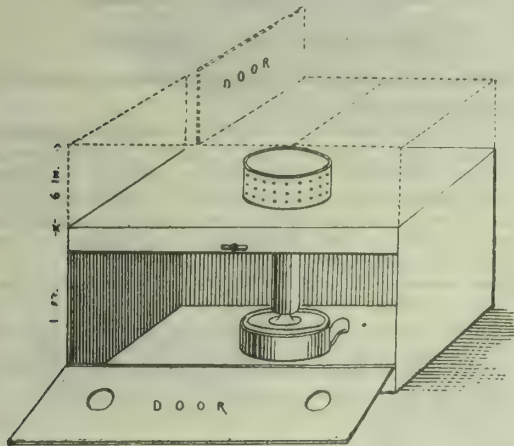
While good blood is of the utmost importance, if it is not properly trained the highest satisfaction will not be attained.

POULTRY YARD.

For a Brooder.

TO THE EDITOR:—A box may be made of light stuff, thin spruce 24 inches square by 12 inches in height, or a light frame may be covered on the sides with tin or old oil cans, and on top with sheet iron, in the center of which, on top, may be soldered a large-sized fruit can with the bottom removed and sides perforated, as in illustration. On the under side of sheet-iron plate a shield may be suspended, say 8 or 10 inches in diameter, for the purpose of properly dispersing the heat from a lamp placed under the shield, as otherwise the heat would be too great in the center at the expense of the surrounding space.

The perforations in the can on the center of the plate



allow the heat to escape from the center in a manner a little more agreeable to the chicks, which, if not warm enough otherwise, will huddle around the can. The top of the iron plate should be covered with one thickness of barley sacking on which a half-inch in depth of sand should be placed. The sacking not only serves to hold the sand in place, but enables one to remove the sand with greater facility.

If it is preferred a false bottom may be raised, say one inch above the true bottom or plate and constructed of burlaps tacked to a light frame made with sufficient cross-pieces to prevent sagging and approaching too near the heated plate. In that case the perforated can may be omitted and the sand sprinkled on the false bottom instead of the real one in sufficient quantity to prevent soiling the burlaps. Cleanliness is a prime requisite in this matter as in all other matters where fowls are concerned. The shield should be suspended so as to be removed say one inch from the bottom of the plate and may be of tin.

The lamp should be of galvanized iron five inches in diameter and two inches in depth, with an ordinary-sized burner and tin or iron chimney with isinglass inserted in order to regulate properly the flame of the lamp. Care should be taken in placing the lamp in position, that the top of the chimney is sufficiently removed from the shield to allow of proper draught for the lamp, otherwise the flame will not be steady and may run down the tube and cause disaster.

You have now the heater constructed, and if your brooding-house is floored the heater should be sunk through the floor so as to leave the top of the heater on a level with the floor. The opening should be longer on the side on which the door of the heater is placed in order that the lamp may be removed for cleaning and filling, as well as to furnish a supply of air for the flame. For this purpose holes of a size sufficient to admit a proper supply may be made in the door and furnished with slides with which to partially close them, as at times the draught is greater than at other times. The heat of the chamber in which the chicks are placed should be kept for the first two or three weeks at 90° as nearly as possible, decreasing as the chicks get older.

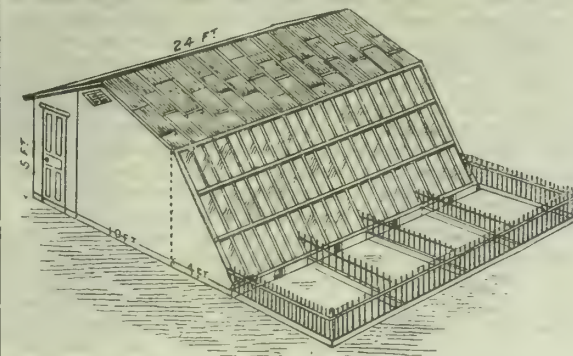
The chicks in the morning are let out on to the floor for the purpose of feeding, exercise and cleaning the brooder, the heat being kept up in the brooder, as the chicks, with very little teaching soon learn to run into the brooder to warm themselves. The atmosphere of the room in which they are kept should be kept as near the temperature of the brooder as possible, as a time of danger for the chicks is when they leave the brooder and go into cooler air. They easily chill, and once chilled they will never amount to much and never repay your expense and care.

This brooder is calculated for 50 chicks and if several brooders are needed, runs should be made for the chicks on the floor, and corresponding ones on the outside. On warm, sunny days they should be allowed to run outside to scratch and pick at grass (which should be growing in their runs), as well as little particles of gravel and occasional insects which they may find, due care being had that they neither get chilled nor too warm with the sunshine. A shade may be made for them under which they will gather when too warm. For each 50 chicks, inside runs four feet by six are sufficiently large for some time, and should be covered with sand for them to pick and scratch in and facilitate cleaning the runs. The outside runs may be of the same width but much longer, say 15 or even 20 feet long, made with four-foot laths placed the width of the lath apart; so that between the laths at the bottom other laths two feet long may be nailed, making a close fence for two feet in height, in order to make sure that each lot of the chicks is kept in its own run.

Much depends on the time of year. In the springtime and early summer they may be allowed to run outside when a warm day occurs. In the winter or fall this could hardly be done without too much risk, as it is very easy for a little chick to get too cold.

The brooding house should be of sufficient size to ac-

commodate comfortably the number of brooders you desire to make use of. For, say six brooders and 300 chicks, the house should be at least 24 feet long and ten feet in width, with a hall say three feet in width running the whole length of the building in order to afford access to each brooding pen, which may be made of laths with a door to each pen. The south side of the house should be of glass or at least



a half window fitted to each run to furnish light and warmth to the chicks, who greatly enjoy lying down and stretching themselves out in the warm sunshine. On days when it is too warm a curtain of some kind should be stretched across the glass to shut out or modify the sunshine while the chicks are in the house. Each pen should be furnished with a dish of finely-broken charcoal, or a well-charred board, and a dish of water, clean and fresh, which they may have access to freely at any time after the morning meal.

There are many other styles of brooders and many of them, with intelligent care and close attention, are good; but perhaps no one of them understands the matter of temperature and proper supply of fresh air as well as the old hen, when she is of the good mother kind and has a fair chance for herself. Still, as I say, with intelligent care many brooders are good, and one can do no better than to go to a manufacturer of them, of assured reputation, and secure one. The one I have described is the old-style Halstead, and I have found it a very good one. There have since been improvements added, but I do not know if they are really any better. Some time since I had occasion to describe another style which I have very successfully used, and was afterwards informed that it was the old-style Petaluma and which also had been since greatly improved, but, as with the Halstead, I do not know if it is really any better. After trying many kinds I had settled to the use of these two as being the most satisfactory for my purpose. The first described one I found especially useful when taking the chicks from the incubator, as I could have them close to the machines, placing the chicks in them until dried and active, when I transferred them to the other, which, by the bye, was a hot-water machine. When used merely for taking off your chicks no vault is necessary, but the machine may be placed on the floor.

Having, I find, omitted to say anything of the box to be placed over the heater, I will say that it should be of the same dimensions as the heater, except in the height, which need be only six or eight inches, made, as shown in diagram, of thin material or covered with stout burlaps tacked to a light frame.

I will leave the matter of hatching and proper care of chicks for some time in the near future.

I am in constant receipt of letters requesting information on all matters connected with the care and raising of fowls. Some of them I have answered, but I have some half-dozen or so (I'm sorry to say) unanswered. I fully intend to answer them only that my time is pretty well occupied with my business. As the letters are generally the outcome of articles on poultry in the *RURAL PRESS*, I think the better course would be to answer through the columns of the same paper. I am glad at all times to afford all information that I am competent to give, and if I do not answer communications at once it is because I do not have as much spare time as I could desire, and not that I do not care to reply to them.

T. B. GEFFROY.

Replies to Five Questions.

TO THE EDITOR:—Will you please inform me through the columns of your valuable paper the following questions in reference to poultry:

1. What is the cause of young chickens hatched in the incubator being straddle-legged?
2. During the time that young chickens are coming out of the shell, should the doors of the incubator be closed or slightly left ajar?
3. What is the best mode to break a setting hen?
4. About how long should young ducks remain in the incubator after they break the shell?
5. What is the best food to give young ducklings for the first week after hatching?

JAS. H. ROSS.

TO THE EDITOR:—In reply to your request that I should answer the communication of Mr. Jas. H. Ross, of Alameda, I will say, taking his questions in order as they came:

1. The "cause of chicks hatched in incubators being straddle-legged" is simply because they have not been able to free themselves from the shell as soon as they ought, caused by lack of sufficient moisture in the egg chamber or of too low a temperature.
2. "Should the doors of the incubator be closed or slightly ajar while hatching?" Neither. Take your trays out and close the doors quickly. Take your chicks off the dry ones when a dozen or so are hatched and return your trays to egg chamber without loss of time. The temperature of the egg chamber will in this manner not be much lowered and will be quickly regained.
3. The "best method of breaking a setting hen," in my opinion, is to confine her (or a half-dozen of them) with a lively young cockerel for three or four days.
4. After "young ducks break the shell" take them from

the incubator as soon as free from the shell and dry as chicks; if removed before dry they will perhaps chill.

5. "The best food for young ducks for the first week is bread crumbed with lettuce or tender leaves of cabbage or beet leaves chopped."

T. B. GEFFROY.

Lodi, March 16, 1893.

How Mr. and Mrs. Shaw Succeeded.

TO THE EDITOR:—This being the season of incubation of poultry, I thought I would give some of my experience of the past year. We started at Eureka, Cal., in the beginning of 1892 with four hens and one rooster, and we raised 40 fowls besides the cockerels, which we sold as broilers during the season, and we never lost a single chick by disease or otherwise. Our success was so remarkable that our neighbors often spoke of it; but the secret of our success was the painstaking care which we bestowed on our fowls. We lived on rented property, and when we started in raising fowls the place and chicken-houses were infested by chicken-fleas, which I exterminated by scattering a plentiful supply of wood-ashes about the place and on the floors of the chicken-houses. I kept on hand large quantities of finely pulverized road-dust, which, after cleaning the houses of the droppings, would sift over the floors to deodorize and render innocuous any effluvia which might arise; also, I would place old barrels on their sides, in which I put road-dust for my setting hens. The same barrels with road-dust were a healthy place for the hens with their broods at night, and the deodorized droppings could be easily removed.

We never gave soft food to the young chicks, but, for the first week after hatching, would boil an egg hard and then mix it with oatmeal, so as to make it as dry as possible. Chickens will thrive remarkably with such feed. After the first week we fed bread crumbs, cracked corn and wheat. Whenever a chick would get droopy my wife would give it 3X Nux Vom—about two or three drops in a little sweet oil—and in a day or two it would be all right. But we had very few sick chicks, for the reason that the yards, henhouses, drinking vessels and everything about the premises were kept clean.

Again, we never let our young chicks out in the morning until the dew had dried off, or when it was rainy. In the autumn we had as healthy a lot of fowls as I ever saw—not a single sick bird, no mites, lice or fleas, and they commenced laying at five months.

Where the soil is damp, chicken houses should be floored, as the droppings of fowls falling on damp soil causes exhalations to arise, which is inimical to the health of poultry breathing the same, and is a fruitful source (coupled with drafts of air) of roup. To watch and care for the sanitary conditions of fowls contributes as much or more to the success of the poultry-raiser as anything else.

O. F. SHAW.

Applegate, Placer Co., Cal., March 21, 1893.

Answers to Queries.

Do fowls require grit when they have cut bone?—A. A. We do not believe grit is necessary when bone is used.

Which has the better laying qualities—the Single-comb or Pea-comb Plymouth Rocks?—MRS. S. M. J. There is no difference between them except the shape of the combs.

Is it a good plan to feed egg-shells to hens, and if they are crushed will they teach the hens to eat eggs?—J. H. W. It is best not to do so, as the hens are liable to learn to eat eggs. A better substitute is ground bone.

Is sawdust suitable for covering poultry-house floors? E. R. We have used it with good results, though some complain that the fowls are liable to fill their crops with it. We have never noticed any birds so doing, however.

How many brooders do I need for 100 young turkeys? "SUBSCRIBER." It is best not to crowd them, and 50 young turkeys are enough for one lot. They can be raised in brooders, but require careful attention for eight or ten weeks.

Is there such a thing as an egg manufactured with the shell, white and all, so perfect that it cannot be detected from an egg laid by a hen?—"SUB." There is not. Such reports come to the surface occasionally, but they prove to be canards of the first water.

Is it necessary to breed two flocks of the same variety, one to produce cockerels and the other pullets?—O. G. D. Under present show room requirements, it is necessary to do so with a few breeds; but, as a rule, few breeders practice the method if they can avoid it.

I have a lame Silver Wyandotte pullet. I had her in the pen with a cock. Her legs seem to be weak, and she can't move, resting on one knee. I have had several that way.—J. H. D. It is probably due to the hens being fat and the male at fault. Remove all such hens from the male.

I found one chick all filled with wind under the skin. It is otherwise well. What can I do for it? Also, what can I do for bowel trouble with chicks in brooders?—G. M. L. The puffing of the skin with wind is due to indigestion. The bowel disease is caused by lack of sufficient warmth in the brooder and in the brooder-house.

1. Do ducks pair off in the spring, and do I need as many drakes as females? 2. Can they be picked in winter? 3. Do ducks' eggs require the same temperature as hens eggs?—MRS. F. A. T. 1. One drake to five ducks is considered a fair proportion. 2. Ducks should not be picked in winter. 3. The eggs require the same temperature as those from hens.

Will you please state what it is that can be put in a wide-mouthed bottle and hung up in the poultry-house to evaporate as a remedy for lice yet harmless to fowls and chicks?—A. B. F. The article is bisulphide of carbon, which is destructive to all forms of germs or parasites. As it is very inflammable, however, no one should ever approach it with a lamp and lantern, or flame of any kind.

If a hen lays eggs now, and also lays in the spring and

summer, will not the eggs laid in spring hatch better (from the same hen) than in winter?—F. R. E. Yes, the reason being that hens in the spring have more exercise, are in better condition, and the eggs are produced under more favorable circumstances. —Poultry Keeper.

A Roup Cure.

I have used the following with the best of results, and have never lost a bird if it was used in time: When I discover that the throat is affected, I take a goose quill, fill it with finely powdered sulphur, and blow it into the throat, repeating this once a day for three days (unless sooner cured), or longer if it is a very severe case, and at the same time I anoint the throat and head externally with equal parts of turpentine and coal oil, one or two applications being usually sufficient. Keep the fowls in a dry place during treatment.—Dr. A. C. Woodruff, Oakland City, Ind.

SHEEP AND WOOL.

Shropshires and Shropshire Grades.

Since the California demand for mutton sheep has improved there has been increased interest in producing sheep more nearly approaching the mutton type and thus our people have participated to some extent in the increased interest in the Shropshires. We find in the *American Sheep Breeder* an article on Shropshires by a Michigan breeder, from which we take several paragraphs:

Mutton is high and wool is low. It no longer pays to raise sheep for wool alone, except on the cheapest lands in large flocks. We cannot expect higher prices for wool. With tariff reduced or wool put upon the free list, we may expect to see the prices in Boston lowered to the prices in London, or from four to eight cents per pound, and this leaves no possible margin for profit.

The popular sheep of the future must be adapted to our climate, and combine those qualities which produce first, choicest mutton, and second, high-class wool. Meeting these requirements, we state some of the reasons why the Shropshires are most popular, find greatest favor with breeders, butchers and consumers, exceed in numbers all other English mutton breeds combined, and average higher prices than any other breed.

Our common sheep at present are grade Merinos that have been bred especially for wool. The common sheep of the future will be a cross-breed or grade, produced by breeding a ram of one of the best English mutton breeds on these common ewes, and for this purpose we must have some sheep that will "nick" with them, and no sheep seems so well adapted for this purpose as the Shropshires.

The smaller mutton breeds, while full of quality, are too small and shear too light a fleece; and a cross to larger mutton sheep, be the quality of the mutton ever so desirable, is too radical, the blood does not mingle well, the lambs are not so uniform and often find trouble at lambing time, resulting in the loss of both the ewe and lamb.

Here the Shropshires stand pre-eminent. They are the best suited of any breed to cross upon and improve the ordinary flocks of the country. Their half-blood lambs are an improvement on the small, common sheep, with which wool is predominant, and the higher the Shropshire grade the better the sheep. Resulting from the Shropshire cross on these common ewes, we produce a class of wool worth from three to four cents more per pound than that of the dam, and produce a sheep that comes close to maturity at from 12 to 18 months old and is readily fitted for the shambles at any age. With growth and size they carry early maturity. In our experience the fleece of the imported Shropshire improves in our climate, their full blood lambs carry better fleeces than either sire or dam, and half-blood and grade lambs clip wool equal in selling price to full bloods. There is no breed of sheep that is more prolific than the Shropshires.

With any of the English mutton breeds it is possible to get two crops of lambs within 12 months, but it is not possible to get four crops in two years nor six crops in three years. Among full-blood Shropshires the average lamb crop is from 120 to 150 lambs from 100 ewes.

The true type of the Shropshire must be taken to be established by the best English breeders. In their hurry to change from sheep raised especially for wool to one with mutton qualities predominant, many breeders have made the mistake of asking for Shropshires much larger than the true type. The ideal Shropshire ram weighs 300 pounds at full age, is strong in bone and constitution, has a thick, heavy loin, heavy shoulder, a good leg of mutton, straight in his back, low on his legs, free from stubs, black wool or other defects, is well covered over his entire body and down to his knees and eyes with a dense fleece of medium wool of good quality, and shears from 12 to 17 pounds at maturity. The ideal Shropshire ewe weighs 200 pounds in breeding condition at maturity, has the same general characteristics as the ram, with the beauty and fineness of her sex. They thrive in every climate into which they have been introduced and on all kinds of food. Their lambs often make a gain of one pound per day for the first 40 days and weigh 80 pounds at 120 days' growth. With them, mutton is first, and I believe it is impossible to combine in them or any sheep the highest mutton qualities with the most desirable fleece. The wool and mutton qualities vary with each other. As one increases in either individual or breed the other decreases as a rule. But none of the English mutton breeds carry a more desirable fleece for our climate. It is dense enough to protect the animal from our ever-changing climate in both summer and winter, and is of a quality a surplus of which the world over seems impossible.

A Shropshire ewe that weighs over 225 pounds, and a ram that weighs to exceed 325 pounds is apt to be coarse and wanting in those splendid mutton qualities, combined with early maturity, which have made the Shropshires so

popular in England. Greater weight than 300 pounds in a matured ewe in breeding condition, and 300 pounds for a ram, generally indicates a more or less remote cross to some heavier breed of sheep or such forcing of growth as usually injures the breeding qualities. We should keep close to the typical weight of Shropshires as adopted by the most successful breeders in both England and America. Those wanting larger sheep will find them in larger breeds. The question should be, not how much a given sheep can be made to weigh, but rather how much choice mutton you can produce from any sheep with a given amount of food. There is room in every county in the United States for one or more skillful and intelligent sheep men to establish a flock of Shropshires from which to sell breeding stock, but it is only one man in a hundred who will ever shine or become pre-eminent as a breeder of any of the improved breeds of live stock. It requires that peculiar genius, method and perseverance which but few possess.

The Shropshire ram is vigorous and hearty, and one cross with him on common ewes increases the number of live, thrifty lambs from 25 to 75 per cent by actual experience. In the increase in the number of lambs dropped alone, the Shropshire ram will often pay for himself in a year. But the lambs are worth more per head, especially is this true for feeding purposes. While common fine wool grades are now sold at from \$1.50 to \$2 per head in southern Michigan, Shropshire grades are sold at from \$3 to \$4 per head, and even at these prices the latter give a greater per cent of profit on money invested when the lambs are put into the feeding pen. They make larger gains upon a given amount of feed and sell for more per pound.

So popular has this breed of sheep become, that everything with a black face has been called a Shropshire, and as a natural result, many have bred to half bloods, quarter-bloods and sheep called Shropshires, without a drop of the genuine blood in their veins. Is it any wonder their lambs disappoint them?

Wide sliding-doors are better for the sheep-sheds, as it lessens the risks of slamming on them or of their injuring themselves by crowding in.—Live Stock Indicator.

PUBLIC AFFAIRS.

The New School Law.

The following are extracts from the new school law passed by the late legislature:

The County Superintendent must apportion the school moneys to each district four times a year. Balances (where eight months' school has not been maintained) must be placed to credit of unapportioned County Fund and be reapportioned.

Districts lapse when there is an average daily attendance of five, or less than five pupils, during the whole school year.

County Superintendent has power to issue temporary certificates.

County Superintendent must approve or reject all plans for schoolhouses. Trustees must submit plans for his approval.

New school districts shall not be formed at any other time than between the first day of December and the fifth day of April.

Boundaries of a school district can be changed only between the first day of January and the fifth day of April upon petition to County Superintendent.

Schools must be opened in new districts not later than the second Monday in September, in the year in which the order for its creation was made by the Board of Supervisors, otherwise the order has no effect.

Election for School Trustees must be held on the first Friday in June.

When a School Trustee resigns, it must be in writing, and sent to County Superintendent.

Trustees must make no contracts with employees to extend beyond June 30th.

Trustees must appoint a Census Marshal on or before the first day of April.

Census Marshal must take the school census between the fifteenth and thirtieth days of April.

All orders of Trustees for books and apparatus must, in every case, be submitted to the County Superintendent for his approval before said books or apparatus shall be purchased.

The Library Fund consists of not less than five, nor more than ten, per cent of the County Fund, annually apportioned. It must not exceed \$50. Trustees must, in the month of July in each year, notify the County Superintendent what amount they desire to be apportioned for their respective districts for the year.

All of the present County Boards of Education in the State were legislated out of office, and it was made the duty of Boards of Supervisors to appoint four members at the June meeting and designate the two who are to hold two years and the two members who are to serve one year.

County Boards of Education must, at their first meeting subsequent to July 1st, annually organize and elect a President.

County Board of Education may issue certificates of these grades, to wit:

High School certificates, valid for six years.

Primary certificates, valid for two years.

Special certificates, valid for six years.

Holders of California Life, Educational and Normal diplomas, who present their diplomas to the County Superintendent and have their names recorded in his office, are not required to file their certificates before assuming charge of a school.

No books other than those published by the State can be adopted or used as text books in the subjects of reading, orthography, English grammar, arithmetic, geography, U. S. history, physiology and civil government in the public

schools. High Schools are exempt from the above requirements.

There shall be no construction to permit the adoption of any text books upon any subject covered by the State series.

There are many and various conditions upon which Educational, Life and Normal diplomas, and so forth, may be issued by County Boards, too extensive to be here enumerated.

The High School laws have been revised and amended to meet requirements of such schools. In Union High School districts, provision is made for building, levying taxes, maintaining school election and organizing of offices, admission of other districts and various other matters. County High Schools are entirely under the control and management of the County Board of Education.

All proceedings for establishment of County and High Schools, prior to passage of the present law, are validated.

The Act takes effect from and after its passage.

New Laws by the Legislature.

Following are among the important measures passed by the recent legislature:

No Liquor for Drunks.—Chapter 83—Amending Section 397 of the Penal Code so that it reads: "Every person who sells or furnishes, or causes to be sold or furnished, any intoxicating liquor to any habitual or common drunkard, is guilty of misdemeanor; or who sells or furnishes, or causes to be sold or furnished, intoxicating liquors to any Indian, is guilty of felony."

Improvement of Streams.—Chapter 95—Amending Section 4085, Political Code, relative to the improvement of ionavigable streams for the protection of lands adjacent thereto, and repealing an Act to provide for the organization and government of levee districts created for the protection of lands from overflow of innavigable running streams of water, and to confine innavigable running streams to a fixed channel.

Actions on Mortgages.—Chapter 101—Amending Section 726, Code of Civil Procedure, relating to the actions on mortgages. The amendment is as follows: "No person holding a conveyance from or under the mortgagor of the property mortgaged, or having a lien thereon, which conveyance or lien does not appear of record in the proper office at the time of the commencement of the action, need be made a party to such action, and the judgment therein rendered and the proceedings therein had are as conclusive against the party holding such unrecorded conveyance or lien as if he had been a party to the action." Also adding a new section, to be known as 729, giving the court power to appoint a commissioner to sell his property, requiring the giving of a bond, fixing his fees, etc.

Personal Property Mortgages.—Chapter 102—Amending Section 534 of Penal Code, relative to the removal and sale of mortgaged personal property, and making the unlawful removal larceny. Also adding a new section to Penal Code, to be known as Section 538, making it larceny to remove or encumber personal property once mortgaged without notification to the mortgagee.

Short-Weight Butter.—Chapter 137—An Act to prevent the sale of short-weight rolls of butter. Any person or persons, firm or corporation, who offers for sale roll butter not of full-weight to each roll, shall be guilty of a misdemeanor. This Act shall go into effect 60 days after its passage.

Care of Shade Trees.—Chapter 140—An Act to provide for the planting, maintenance and care of shade trees upon streets, lanes, alleys, courts and places within municipalities, and of hedges upon the lines thereof; also for the eradication of certain weeds within city limits.

The Right of Suffrage.—Proposing an amendment to the Constitution relative to the right of suffrage. The important change is in the following language: "No native of China, no idiot, no insane person, no person convicted of any infamous crime, no person hereafter convicted of the embezzlement or misappropriation of public money, and no person who shall not be able to read the Constitution in the English language and write his name, shall ever exercise the privilege of an elector in this State."

Aliens Holding Land.—Proposing an amendment to the Constitution restricting the ownership of land by foreigners: *Provided*, that such aliens owning real estate at the time of the adoption of this amendment may remain such owners; and *provided further*, that the Legislature may, by statute, provide for the disposition of real estate which shall hereafter be acquired by such aliens by descent or devise.

About Forming New Counties.—Proposing an amendment to the Constitution relative to the formation of new counties; *provided*, however, that no new county shall be established which shall reduce any county to a population of less than 8000; nor shall a new county be formed containing a less population than 5000; nor shall any line thereof pass within five miles of the county seat of any county proposed to be divided.

The Value of Water.

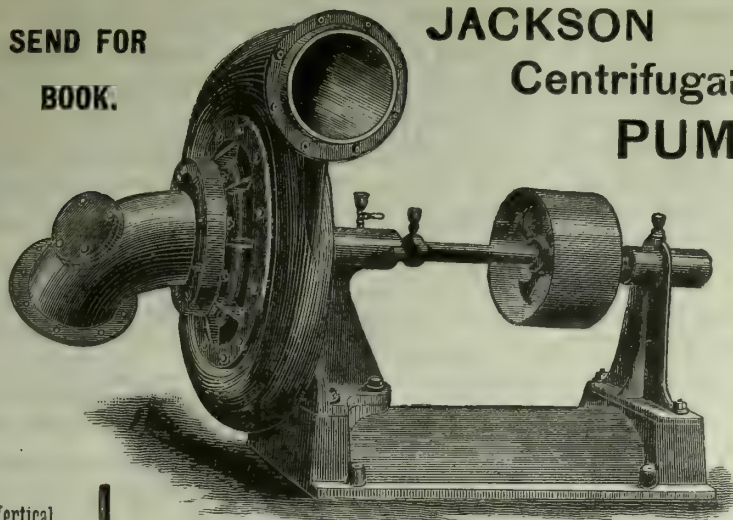
T. J. Mitchell, living west of Tipton, gives a bit of experience which goes to prove the value of water long after it has been applied. Year before last, in time when there was an abundance of water in Tule, he thoroughly irrigated 160 acres of his land. As soon as it was sufficiently dry he plowed and afterward harrowed it. Last year he planted it to grain, as he did several other quarter-sections of dry land adjacent.

The crop on the dry lands was not sufficient to pay for harvesting, while that of the quarter-section under consideration yielded 12 sacks to the acre. This winter enough water has gone by to have irrigated the entire plains in this way.

When Tipton's irrigation district system shall have been completed, should it turn out that water is too scarce to irrigate everything in the district each season, the farmers will find it profitable to begin by irrigating and summer-following half of it each year, and in the course of time the water will be needed and there will be sufficient for all.

SEND FOR
BOOK.

JACKSON Centrifugal PUMPS.

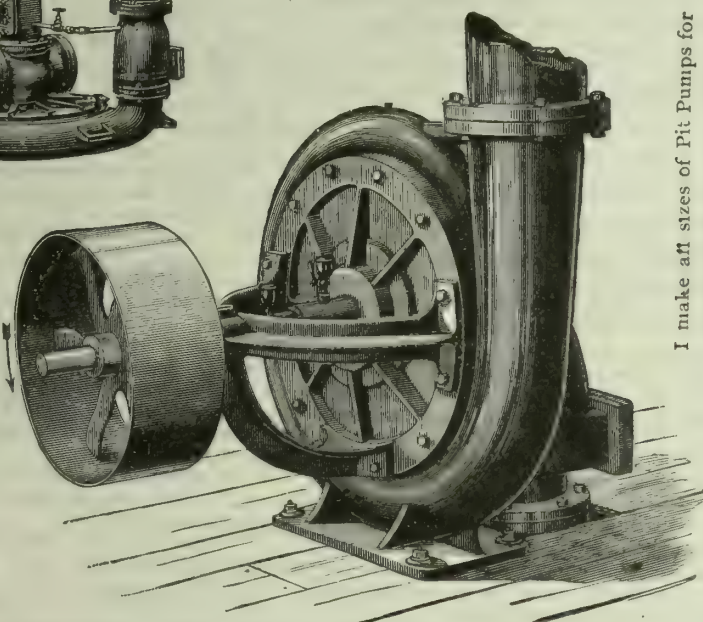


Made and carried in stock in
sizes from 4-inch (pipe) up-
wards.

Vertical
Shaft-Pit
Pumps,
All Sizes.



Jackson's "Whirlpool" Centrifugal Pump,
With Outboard Bearing, and Adjustable Suction and Discharge.



I make all sizes of Pit Pumps for
pumping out of deep wells.

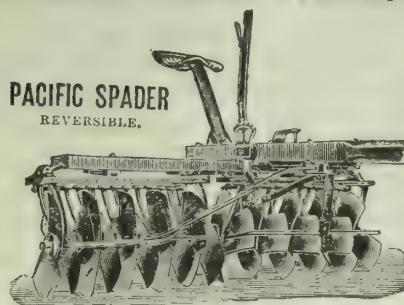
Jackson's "Whirlpool" Centrifugal Pump,
Looking at Pulley Side of Same.

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THE LATEST STYLE PULVERIZER!

THE PACIFIC SPADER!

Operated by one small Boy. No Man required.



Spader throwing Soil from the Center.

The Pacific Spader and Vineyard Cultivator
does more work in one stroke than a Disc Harrow in ten.
Sizes, 5 1/2 to 12 feet.

TRUMAN, HOOKER & CO.,
San Francisco and Fresno.

SIZES:	
No. 4-4 ft.	Reversible Spader, with 16 inch Spades.
No. 6-6 ft.	" " " " " " " "
No. 8-6 ft.	" " " " " " " "
No. 12-6 ft.	" " " " " " " "
No. 5-5 1/2 ft.	Regular Spader, with 48-16 inch Spades.
No. 7-7 ft.	" " " " " " " "
No. 10-5 1/2 ft.	" " " " " " " "
No. 14-7 ft.	" " " " " " " "
No. 16-8 ft.	" " " " " " " "
No. 20-10 ft.	" " " " " " " "
No. 24-12 ft.	" " " " " " " "



AN OLD STYLE PULVERIZER.

Especially adapted to pulverizing "bottoms"—on
man and a small boy can operate it.

Salinas, Feb. 22, 1893.

Messrs. Truman, Hooker & Co.,
San Francisco, Cal.

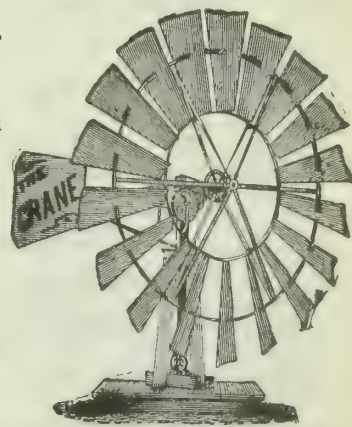
Gentlemen:-I have laid aside my plows and sub-
stituted the 10-foot Pacific Spader. It is the
best implement I have ever seen for pulverizing
the ground and destroying the foul stuff. It
works like a charm in adobe and I can heartily
recommend it above any other implement. An imple-
ment of this kind is what I have wanted for years.
Yours truly,
Chas. Graves.

WHEN IN WANT OF A MILL BUY THE BEST!



It Will Cost You
No More Than
Other Makes.

"The
Crane"



Was Awarded the Premium at State Fair Sacramento, OVER ALL OTHERS

WE MAKE THEM BOTH PAINTED AND GALVANIZED.

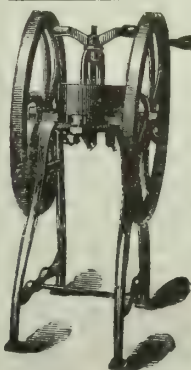
8 and 12-FOOT DIAMETER.

Please note that an 8 1/2-foot mill has 6 1/2 feet more wind surface than an 8-foot m
EVERY MILL GUARANTEED. We will replace all parts broken by storms that do not wreck
buildings.

Any Mill that does not work satisfactory may be returned to us and we will
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THE CRANE COMPANY,

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Mann's Green Bone Cutter FOR POULTRY FOOD.

Patented June 15, 1890; August 20, 1890. Canada Patent, June 12, 1890.

WE WARRANT this machine to cut Dry or Green Bones, meat, gristle and
all, by Hand Power, without clog or difficulty, or MONEY REFUNDED.
GREEN CUT BONE WILL DOUBLE THE NUMBER OF EGGS,
will make them 25 per cent more fertile, and increase the vigor of the whole flock.
COST OF FEEDING MATERIALLY LESSENED.

These Cutters are endorsed by all the leading California poultrymen. Send for a
Catalogue describing all sizes of Cutters and containing valuable information in relation
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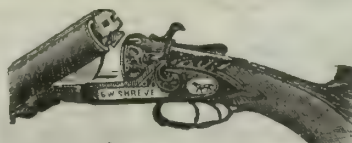
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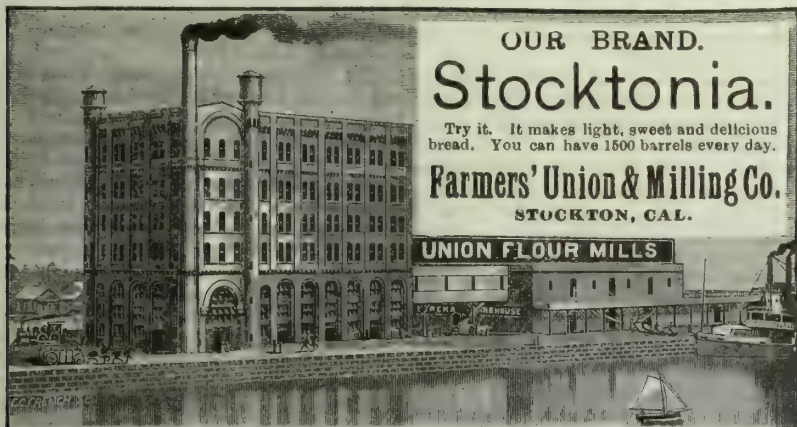


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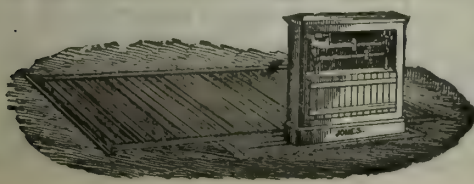
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THE HOME CIRCLE.

April.

Crocuses, a morning meadow,
Apple blossoms lightly stirred,
Sudden rain, a wild bird's shadow,—
Which the shadow, which the bird?

Snowdrops in the wet wood's hollow.
Hyacinths in grasses long,
Song, and silence swift to follow,—
Which the silence, which the song?

Sunset's glories all a-quiver,
Hesper in the blue afar,
Starry gleams on lake and river,—
Which the gleam, and which the star?

Crocus, snowdrop, thrush, and swallow,
Sunlight, starlight, cloud, and rain!
Smiles, and tears that quickly follow,—
Which the pleasure, which the pain?

—Martha T. Tyler in Overland Monthly.

Easter Day.

The world itself keeps Easter Day,
For happy birds are singing;
And from the earth so cold and gray
The tiny blades are springing;
The seeds that in the grave have lain—
So silently abiding
The hour when spring-time's sun and rain
Should call them from their hiding—
Now rise again to bud and bloom,
And fill the earth with gladness;
Gone are the days of wintry gloom;
Spring is no time for sadness.

Each tree and shrub the new life feels
Through every vein warm-glowing;
And buds burst forth—the promise sure
Of leaves and fruit soon growing;
The little streams—ice-bound so long—
Flow onward gaily singing;
Freed from their fetters, join their song
With Easter joy-bells ringing.

The Christ is risen—as all things tell;
Then let all hearts warm-glowing,
From doubts and sorrows rise as well,
With love and faith o'erflowing.
Let Hope again rise from the tomb
Of earthly griefs and losses;
Life's blossoms spring from dust and gloom
And crowns are won by crosses.

—Youth's Companion.

Back from Town.

Old friends allus is the best,
Halest like and heartiest;
Known us first, and don't allow
We're so blam much better now!
They was standin' at the bars
When we grabbed "the kivered kyars"
And lit out fer town to make
Money—and that old mistake!

We thought then the world we went
Into beat "The Settlement,"
And the friends 'at we'd make there
Would beat any anywhere!
And they do, fer that's their biz;
They beat all the friends they is—
'Cept the real old friends like you
'At staid home, like I'd ort to!

W'y, of all the good things yit
I ain't shet of, is to quit
Business, and got back to sheer
I these old comforts waitin' here—
'These old friends an' these old hands
'At a feller understands;
These cold winter nights, and old
Young folks chased in out the cold!

Sing "Hard Times'll Come Ag'in
No More!" and neighbors all jine in!
Here's a fellow come from town
Wants that air old fiddle down
From the chimney! Git the floor
Cleared for one cawtillion more!
It's poke the kitchen fire, says he,
And shake a friendly leg with me!

—James Whitcomb Riley.

Resurrection Place.

Written for the RURAL PRESS by ISABEL DARLING.

IT was not labeled Resurrection Place on any map of the town. Of course not. Neither was it called Death avenue; but it was named Linden street, whether because no linden tree ever grew there or in memory of land "where the sun was low" once upon a time is not on record.

Dora Dayton threw up her window the very first morning after her arrival in the town and glanced briskly up and down and across the street. The bright eyes looked astonished, then doleful, as she declared reproachfully:

"Why, this is a regular Death avenue!" "Whatever do you mean?" exclaimed her sister as she dropped the sleeping baby into his crib with such a bounce that he yelled and struck out savagely, first with one fist, then the other. "What are you talking about?"

"Stop that, you little John Sullivan of a sinner! One at a time, if you please," said

Dora, laughing and making faces at the baby, who stopped crying and laughed with her. "What am I talking about, Most Worthy, Right Honorable Madame Annette Mason? I am talking about this street that you bless with your innocent presence. Look at it! Think of it! (See here, John L.)—"

"Oh, don't call him that, Dora!" "Teach him not to strike out straight from the shoulder, then. What is it that you call him? Oh, yes, Carrol, Carrol Mason. Very sweet and musical that, but supposing he never should carol and never could play an instrument more complicated than a gong? What a distressed mamma! Come to aunty, Baby Carrol! S'ouldn't tease 'e 'ittle, ootsey, tootsey p'ecious, s'ould we? Oh, such a face! He don't like that, and it is no wonder."

"But, Dora, what did you mean?"

"About Death avenue?"

"Yes."

"Look up street. What is on the corner?"

"The Episcopal church."

"What next?"

"The parsonage."

"Next!"

"Dr. Ketchum's office."

"A little farther down?"

"The hospital."

"Your right-hand neighbors!"

"Nurses, but—"

"And Fred Mason is—?"

"A worker and dealer in marble."

"Yes, a monument-maker, a stone mason."

It is a very honorable business, of course; also consistent with his surroundings. 'So are they all, all honorable men.' Look again. Below, on that corner, is a drug-store, opposite that a Methodist church, and, staring you in the face all the time, watching and waiting, is the undertaker."

"Yes, Mr. Coffin. Nice people they are, too."

"My dear, don't be so indignant as to forget your grammar. How can Mr. Coffin be 'people'? Who lives in that wee bit cottage next to his?"

"Harry Gibbs, the grave-digger."

"Old, gray, and bent by years and digging, like Shakespeare's?"

"No, he is a young man."

"Young, and in that business? What for?"

"I don't know. He lost his position in the city a year ago and came back (he lived here when he was a boy), and soon after that he had some sort of fever. After he was well again he tried for a long time to find something to do, but it seemed to be hard to get a place, and one day we saw him digging a grave. That was last June."

"What was his business?"

"Telegraphy."

"Did he try to go back to that?"

"No, and every one wondered why. But you see no one expected much of him because his father was what he was, and it seemed to be easy to suspect something wrong. I don't know as there was, though."

"Was he the one Fred spoke of last night as the son of Old Harry?"

"Yes."

"I see. Nettie, I want to get acquainted with him."

"O, Dora, you never would—? You don't mean—?"

"You little goosie! Of course I'll do nothing to disgrace myself or you, but I want to know more of him. Now, who is on the other side?"

"You'll say that is awful, too. It is Mr. Driver that keeps the hearse."

"'Angels and ministers of grace'! That is enough about him. There is another doctor's office between his place and the Methodist Church. What is the name? G. O. O. D—"

"Goodwill."

"Good Will. That is fine. I prophecy that we are to be, are already affinities—congenial spirits. But what a queer street! If any one escapes you four in the middle of the block, there is a doctor and a minister at each end to save the body and consecrate the soul at a moment's notice."

"You are just as strange as ever, Dora."

"Am I? Well, let us hope that John L. will be all that your sentimental heart could wish, then we will call him Carrol. Never mind about opening your eyes at me, but look at him; he is swallowing his pillow. Did you say breakfast is ready? Come on, Sonny."

* * * * *

Dora Dayton stayed with her sister all winter. It was a very wet winter. California seemed to be outdoing itself. The sky wore a gray scowl in the chill early morning, and, as the day grew older, a pensive flogging of ghost-like, swaying mist-clouds up and down among the redwoods in the canyon seemed fit preparation for the steady downpour of the noontime and the

waiting, threatening outposts along the line at night.

The earth had enough of water after a time, and gave no welcome to what was more than enough, so its presence was valued as little as the existence of a tramp, and it sullenly soaked into hollows and crept under boards and behind fences till the fine plant seeds that had waited through the hot, dry months of summer sent forth their little life, and it was said that everything was moulding. The street lay east and west, so every house opened either its back or front door toward the north, where the high board fences behind and beside, and cypress hedges before, gloomily did their best to repel any stray bit of sunshine that might wander in between the tall buildings, or any enlivening puff of wind that tried to stir this sulky stagnation.

An epidemic soon broke out along the streets that were built over the swamp, and Death avenue, which always prospered on the miseries of others, awoke to new activity. The undertaker had been seriously talking of moving away. "Business is so dull that we cannot live decently," he said; but now he changed his mind. Mr. Driver, of the hearse, was obliged to keep on his best clothes so much of the time that, for economy of course, little Nat Driver was called upon to help in the stable, much to his disgust, till he heartily "wish't folks wouldn't die when a feller wants to go off with the kids;" the Emery sisters brushed and rearranged the old crape on their shelves and soon bought new; Dr. Ketchum's buggy wheels glistened with fresh varnish and seemed to be continually flashing in and out around the corner; the druggist set up a cot near the front of his store and slept there so as to hear the step of every possible customer; the nurses scarcely had time to exchange notes, and the ministers grew thin from unusual exercise.

Fred Mason had no time to play with the baby or chat with its mother after dinner, and there is no telling what loving, dependent little Nettie would have done that winter without brave, cheery sister Dora—Dora who watched and thought and, when the time came, acted.

The daily life of venerable Dr. Goodwill wound in and out among them all so quietly that it was scarcely noticed except as the path of a gentle brook is known by the blessing which it leaves behind.

"Nettie," asked Dora one day, "why don't Dr. Goodwill keep a horse? He needs it more than that conceited, contemptible Ketchum needs one."

"Perhaps he couldn't afford it."

"Why? He seems to be going all the time."

"But he never goes only for people too poor to pay, excepting neighbors and particular friends."

"I was sick and ye visited me." Now I know what the 'B' in his name stands for."

"Why, Benjamin, of course."

"No, it is Blessing."

"How queer you are, Dora," and she spoke timidly, yet as if determined to do her duty. "You are so odd, I'm afraid you will be an old maid."

"Bother! I don't care. There are other things of more consequence. See! Blessing Good Will has just stopped at the door of that wee doll's house—Harry-What's-His-Name's. I wonder if it is the young man or his mother. Poor boy! The livelier his business gets, the gloomier he looks. Here, take John L. I am going over there."

The little lady's face was comical in its vexed distress, as she said: "O, you never would— Why, I'd rather have you an old maid than— I don't see what makes you so—"

"So much interested in him? Because he is a miserable, good-for-nothing human being at present and he knows it."

"But you know they say 'pity is akin to—' I'm sure I should feel easier if—"

"Net Mason, will you never get over being ridiculous? I like to be with a good, sensible man and I pity a discouraged one like that; but I hate to have any one always balancing advantages. I am not man-hunting. It is disgusting." Then as the tears began to gather in her sister's big, blue eyes, she added: "I didn't mean to be cross, but it seems strange to me that men and women cannot be good comrades, or even sympathetic friends, without expecting any one to make a fuss about it."

"But you know—"

"Yes, I know some notions that I don't like. Now, the doctor has come out and young Harry stands at the window staring after him, looking 'as blue as all possessed,' as our Yankee friend would say. Net, give me an errand over there. I can't stand it any longer."

"Well, if I must, I must."

"Yes, that is what the countrywoman said when she was told to swear in court."

It was the feeble mother who had needed the doctor, though not much more than she did such attention as Dora gladly gave her the day after that first visit. She was "too tired to try," she answered, when some one more than hinted that she made no effort to get well. Dora petted and scolded her in her own peculiar way, and sometimes a faint sparkle, as of latent fun, flickered in the faded, sorrowful eyes.

"How soft and pretty your hair is! I wish mine was curly," said Dora, one day as she sat brushing back the dainty waves that had taken advantage of their unusual freedom.

"It isn't very curly now, but it was when I was a girl," she answered; then, after a pause, continued: "That was a long time ago."

The girl made no comment, but kept on brushing and combing, finally turning her head critically to one side, then the other, remarking thoughtfully:

"There! I believe it is just as pretty now as it was then. I wish Harry boy could see his mother now; wouldn't he be proud of her? By the way, his eyes are beautiful when he feels glad about anything."

"Yes," Mrs. Gibbs answered, "so like his father's eyes!" And the girl sat very still for fear of disturbing the tender thoughts that were smoothing out the marks of grief and disappointment on the pale, thin face. A tear or two crept out from under the eyelids, but no more; for she went peacefully to sleep. When she woke the sun was shining, for the first time in days. The glorious sunshine! It stole around the corner, peeped in at the window, slipped across the room and wound itself about the slender hand that lay outside the bed. Soon the hand was turned, moved, lifted and laid down again. The sunshine crept along the arm and kissed the eyes open; then the head grew restless, but Dora did not seem to notice, for she thought a little wholesome discontent was saving grace. After a time the invalid said, almost fretfully:

"I am getting tired of this bed, mayn't I get up?" Then she answered, slipping an easy chair nearer the bed:

"Of course you may; your big rocker is pining to embrace you."

"Is it almost time for Harry to come?"

"Almost. Sit here by the window and watch for him, while I see what there is for lunch."

"Miss Dora!" exclaimed the young man a few moments later, "How did you manage it?"

"Manage what! To burn my fingers?"

"To make mother look so bright."

"I didn't do it. She did it herself. Isn't she pretty? We must not let her be discouraged any more if we want her to get well."

"How different you are from the rest of them!"

"O dear! Now you have caught it."

"Caught what?"

"The lecture mania. Ever since I can remember I have been told how queer, how odd, how strange, how different from other people I am. Poor Nettie is in despair."

"If they were more like you it would be better for them and all the rest of us. I don't wonder you hate lectures. You would hate them more if you could hear some of the old cats that come howling at me."

"How he scowled!" said the girl when describing the interview to her sister. He said if good women were interested enough to talk down at him they might practice, they might be more consistent, they might draw a man away from the saloons by being good to him, instead of being so disagreeable that he is glad to go anywhere to get away; and then I asked him if he didn't think that was requiring too much of Eve's daughters, if he thought a woman ought to snake a man into heaven by the hair of his head. I told him I would rather lasso a horse."

"O Dora, you did not talk to him in that slangy way? What for?"

"Yes, I did. It brought my meaning closer to him; but 'I didn't go for to do it,' as the boy said. Such things slip into my mind naturally when I am near him."

"That is just it. 'Evil communications corrupt good manners'—or 'morals'—which is it? It seems as if it was manners and then again it seems like morals."

"It's all the same in Dutch, or Hebrew, and I don't believe it need come true to any great extent. If one is only full of the right kind of spirit almost anything is possible, but fear of harm often goes a long way toward bringing it. Let's see that word again though. Perhaps the 'com' makes it mutual, possessed in common, and if you both give and take evil of course your morals are corrupted. Don't look distressed and I'll

go on. Before we were through with our interview he told me of an offer that had just come from a town on that new railroad that we were reading about. He can go to work at his old business at moderate wages but with a promise of increase if he proves trustworthy. He has very little faith in himself, but I told him to go and try. I told him I knew a change would be the best thing possible for his mother, and he said at last that he believed he would try again, and I said "Bless you, my children" and came away. Come to your auntie, John L.!"

"O Dora," said the little mother, "I am afraid something is wrong with Baby. He was worrisome last night and has not acted like himself all day."

"That never will do, young man. Here, run out your pulse and give me your tongue. Shall I help you take care of him to-night, Nettie?"

"If you would I should be so glad."

There was need of it, for Baby grew worse, and in the early morning when Dr. Goodwill called, "merely as a precautionary measure," as he said, he gathered up the little one in his great hands as tenderly as even its mother could, saying softly "Lord love it!"

Then began another struggle for life. One day after a long sleep Baby found himself in Aunt Dora's arms and raised his head with the old mischief sparkling in his eyes, and she began to sing in a subdued yet ringing, joyous voice "Glory, Glory, Hallelujah!" and the anxious mother came running in to ask her what she was so glad about.

"Nothing, nothing, my dear, only John L. is himself again. He just struck out at me straight from the shoulder."

After a while it was the dear old doctor's turn to "play baby," as he called it; but if earnest prayer and anxious, often troublesome attention could have prevented he would not have played it long. Dora winked back the tears and scolded him for giving up and shirking his plain duty when so many needed him; for now, she told him, they were all getting well and every mother's son and daughter of them was sure to bring on a relapse by eating too much unless he was there to watch; and he said "Yes, I will get up by and by," but he didn't, and the days went on to the last of March.

"Dora," he asked when she bent over him, as the kindly twinkle tried to come again into his eyes, "how is John L.?"

"Flourishing," she answered, and then, while frantically searching for her handkerchief, mumbled something about "such a wretched cold," and asked him what was the best thing to do for it.

Little Mrs. Mason stared at her in amazement, but the good doctor looked after her with a wistful, tender gaze as she crossed the room. "Dear, brave child, he said, "I understand."

It had been a week of rain, rain that did not grow weary of its own continuous, gentle dripping, and brought no fresh vitality to soul or body. The afternoon, too, had dripped away, minute by minute, till it was almost gone. For hours he had seemed to pass in and out from this life to that, conscious when awake, but sleeping little.

Suddenly the sunlight burst into the room for the one little while in all the day when it could get there, and it lay all about his head. He opened his eyes, turned them toward it, and looked and looked, and after a time the room was very, very still.

Dora, standing by the window, saw that the clouds were rolling themselves away, and toward the place of the daily sunrise was a brilliant bow of promise. One end rose from the shadowed street, and when little Nat Driver ran through it on his way home, the bright colors seemed to melt into his little freckled face and shine there for a moment; the other end of the arch was lost among the clustered houses beyond. She turned again and gazed lingeringly and lovingly at the aged face and whispered: "For the end of that man is peace." Nettie, this is no more Death avenue, it is Resurrection Place—and to-morrow is Easter.

Again the baby suddenly awoke, as again little Mamma Mason exclaimed:

"Whatever do you mean, Dora?"

Mrs. Henry Ward Beecher.

"I made one New Year's call," said Murat Halstead. "It was on Mrs. Henry Ward Beecher, who is now 80 years old and bright-eyed as a girl. She is full of womanly charm and her memory is clear as crystal. She is an institution in Brooklyn, respected and loved on her own account as well as in regard for the memory of her husband and deference to her famous name. There is no happier and brighter example of beautiful and gracious old age."—N. Y. World.

A Judicial Love Letter.

Chief Justice Fuller, having gone to his doctor's house recently in preference to send-

ing for the physician, found that gentleman absent, and was invited into the library to await his return. The attendant who ushered the visitor in was ignorant of the latter's station, but recognized him as a man of culture and kind impulses. This was evident from the surprising request that the Chief Justice would improve the time by writing a love letter for the man who let him in. Pens, ink, paper and envelope were proffered, and without hesitation the favor was granted, the missive being completed before the physician's return.

Hints to Housekeepers.

"Never buy a new cheap piano; second-hand ones from good makers are constantly in the market, and are worth treble the cost of a thing with celluloid keys and other abhorrences. If good water colors are not among the family possessions, hang up a few good etchings, in creamy frames. The effect is good on any light wall, and they can be cheap without being nasty. For the mantelpiece, a good mirror in an unobtrusive frame is preferable to a badly designed over-mantel; some daintily shaped brackets in poker work, hung on each side, take off the stiff look and serve to hold quaint pottery.

Many of the pretty handkerchiefs sold in the shops cheaply will not stand the wear and tear of the methods of the average laundress. A suggestion how to do them up in one's room is borrowed from a woman who was accused of never using a laundered handkerchief, so new did hers always look. "On the contrary," she replied, "I presume no woman is more economical than I in this regard. I always wash them myself, however, in my own room, using a fine soap, scalding them well, then plunging them in water that has a suspicion of bluing powder. I never iron them, but paste them while wet smoothly on the window pane, which I first wipe free from all particles of dust; carefully stroke out every wrinkle with the fingers, and when they are dried lay them away, without folding, between square, flat sachets. In this way they keep fresh and dainty and wear twice as long.

The object of beating eggs, as well as cake, is to fill them with air; this done, they are at the acme of lightness. More beating breaks the air cells, distributes it unevenly, liberates some, and destroys its perfection of frothiness.

Saratoga chips or fried potatoes are prepared in thin, paper-like slices, and crisped, but not burned, in hot fat. The secret of preparing them properly lies in cutting them first in the thinnest slices possible, and soaking them for at least six hours in ice water. The last process draws the starch out of the potato, and is positively necessary to success.

If ink is splattered on woodwork, it may be taken out by scouring with sand and water and a little ammonia; then rinse with soda water.

Never wash raisins that are to be used in sweet dishes. It will make the pudding or cake heavy.

To make brooms last longer than they ordinarily do, dip them once a week in boiling suds. This toughens the strands.

Spirits of ammonia, if diluted, applied with a sponge to faded or discolored spots in a carpet will often restore the color.—American Cultivator.

DOMESTIC ECONOMY.

HAM CROQUETTES.—Take two cups of fine-minced ham, or, better, one cup of ham and one of veal, mix well with one-quarter cup of bread-crumbs. Add two tablespoonfuls of stock or gravy, and season with one teaspoonful of salt, one-quarter teaspoonful of pepper. Add the yolks of two eggs, make into small balls, cover it with egg and bread-crumbs and fry.

BROWNED POTATOES.—Select small potatoes, wash them well, put into boiling water, cook carefully until you can pierce them with a fork. They must be done, but not soft. Drain off all the water, stand the kettle over the fire until they dry well. Then remove the skin, and just before serving-time plunge them in smoking-hot fat until a golden brown. Dust with salt, and serve with finely chopped parsley sprinkled over.

EGGS IN CUPS.—Butter some small china cups and sprinkle them with chopped parsley. Put in each a teaspoonful of browned butter and a little chopped mushroom. Break in a fresh egg. Sprinkle with more mushroom and a trifle more of the browned butter, and cook in the oven or on the range until done. Butter may be browned by putting a piece the size of a large walnut in a clean skillet, and letting it heat until it takes on a brown color. A dash of lemon juice preserves it, and it may be used as required.

YOUNG FOLKS' COLUMN.

John's Pumpkin.

Last spring I found a pumpkin seed,
And thought that I would go
And plant it in a secret place,
That no one else would know,
And watch all summer long to see
It grow, and grow, and grow,
And maybe raise a pumpkin for
A jack-o'-lantern show.

I stuck a stick beside the seed,
And thought that I should shout
One morning when I stooped and saw
The greenest little sprout!
I used to carry water there,
When no one was about,
And every day I'd count to see
How many leaves were out.

Till, by and by, there came a flower
The color of the sun,
Which withered up, and then I saw
The pumpkin was begun;
But, oh! I knew I'd have to wait
So long to have my fun,
Before that small, green ball could be
A great big yellow one.

At last, one day, when it had grown
To be the proper size,
Said Aunt Matilda: "John, see here,
I'll give you a surprise!"
She took me to a pantry-shelf,
And there, before my eyes,
Was set a dreadful row of half
A dozen pumpkin pies.

Said Aunt Matilda: "John, I found
A pumpkin, high and dry,
Upon a pile of rubbish, down
Behind that worn-out sty!"
Oh, dear, I didn't cry, because
I'm quite too big to cry,
But, honestly, I couldn't eat
A mouthful of the pie.

Some Runaways.

Written for the RURAL PRESS by MARY E. BAMFORD.

BOBBOY, the big gray cat, was sleepy. He went into the front room and stepped on one of the pedals of the organ. The pedal went down and left a hole through which Bobby pushed himself inside the organ. Then he lay down to sleep. Nobody could see him. The pedal had gone up. Whenever Bobby wanted to come out, all he would have to do would be to push down the pedal again.

"Bobby!" called Lena.
Lena's mother had taken Rudie and had gone down to the shoe store. Lena was tired of being alone. She had fed the live white rabbit and the live white mouse, and she had played with the elephant that had lost his trunk and tail and showed that he was stuffed with straw. And she had played with the stuffed cotton cat that her grandma gave her Christmas. The other stuffed cotton cat had had one of its ears scorched, so that the cotton stuffing showed. That cat belonged to Rudie, because he put it into the fire and scorched the ear off. So Lena never played with that cat. Now she wanted to find Bobby and show him her stuffed cotton cat. Someway Bobby was always afraid of the cotton cats. Lena thought it was funny.

But she could not find Bobby.
"I do believe Bobby has run away," Lena thought, "I wonder if it is nice to run away?"
Lena thought till she made herself believe that it must be very nice indeed to run away.
"I'm going to do it," whispered Lena, "I'll run away off! I guess I'll go down where the trains are. I'll run away ever so far!"
She ran out-doors. She ran for half a block. She tried not to remember that her mother had left her at home to see if any company came.
Lena kept walking very fast. She was walking so fast that before she reached the end of the fourth block she almost walked right into a lady.

"Well, I declare!" exclaimed the lady.
"Isn't it nice to have a little granddaughter to run to meet grandma!"
And behold, the lady was Lena's grandma Kerr, coming to make a visit!

"O, gran'ma, I'm so glad to see you!" cried Lena, forgetting all about running away.

"Why, I knew you were glad to see me, the minute I saw you running toward me," answered grandma.

Lena felt guilty. She knew she had not meant to run to meet grandma at all.

They went back to the house, and grandma took off her hat and shawl. Lena showed grandma how the stuffed cotton cat had its ears scorched.

"Bobby is afraid of the cotton cats," said Lena. "But Bobby has run away."

"Has he?" asked grandma. Pets sometimes run away. I had some once that ran away."

"What were they?" questioned Lena.
"Some earwigs," answered grandma.
But Lena did not know how earwigs look, so grandma had to draw a little picture of one.

"Creep and Crawl were two little earwigs," went on grandma. "They used to live in an old eucalyptus stump, but one day I dug them out and put them under a little microscope. I could see that Creep and Crawl had black eyes and queer, brown, heart-shaped heads, and some feelers, and white necks, and a pair of forceps apiece."

"At night Creep and Crawl used to have their supper. It was a bit of bread that had been wet in water. But Creep and Crawl were apt to quarrel. One night Creep was very cross. Poor little Crawl was so hungry that he did not want to spend time quarreling. He kept on top of the bread, and did not strike back very often. But Crawl was very naughty, and chased his brother around, and once knocked or scared him entirely off the piece of bread."

"Oh!" said Lena, "didn't Creep get any supper?"

"Not then," replied grandma, "Creep was so troubled that he went up to the top of the microscope before morning and stayed there all the next day."

"One night when I looked at the microscope I found that Creep had somehow run away. Only Crawl was left. I found another earwig and put him into the microscope. Crawl did not like the new earwig. There was a fight, and the next morning Crawl had cut the new earwig into two pieces!"

"Oh!" cried Lena, "did it kill him?"

"Yes," nodded grandma, "I found one piece of him under the bit of bread. Then I found another earwig and put him into the microscope. The new earwig liked a little fried beef. I found him chewing it once. But one night I gave my earwigs some bread. I blew away the old crumbs, and thought I set the microscope down firmly, but next morning I found that Crawl and the other earwig had pushed up the microscope and run away."

"What became of them?" asked Lena soberly.

"I don't know," answered grandma. Lena stood still. Her cheeks were very red.

"Gran'ma," she said at last, "gran'ma—when you thought I was running to meet you, I—I wasn't."

"Wasn't you?" inquired grandma.

"No," whispered Lena, "I—I was running away!"

And Lena put her head down on the cotton cat and cried.

"Why—ee!" exclaimed grandma, "a little girl running away from her nice home, and going off to get lost! What a foolish little girl! She runs away like my earwigs, Creep and Crawl!"

"I never will again," sobbed Lena.

"No," agreed grandma, patting Lena's head. "Why, what is that?"

Grandma looked at the organ as Bobby walked out.

And Lena looked up and ran to catch Bobby.

"Bobby Hastings," she cried, "you and I won't run away again, because it's naughty and foolish—foolish as earwigs!"



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Work at High Altitudes.

Some practical facts are furnished by the experience of the workmen engaged in the construction of the new Central railway over the mountains in Peru. The line starts at Lima, in altitude 12 degrees. The summit tunnel of this line at Galeria is at the height of 15,645 feet, or a little under the height of Mont Blanc, but it must be remembered that the climatic conditions are very different and more unfavorable in Peru than in Europe. Mr. E. Lane, the engineer in chief, finds that the workmen, up to an altitude of 800 to 10,000 feet, do about the same relative quantity of work as at the sea level, provided they have been inured to the height or brought up in the country. At 12,000 feet the amount of work deteriorates, and at 14,000 to 16,000 feet a full third has to be deducted from the amount that the same men could perform at sea level.

Owing to the absence of malaria the percentage of efficient labor at the greatest elevation is a very high one. Men coming from the coast are not found capable of doing efficient work for about two weeks on an average when taken to high elevations. The capacity gradually increases and reaches its maximum in a few weeks or months, according to the constitution of the individual. The majority of the laborers are "Cholos," or Indians born in the Sierra. They are found incapable of doing efficient work on the coasts or in the warmer altitudes without a long course of acclimatization. If gangs of these "Cholos" have for special purposes been taken suddenly down from the Sierra to work at altitudes of from 2000 to 5000 feet, sickness and fever have resulted from the change.

Mules and horses are found to do about the same efficient work proportionately as human beings up to about 17,000 feet in this district. Mules stand the climate best, but, again, require some weeks for acclimatization, and if urged to undue exertion at great altitudes they are liable to drop dead suddenly. It may be remarked that the region of perpetual snow in the district begins at about 18,000 feet.—Nineteenth Century.

Power of the Air.

The magnitude of the store of aerial energy, upon which mankind may draw so long as the race exists upon this earth, is beyond the reach of imagination to conceive, but not beyond the power of computation of the mathematician. Taking the quantities roughly and in "round numbers," the atmosphere weighs about a ton to every square foot of the earth's surface; 25,000,000 tons per square mile, or 5,000,000,000,000,000 tons on the total of 200,000,000 square miles.

Its energy is that due to the motion of this inconceivable mass, at velocities varying all the way from the gentlest zephyr to the hurricane and the cyclone, rushing over the prairie or along the surface of the sea at more than 100 miles an hour. A cubic mile of air weighs about 10,000,000,000 pounds, and, at the rate of motion of the cyclone, develops 4,000,000,000,000 "foot-tons" of energy, and, if all employed at this rate for the performance of work, useful or destructive, this 8,000,000,000,000,000 "foot-tons" would be equivalent to more than 2,000,000,000,000,000-horse power.

If the disturbance reaches the exterior of the atmospheric shell enclosing the earth, it embodies 10,000,000,000,000,000-horse power, or millions of times as much as the highest estimates make the probable whole steam power of the world at the end of the 19th century.

Assuming the moderate velocity of 16.7 miles an hour for the whole atmosphere of the globe, its energy per mile is 1-36 of that just computed, and 5,000,000,000,000,000 tons of atmosphere would represent about 50,000,000,000,000,000 foot-tons of energy and not far from 50,000,000,000,000-horse power, certainly more than a half-million times as much power as have all the engines in the world combined. Each cubic mile would store 40,000,000,000-horse power, and every square mile, could 110 feet of its superincumbent atmosphere be utilized, would yield about 80,000,000-horse power, which is not far from the aggregate of the existing steam power of the world.—Engineering Magazine.

The electric light is rapidly winning its way into popularity. The English custom-house authorities talk of using it when searching for contraband goods on vessels carrying explosives, and so reducing the danger of explosion. The Irish Cattle-Traders' and Stock-Owners' Association, of Dublin, is said to be agitating for an extension of the facilities for veterinary inspection by electric light. Such facilities are afforded in the port of Cork, and should, they consider, be afforded in other ports that are

largely used in the shipment of cattle. A novel use of electricity as an illuminant is an electric bicycle-lamp, which is said to give a brilliant, intense and steady light. The lamp is connected to the battery by a cord with a plug at the end, which fits into the terminals of the cells. The accumulator is contained in a leather bag secured in place by straps. The light can be turned on or off while the bicycle is at full speed by means of a switch at the bottom of the lantern. The lamp is so arranged that it can be detached in a short time, and without much trouble. And if it is true that the policemen in certain parts of London have recently been supplied with incandescent lamps, instead of the clumsy and dirty dark lantern, we commend the civilization of the authorities in those parts.—Invention, of London.

The Naval Search-Light.

Electricity has added an almost incredible percentage to the efficiency of our naval establishment, and the rapidity with which it has been adapted to purposes of warfare, and the completeness of the revolution it seems to be making in methods, are fairly marvelous. The search-light alone almost doubles the capacity of the ordinary ship of war.

When the British bombarded Alexandria the search-lights on the vessels composing the squadron served not only to make the harbor as light as day on the darkest night, but enabled the admiral to observe the operations of the enemy on shore in the construction of batteries and earthworks, thus placing the Egyptians at a decided disadvantage.

It will enable a vessel to engage the enemy at night to almost as good advantage as during the day. It is useful in chasing a flying enemy and in conducting the management of a fleet. The assistance it gives in reconnoitering a coast will be readily appreciated. Difficult movements, such as entering a tortuous channel by night, passing between the vessels in a crowded harbor, and making a landing when the saving of time is of supreme importance, are all rendered comparatively easy by the search-light.

The search-lights of the British squadron at Gibraltar were the means of saving hundreds of lives when a merchant steamer sank in that harbor a few months ago. An effective search-light will make it almost as difficult for a torpedo boat to reach a warship by night as it is by day. Indeed, so difficult does it render the attempt that it has now been decided that the torpedo vessel and everything belonging to it, even to the faces of the men, must be painted black to avoid discovery.—N. Y. Advertiser.

LOAD TO SQUARE FOOT.—The load which is produced by a dense crowd of persons is generally taken at 80 to 100 pounds per square foot, and is considered to be the greatest uniformly distributed load for which a floor need be proportioned. That this value may be largely exceeded in an actual crowd was pointed out by Prof. W. C. Kernot, of Melbourne University, Australia, in a recent paper before the Victorian Institute of Engineers. In an actual trial, a class of students averaging 153.5 pounds each in weight were crowded in a lobby containing 18.23 square feet, making an average floor load of 134.7 pounds. There was still room to have placed another man, which would have brought up the loading to 143.1 pounds per square foot. Professor Kernot also quoted from Stoney, who placed 58 Irish laborers, averaging 145 pounds each in weight, in an empty ship deck-house measuring 57 square feet floor area. This was a load of 147.4 pounds per square foot. In another test, with 73 laborers crowded into a hut, 9 feet by 8 feet 8 inches, Stoney produced a load of 142 pounds per square foot, and estimated that two or three more men could have been squeezed in. It appears from these experiments that, while the figures ordinarily assumed of 80 to 100 pounds are sufficiently correct for spaces on which there is no cause to induce the collection of great crowds, larger figures, say 140 or 150 pounds per square foot, should be used for railway stations and platforms, entrances and exits to places of public assemblies, or of office buildings, bridge sidewalks, pavements over vaults, and other places where dense crowds are likely to gather.—Engineering News.

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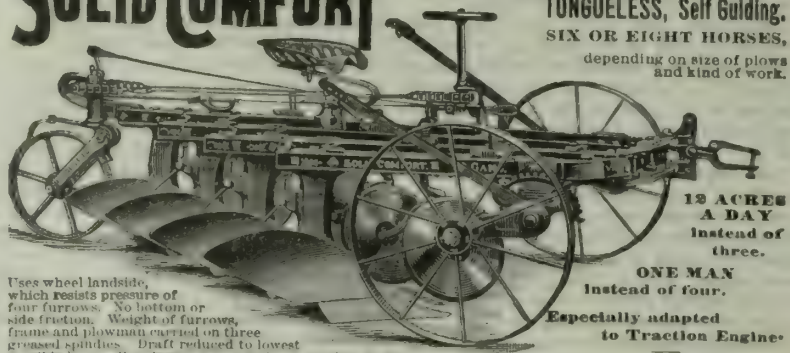
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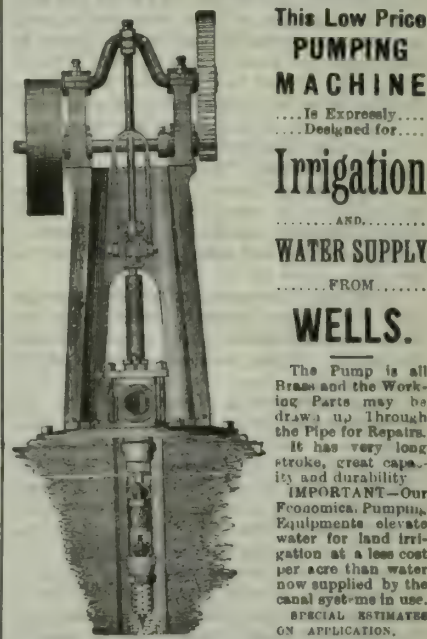
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CALIFORNIA.

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Oroville Register: Lewis Schwerin says that he bought a sack of wheat, paying \$2 for the same, and kept an account of the eggs obtained while the wheat lasted. In 16 days he got 20 dozen, which averaged 16 cents a dozen, thus making clear \$1.20 in the two weeks. This is at a time when the eggs are lowest, for it is rare that they go below 25 cents a dozen.

Gridley Herald: T. B. Hutchins, of Central House, will have this year 15,000 two-year-old and 6000 three-year-old peach trees, 2000 older peach trees, 1800 apricot trees, 250 French prune trees, 1000 silver prune trees, 150 Bartlett pear trees and 18 acres of grapes, all of which will bear fruit this year. Most of these are upon his own land, but some are on land of Mrs. Hefner that he rented. This gives him 26,000 trees and 18 acres of grapes.

Chico Enterprise: We learn that John Finnell, the big wheat-grower, is about to abandon wheat-growing and has selected 700 acres of his ranch to be planted in the best quality of fruit trees, believing that fruit is more profitable than wheat. After years of experience Mr. Finnell has come to the conclusion that wheat-growing is not as profitable as it used to be, and that the seasons now are better adapted to fruit. We have no doubt Mr. Finnell's example will be followed by more than one farmer in Tehama, Butte, Colusa and Glenn counties in the near future.

Oroville Register: In my travels in a business way I have made it a point to ask the farmers' wives if it paid to keep poultry. The answer was always, yes. One would say: "We use eggs and chickens freely, still we sell enough to more than buy our groceries." Another would say: "Yes, indeed. Why, I have sold \$50 worth of eggs and over \$100 worth of turkeys." Others would make similar answers, but varying in the amount of sales. Now I will give the figures as given to me by a small farmer, and he showed me the account in his ranch book. This account commenced January 14, 1892, and ended January 1, 1893. This was for what was sold, taking no account for what was used at home: "We kept on an average about 25 hens. Some few died and coyotes caught some, and we raised about enough to keep the stock good. Amount of eggs sold, 206 dozen for \$48.40. Seven chickens, \$1.90. Paid for feed \$22.37. Net, \$27.93."

Oroville Register: J. B. Tufts, who owns a fine orchard below Oroville, was in town on Tuesday last, and in conversation he said: "We will this year have about 8000 trees that will bear some fruit. Many of these trees had a small quantity of fruit last year, but they were only young trees. Of these we have 5000 peach, 1000 almond and 1000 apricot trees. We have between four and five thousand that are too young to bear. This winter we have set out 350 Bartlett pear trees and 500 French prunes. Our trees have made a magnificent growth, and I know of none that excelled them save some on the lands of Mr. W. Treat, on the west side of the river. He had some peach trees that he irrigated which were set 20 feet apart, and they made such a rapid growth that, though only two years old, their branches interlocked. My two-year-old almond trees are now white with blossoms. Last year, when only one year old, they bore some nuts."

Colusa.

J. S. Hutchins, of Butte, and G. W. Hutchins and Ed. Hudson, of Yuba, says the *Register*, will have in Colusa county 3000 apricot, 2500 pear, 2500 French prune and 3500 peach trees that will be in bearing this year.

Fresno.

A rabbit drive at McMullin's, Fresno county, Saturday, was well attended and 1500 or 2000 long-eared pests were slain.

Sanger Herald: Melon-growers in the vicinity of Sanger will be given an opportunity to compete with other portions of the State in supplying the San Francisco market. The S. P. Co. has reduced the carload rate from \$80 to \$40, and no doubt many parties here will plant large tracts to watermelons and cantaloupes and try the experiment of shipping them to the metropolis by the bay.

Humboldt.

Humboldt Times: The Arcata Creamery Co. has ordered another "U. S. Butter Extractor" separator, which will be placed in position about April 1st. This will give a separating capacity of 6000 pounds of milk per hour, a greater capacity than obtained by any other creamery in the State. The company is also having erected an 80x30 feet addition to the hog pens, which will give ample room for 250 to 300 head of hogs.

Los Angeles.

The Mazona almond plantation in Antelope valley, Los Angeles county, continues to expand. Two years ago there were, perhaps, 30 acres set to trees. Now there are about 1300 acres planted and carload lots arriving every few days. It promises to become, if it is not already, the largest almond plantation in the world.

The San Diego Union publishes the details of a scheme for the formation of an irrigation district, to include all of Antelope valley, in Los Angeles county, embracing 100,000 acres. The survey for the water development was made in 1886 by Colonel Chalmers Scott of San Diego, and a recent report from him was received by J. de Barth Shorb and others interested. The estimated cost of 15 miles of ditch, bringing 15,000 inches of water to the summit

of the valley, is placed at \$150,000. General Beale, who owns the Tejon, Castac and Liebre ranches, is interested in the scheme, as 25,000 acres of the Liebre ranch will be included in the district.

Mendocino.

Republican Press: H. O. Rowlette, a professional coyote trapper, who has been trapping in the Ford and Luce neighborhood, had his efforts crowned with success one day last week by catching a large coyote on County Treasurer Ford's ranch. Such news as this causes great rejoicing among the sheep men, as the death of a coyote can hardly be estimated in value to the sheep interest. The proprietor of the Angle ranch recently informed a *Press* reporter that he considered the death of one of the varmints on his ranch worth \$100 to him. Mr. Rowlette's coyote will bring him \$36, there being besides the State and county bounty a district bounty of \$25.

Orange.

Santa Ana Blade: Four hundred cases of eggs were shipped out of Santa Ana Monday. This means 12,000 dozen or 144,000 eggs. While this was a large shipment, it is nothing unusual for Santa Ana.

Santa Ana Blade: Shipments of butter from this city are large, being from 5000 to 6000 pounds per week. The Fairview and Westminster creameries are running to their full capacity, and, although the output is large, no trouble in marketing is found. Yesterday the Westminster creamery shipped 900 pounds.

Placer.

Placer Herald: The Placer foothills have been enjoying the exhilarating air of spring, with all its attendant joys and beauties, including the green grass and wildflowers, for several weeks. The green grass has been with us all winter, the spring-like sunshine is always ours in the winter months between rains, and the wildflowers come to us as early as they appear to anybody in California. The fact is, these things are so common in the delightful Sierra foothills that we forget to mention them.

Sacramento.

Sacramento News: Those who sent East for wire for their hop trellis work this season have received it, and in the Menke yards especially there is a scene of busy activity. The plowing and pruning is all completed in the yards that are high enough not to be affected by the recent heavy rains and high water, but those whose yards lie low are terribly delayed on account of the condition of the soil, which prevents any work being done at present. The new yards that have been planted this season are all looking well, and if the weather is at all seasonable from this time on, there will be one of the largest crops in this section that has been harvested for many years. Encouraging reports have also been received from Sonoma county, but the acreage in that neighborhood will not be within 100 acres as large as was at first reported, on account of so many coming to the conclusion that they would put off planting out new yards until next year.

San Benito.

Hollister Free Lance: What a glorious prospect there is ahead for a prosperous season! Just as the ground was commencing to harden on the surface, and, at some points, bake and crack, the rain commenced pouring down, and last Saturday half an inch had fallen—plenty enough for all immediate purposes.

San Bernardino.

The Governor has appointed the following commissioners to complete the organization of the county of Riverside: D. G. Mitchell, Perris; John McLaren, San Jacinto, and H. Morse, Frank A. Miller and O. A. Smith, all of Riverside.

Ontario Observer: The idea has prevailed that English walnuts of a good quality cannot be grown in the interior lands. This opinion is shown to be unfounded by the superb walnuts produced by E. M. Hatch. Nor Rivera, nor any section of California can equal them for quality. They are, beyond question, the finest walnuts produced in Southern California, as any expert must admit. A ten-acre grove of such trees would prove a bonanza.

Ontario Observer: George B. Ford has on his grove on A street an eight-year-old Lisbon lemon tree from which he has picked, the last two months, five boxes of lemons, and on which there are now two boxes of young fruit which will soon mature. As a lemon tree will bear more boxes of fruit in a year than an orange tree, and as the demand for lemons will always be greater than the domestic supply, Mr. Ford has wisely concluded to plant the 20-acre tract recently purchased to lemon trees.

Citrograph: The Byrne ranch of 80 acres, more or less, at Crafton, was sold this week by Messrs. R. J. Waters and A. P. Kitching to Messrs. E. G. Judson and F. E. Brown for \$30,000. Twenty acres of the ranch is now in oranges, ten acres in peaches and apricots and ten acres in vines. The vines will be rooted up and the unimproved portion graded and planted to orange trees. This will make 50 acres to be planted. This ranch is a fine one, and, when it is improved, it will be one of the best properties in this vicinity.

San Diego.

Perris New Era: The Wolfskill tract, containing 13,500 acres, and lying east of the Perris irrigation district, has been sold, through the agency of E. C. Webster, to F. E. Brown of the Bear Valley Company for \$235,000. The land is one of the finest tracts in southern California, and the fact of its having been bought by the Bear Valley Company evidently means the establishment of another irrigation enterprise in the valley.

Escondido Advocate: Last week the *Advocate* noticed the sale of 220 acres of the R. A. Thomas

ranch to Henry Tinken of St. Louis, and since then we hear it rumored that Mr. Tinken, in addition to setting out 100 acres to lemons this season, will put in a submerged dam on the Escondido river and thereby develop enough water to care for his trees. He will also build on the place and make other permanent improvements.

San Jacinto Register: We have it from very good authority that the Casa Loma ranch, owned by Mr. Pico, has been sold to the Bear Valley Land Co. at a good price per acre. It was purchased for the enormous amount of water that is known to be on it, and will be developed shortly. Of the 2700 acres, Mr. Pico reserves but 500 acres, which he intends to improve in many ways that will be a credit to the valley. The price paid will be given to the public within a few weeks.

San Luis Obispo.

Graphic: The postoffice store contains another fine assortment of oranges, lemons and limes. They are from the orchard of J. F. Dana, on the adobe. Among the different varieties are Washington Navel, Mediterranean Sweet and Maltese Blood oranges, also Eureka lemons and Mexican limes. Several experts declared the limes to be the largest and finest specimens they had ever seen.

Santa Clara.

Governor Markham has appointed and commissioned James T. Rucker and T. W. Hobson Agricultural Directors in Santa Clara county.

Santa Cruz.

Watsonville Rustler: Superintendent Waters of the beet sugar factory has a force of men at work boring for an artesian water flow. After sinking to a depth of 200 feet in the lot on which the Pejaro Valley railroad depot is situated, that location was abandoned and another well is being sunk on the factory lot near the Ford-street entrance to the grounds.

Watsonville Rustler: M. A. Hudson, W. A. Beck and Frank Blackburn were in San Francisco last week purchasing machinery for irrigating their strawberry fields on the Monterey side of the river. Beck and Blackburn will plant 24 acres to strawberries, while Mark Hudson will put in about 15 acres this season. These gentlemen propose to pump water from the river for irrigation purposes.

Sonoma.

A sale of 300 bales of hops recently took place in Santa Rosa, at 17 cents, says the *Democrat*.

Sebastopol Times: Otis Allen, the pioneer hop-grower, advises all persons engaged in growing hops to put the very best grade of hops on the market. The advice would also apply to all farm produce.

Dry Creek Cor. to Cloverdale Reveille: J. C. Mitchell, a large poultry raiser of Dry Creek was in Cloverdale Wednesday. Mr. Mitchell has about 100 laying hens from which he gathers every week 35 dozen eggs, which are shipped to a San Francisco firm and bring the highest market figure. He has also a large number of turkeys and is fully convinced that the poultry business can be made to pay a very remunerative profit.

Cloverdale Reveille: Sonoma county farmers have no reason to complain that they have not had rain enough for all purposes unless it be for cultivating the soil. In this respect the precipitation has been too great and farmers are inclined to use "cuss words" to relieve their pent-up dissatisfaction at the pluvial waste that has taken place. Be cheerful, gentlemen; you may wish you had more of it before the '93 period is over.

Sutter.

Farmer: The work in the hop fields at Nicolaus is active and this industry furnishes a large amount of labor. The *Four Corners* says that by the first of April no less than 275 men will be employed in the hop yards lying within two miles of Wheatland. This will mean something more than \$8000 distributed among the workmen monthly.

Tehama.

Red Bluff News: The storm which we have been experiencing is perhaps the most severe which has ever visited Tehama county, looked at from a sheep man's point of view. While some flock owners boast of escaping with slight loss to lambs, yet in general the loss is very heavy, and some owners will have no increase whatever in the flocks when the mountain drives are made. The prolonged cold and wet weather has kept the grasses from growing, consequently ewes are poor and give but little nourishment to the increase which survives the storm which prevails, and the young will not be in condition to drive when the migratory time comes. There is no comparison in severity to the present storm for 20 years past, at least not since the year 1887. Sheepmen are much discouraged, because they have had a very hard deal.

Tulare.

Delta: The several hundred acres of fruit trees planted this season are being added to by many orchardists. The total acreage planted in this vicinity will be large.

Exeter Cor. Times: The wild flowers are out in all their variegated profusion. We have the best prospects for a large crop we have had for years. Tree-planting is nearly done—a few or- and lemons to plant yet.

Delta: G. H. Clement, of Oroqui, paid the *Delta* a visit Thursday. He says that he has 300 acres in wheat that will make a fine stand. The grain in his country is doing well, and the prospect of large crops is good. April showers will assure enormous yields.

H. D. Barton, who purchased 25 acres three miles north of Hanford three years ago, paying therefor \$150 an acre, refused \$300 an acre a few

days ago. He told a *Sentinel* representative that he sold \$1000 worth of raisins off the ranch last year.

Hanford Sentinel: Tulare county is not only the greatest producer of wheat in the State, but its raisins, peaches, oranges and lemons are the biggest, best and most abundant. The county also is in the lead in the production of pork. According to the last report of the assessors of the different counties, this county has more hogs than any other county in the State.

Hanford Sentinel: The Tulare Irrigation District has at last completed its water system, and the water is now running in the canal. The system comprises 19½ miles of new main and lateral canals, varying in width from 20 to 60 feet, 48 miles of new lateral canals, ranging from 8 to 20 feet in bed width, besides 59 miles of canals, or canals purchased with the Kaweah and Rocky Ford system. This gives the district a total length of canals of 112 miles. The district embraces 40,520 acres and was organized August 24, 1889.

Delta: Minor Doss left at this office Thursday a number of fine clusters of oranges he obtained in G. Frost's orchard, near Porterville. Mr. Frost has 80 acres in citrus fruits, and formerly resided in Riverside. The oranges consisted of Navel, Mediterranean Sweet and Jenny Lind, all from four-year-old budded trees. All his fruit has been marketed, and the best oranges have been shipped. Four years ago the land on which these oranges were grown was dry and uncultivated. He has on his ranch lemons, White Adriatic figs, prunes, bananas and oranges. His oranges netted him \$1.50 per tree this year.

Visalia Delta: The Kaweah Lemon Company incorporated last year by Adolph Lewis, W. H. Hammond, J. F. Jordan, D. G. Overall and Major C. F. Berry, purchased 124 acres of land from J. W. C. Pogue at Lime Kiln. This land adjoins Mr. Pogue's lemon orchard. Eight acres were planted last spring, and the trees made a remarkably fine growth, and out of 800 trees only two failed to grow, and they are only dormant and will sprout again. The trees were two-year-olds grafted on three-year-old roots, so that the trees are virtually five years old. They will bear this season. The trees were not affected by frost at all and are strong and vigorous. The stockholders of the company held a meeting recently and decided to plant 42 more acres at once to lemons.

Porterville Enterprise: In an interview our representative had with three orange and lemon nurserymen in Porterville this week, they state that the number of trees purchased from them so far this season has been: Hudson & Morton, 8637; C. W. Smith, 7796; and M. A. Burgess, over 5000. Those purchasing to any great extent are: J. J. Cairns, Hiram Bailey, J. W. Curtis, Witt, Rev. Flanders, E. F. Denton, B. S. Wales, J. J. Owens, Mrs. O. P. Duncan, J. T. Bearss, Rev. French, H. Lees, Gerrould & Barclay, Dr. George, C. T. Brown, J. S. White, J. Fred Kessing, J. W. Currie, J. D. Tyler, J. E. Shuey, C. O. Reed, H. Zimmerman, H. MacDonald, Mrs. E. Reid, Mr. Davidson and Marrenner & Lane. This is only the beginning, as as many, if not more, will be put out before the season closes.

Yolo.

Woodland Mail: Several farmers living in Willow Oak Park are making arrangements for forming a joint stock company for the establishment of a creamery. It is their intention to put in a complete plant and one of sufficient capacity to handle all the milk they can secure.

OREGON.

Salem Statesman: A prominent fruit-grower has called the attention of the writer to the fact that California apples are being shipped into Salem and retailed through this city by a number of merchants. These apples and the boxes containing them are infested with San Jose scale. The selling of these apples is contrary to the laws of the State and subjects the person selling them to the penalty of a fine not less than \$25. This is one of the worst pests of California, and, shipped in here as they are, will undoubtedly cause the orchards of this country, which in the past have been free from this pernicious scale, to become infested with it and do an irreparable injury to the fruit-growers and the future prosperity of this country.

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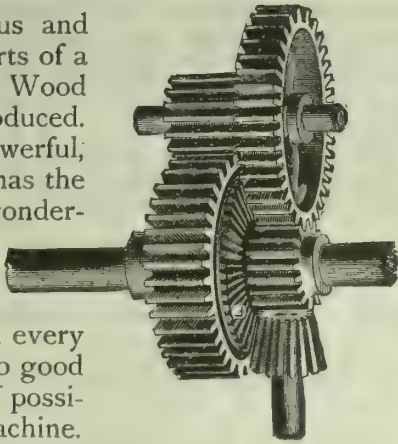
THE ANNUAL MEETING OF THE STOCKHOLDERS of the Grangers' Business Association, a corporation, for the election of a Board of Directors, and for the transaction of such other business as may properly come before it, will be held at No. 108 Davis street, San Francisco, at 10 o'clock a. m. WE WEDNESDAY, April 12, 1893.

I. C. STEELE, President.
CHARLES WOOD, Secretary.

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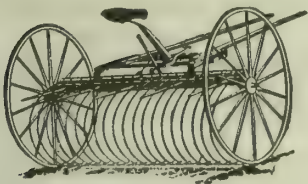
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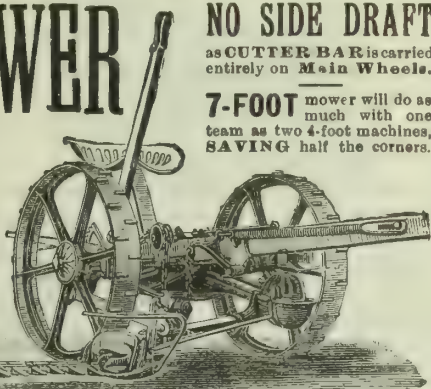
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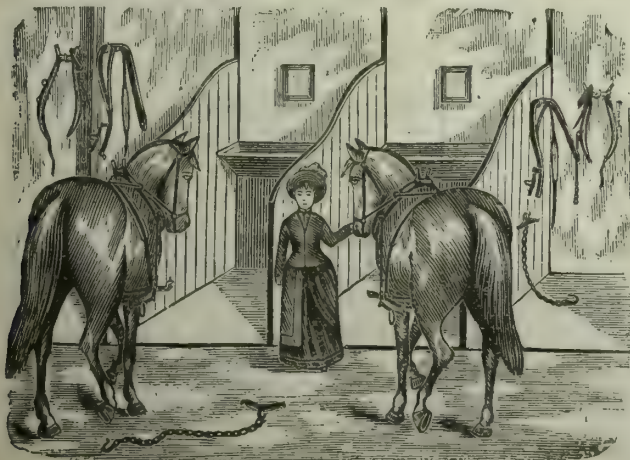
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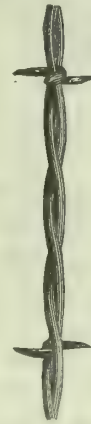
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Honor yourself by getting a few new names for your Grange! Give the Master some work to do under the head "Conferring Degrees."

Bro. Noyes will please tell us through the RURAL what Stockton Grange is doing. You have all been too quiet at Stockton lately. Let us hear from you!

Sacramento County Patrons have been quiet a long time, but, as they have had to be at the legislature guarding farmers' interests, we can in part excuse their silence. From this time right along, we shall expect news notes from all of Sacramento County Granges.

From Santa Clara and from Santa Cruz counties you may expect to get words of cheer and reports of Grange growth during the coming months.

Election of officers both in the State and National Granges will be held this fall. There ought to be a full attendance at our annual session at Petaluma next October, for no more important work for the Good of the Order can arise than the selection of a competent and zealous corps of officers, who are to serve the Order for the next two years.

Petaluma and Two Rock Granges had a joint meeting March 25th for the purpose of conferring the Third and Fourth Degrees and enjoying the bounteous Harvest Feast. The meeting was a success and accomplished good for the Order.

Supply yourself with documents from the Secretary of the State Grange and start out for some Grange missionary work! You can, if you will, get a charter list for several new Granges, for which the State Grange will pay you quite liberally. Try the plan! There should be a host of new Granges organized in California this summer. You, gentle reader, should help do the work. Let some of the sisters take this work in hand. That they will make a success of it is a safe proposition on which to calculate intelligently.

The Master sincerely requests each and every officer of the State Grange to make an effort to organize at least one Grange during the spring. Try and come to the next session of the State Grange with a report of "Granges organized" as a part of your year's work.

Kansas has a farmers' mutual insurance company. It has been doing a successful business. All policies are limited to farm property. The company has been in business ten years in McPherson County. You know that Kansas is not as safe a State for the insurance business as is our chosen California. Yet notice the rate per cent for insurance. Two-fifths of one per cent for a term of five years, according to the report, is what it has cost the farmer of Kansas to insure his property. The company carries risks, according to the statement of Mr. F. A. Waugh, of more than \$3,000,000. Isn't it about time the California farmers were carrying their own insurance? There is enough to be saved in one year by the farmers of this State in insurance alone to run the Grange for 25 years. The State Granges of Pennsylvania, Ohio, Connecticut, Delaware and New York have made a great success of their insurance business.

It is unlawful for any one to sell a roll of butter that is "short weight," and if it is not genuine butter made from the milk of the cow, it must be branded "Bogus Butter." Buyers will confer a favor on farmers by reporting any violation of this law.

What a great many people, who live in the country, and who have to go to town over roads that are well nigh impassable, yet who are compelled to pay heavy taxes, would like to know is, "who has charge of the county roads about this time?" and further they would be pleased to know why somebody does not make some effort to put these public roads in better condition.

Arbor Day ought to be duly observed by every subordinate Grange in the United States. The Master does not wish to fix an arbitrary day, for local conditions ought always to be fully considered. But there can be no doubt about it; each Grange ought to plant a few trees and vines every year. If one of your members has died during the year, what more fitting monument than a splendid Magnolia tree planted at the head of the grave? If the hand of death has spared your Grange, then your public school grounds or your Grange hall grounds can justly claim the ornament and protection which Arbor Day will bestow. Not only the planting of trees and vines, but the planting of seeds of thought by means of poems, readings, recitations, essays and

other literary work should be made a part of the Arbor Day's programme. Let me urge upon every Grange in California the importance of the proper observance of Arbor Day. Ask your members to come, at some regular meeting, about an hour early, each bring a tree, plant or vine, and each bring the tool with which to set it out. Then, by each Patron's planting his or her own contribution, a monument of Fidelity will be erected, the labor of the day will be made easy and the variety of plant life will be great. Will you observe Arbor Day? Let the meeting in the hall contribute to the observance of Arbor Day.

There is a better time coming for agriculture and agriculturists. Much depends on the united action of the farmers of the nation as to what shall be the benefit that is to be theirs. They must act as a unit; must act unselfishly; must act intelligently and the reward will be something surprising. Anything that tends to help general agriculture ought to receive the support of all farmers. The Grange is the great organization that has been to the front in the farmers' behalf. You ought to stand by the Grange, for it has fought your battles at times and in places where, as an individual, you would have been perfectly helpless. Remember this, fellow farmer, and when you are willing to help and be helped, join the Grange nearest your home.

Farmers' Institutes and Pomona Granges are doing great good for the farmers of this nation. We regret that California does not have more of them. There are but four Pomona Granges in this State. There should be at least twenty. San Joaquin, Sacramento and Sonoma counties have derived great good from their Pomona Granges. We are also glad to note that Sutter, Fresno, Tulare, Alameda and Sacramento counties have had splendid County Farmers' Institutes. These farmers' meetings have been great educators, and the day has arrived when the farmer is known as one well qualified for any position and competent to discharge any duty that may be imposed or put upon him. There was a time, not too many years ago, when the farmer was looked upon simply as a good, honest "clodhopper." But, thanks to Grange, Alliance, Farmers' Institutes and like organizations, the farmer is a peer among his peers as a financier, a law-maker, a speaker, a parliamentarian, and, best of all, a full-grown and respected American citizen. May his influence increase as his fitness for all these duties increases! We believe it will, and look to the Grange as a powerful factor in the good work yet to be done.

Santa Rosa, March 27, 1893.

Opposed to Annexation.

At its last meeting, Eden Grange, of Haywards, adopted the following resolutions condemnatory of the proposal to annex the Hawaiian group of islands to the U. S. Government:

Resolved, First—That annexation would not tend to increase the wealth or power of the United States, but would largely tend to increase the national expenditures in properly maintaining a large naval and land force at or near the islands, and also in maintaining a civil service corps.

Second—The native population of the islands is undoubtedly attached to its native rulers and to its form of government, established for more than a thousand years. It numbers about 40,000 inhabitants. Nineteen-tenths of them read and write, not only their own language, but most of them also the English language. They are an enlightened, Christian people and not ignorant pagans.

Third—The Grange is opposed to the mongrel foreign population, consisting of about 30,000 Chinese, 10,000 Japanese and 10,000 Portuguese, to say nothing of other nationalities which now occupy the islands, and which, if incorporated by annexation, must become citizens of the United States as they are now citizens of the islands. There are also now living on the islands about 1300 English, about 300 Germans and about 2000 Americans and their descendants—a most heterogeneous mass of humanity.

Fourth—We are opposed to the overthrow of an established government, as was that of the Hawaiian islands, and of a party, numbering less than 100, usurping all governmental authority and maintaining themselves in their usurped power by the aid of the arms of the United States, unauthorized by the government of the same.

Fifth—*Resolved*, That the Grange believes in keeping faith with other nations; that in 1845 the United States entered into a solemn treaty with Great Britain and France whereby neither would, without the consent of the other two contracting powers, assume dominion over the Hawaiian islands.

The Secretary's Column.

By A. T. DWYER, Secretary State Grange of California.

WASHINGTON, Vaca Valley, Yuba City, Bennett Valley and Lodi Granges have been among the first to send in reports, dues and fees for the quarter ending March 31st.

EUREKA GRANGE, at Auburn, is in need of aid. Roseville Grange is prosperous and Sister Cross, of the latter, is in favor of its members making a fraternal visit to Eureka.

THE VISIT of Master Davis, members from neighboring Granges invited and other Patrons will make the meeting of San Jose Grange on Saturday, April 1st, a notable and no doubt pleasant event.

EXECUTIVE COMMITTEE MEETING.

The S. G. Ex. Com. meets at 10 A. M. Tuesday next. The matter of appointments for State Grange Lecturers will be considered, and such other business as may properly come before a semi-annual meeting.

PASSED BEYOND.—On Sunday morning last, Mrs. D. G. Howe, aged 84 years, mother of Mrs. Sarah H. Dewey, Past Ceres of the State Grange, passed quietly from earthly to eternal life. More than 21 years of her pure and worthy life was shared in our Oakland home, where loving hearts will ever cherish the memory of her many days of strength and final weakness and suffering, borne with uncomplaining Christian patience.

GRANGE CIRCULARS, ETC.—A communication has just been mailed to each Grange by the S. G. Secretary, accompanied by a list of questions proposed for discussion before his own Grange by Master Tuohy of Tulare; copies of a newly printed circular containing the Declaration of Purposes of the N. G., "How to Organize" and "Re-organize" Granges, and other printed Grange information for circulation, aiding deputies in campaign work.

WATSONVILLE GRANGE.—On March 18th, we learn from Sister Cromarty, secretary, Watsonville Grange initiated a class of seven. Sister Roache, although poor in health, occupied the Master's chair. A harvest feast will be given April 5th, when Lecturer J. D. Huffman and Amos Adams will speak, and all will enjoy a "rousing good time." The Grange contemplates moving into Masonic Hall, the fine structure occupied by the State Grange when in session at Watsonville.

SAN JOSE AND GRANGES SOUTH.

Bro. Cyrus Jones of the executive committee writes in a personal letter from San Jose, March 20th, as follows: "We expect a large meeting at San Jose on the first of April. Temescal and Eden Granges are invited. I have written personal letters to Hollister, Watsonville and other Granges south, notifying them of the dates that Bros. Huffman and Adams will address them. Bro. Pettit will go to Hollister next Saturday and give their Grange a talk. We have a class of eight to give the Third and Fourth Degrees next Saturday."

WOMAN'S WORK.

Copies of the following official circular, recently received, are now being distributed by Sister Hattie Jones, chairman of the California committee:

To the Committees on Women's Work in the Grange:—Under instructions of the Executive Committee of the National Grange we issue this circular for the purpose of awakening an interest among the members of our Order in relation to raising funds for a Temple to Agriculture, which will be known as the "Grange Temple;" and such other work as may properly come under our department which will result in good to our Order throughout the land. This being the Columbian year, let it be an inspiration for the members to work with renewed interest; and as the National Grange has asked the Committee on Woman's Work to take the lead, we will formulate and suggest a plan for work that we trust may be practical.

We recommend that the Master of each State Grange issue his proclamation to the Subordinate Granges in his jurisdiction and ask that active measures be inaugurated in every Grange for the collection of funds for the Grange Temple, and that every member of the Order be given an opportunity to contribute a small amount for that purpose. The amount may not necessarily be large, if all will respond. An average contribution of ten cents annually from each member, will raise the required amount in about two years. While many members will give five dollars, all can afford to give dimes.

As it is expected that the lady officers in the Grange will take an active part in the entertainments during the year, let Flora in June, the month of roses, call together her companions who have the brightest ideas, and make out a program that will be entertaining to those in and out of the Grange, and so attractive that all will desire to be present. Sister E. W. Davis of California, will issue a circular that will be of help to those who wish to avail themselves of her suggestions. In August, Ceres should bring her display of bounties in store at that season. Glean the ripest and best talent of the Grange and make it a day of rejoicing. The chairman of the National Committee will assist you at that time. In October, Pomona with her overflowing "cornucopia" of luscious fruits should tempt all to partake, and as their fragrance is wafted among the multitude; ma-

the impression be made that the mind also produces fine fruit when cultivated, Sister Bowen of Connecticut, will help with suggestions to make the meetings pleasant and profitable. These suggestions will not be compulsory, but we hope to aid and encourage each in this work and increase the fund for the Grange Temple. Ask those present for a contribution of not less than five cents each.

When Children's Day is appointed by the Master of the National Grange, let the program be of a Columbian nature. The recitations, charades, tableaux, lectures, songs, etc., should represent something about the discovery of America and its present greatness. We will send to the Grange press some articles that can be used for that occasion. Our schools can furnish many exercises that will be appropriate. The members of each Grange should put their best thoughts into this work, for the seed sown will in after years be returned to the Grange a thousand fold. Each child may be asked to contribute one penny to the Temple fund.

A Grange Temple account should be opened by the Secretary of every subordinate Grange in the Order. The name of each contributor and the amount received should be carefully recorded and read as a part of the minutes at each meeting. The Treasurer should open a Grange Temple fund account, and at the end of the fiscal year the funds collected should be sent to the Secretary of the National Grange with a report of the source from which the funds were received, and, as far as practicable, the names of contributors, for it is contemplated to have the names of all donating to build this grand monument to our Order inscribed on a Roll of Honor, and forever kept within its archives.

It does not seem possible that any one who will give a moment's reflection to this project can doubt its wisdom or necessity. Other Orders have their temples in almost every city in the land, and cannot agriculture, the paramount interest of all, have one grand edifice reared and dedicated to its honor? It is believed that the means used in its construction will not be idle capital, but the rents received will be more than the interest on the investment, and thus become a permanent source of revenue for extending the work of the Order. This circular is not intended to supplant the one issued by the committee one year ago upon this subject, but supplementary thereto and should be considered therewith.

JUVENILE GRANGES.

The organization of Juvenile Granges for the social and moral culture, discipline and education of our children, as authorized by the National Grange, has been too much neglected. They are to the Grange what the Sabbath-school is to the church, and where they have been organized the reports of their work and success are most gratifying. The children are pleased, interested, instructed and enthusiastic in the work of their Grange. The social culture is valuable and moral restraint powerful, and the discipline of the ritual work and literary programs both refining and elevating. The work of the Grange is under the supervision of a Matron, selected from the subordinate Grange under the jurisdiction of which it was organized. Children whose parents are eligible to membership in a subordinate Grange, between the ages of 8 and 14 years, can be admitted. It seems eminently fitting that the Committee on Woman's Work in every Grange in the land should give the subject due consideration, and take such action as the good of the children and of the Order may require. No subordinate Grange that has the conveniences for the work of a Juvenile Grange should neglect to organize one. The beautiful and impressive rituals give all necessary instructions for the organization and work of these Granges, and are kept in stock by the Secretary of the National Grange.

Do not let these suggestions be the only themes for the work of the year, but strive in every way and at all times to make the meetings interesting to every member and induce those outside to come within our charmed circle.

No words of ours can explain more fully what has been done by the Woman's Work Committees than the reports from the different States which have been so well distributed. Committees have been appointed in State, Pomona and subordinate Granges, and we think all understand that ours is not a separate work, but together all in the Order are working for the benefit of ourselves and all mankind.

For special correspondence all east of the Alleghany Range will address Mrs. C. Electa Bowen, Woodstock, Conn. Those west of the Rocky mountains, Mrs. E. W. Davis, Santa Rosa, California; and the Middle section of States, Mrs. H. H. Woodman, Paw Paw, Michigan.—Members Composing the National Committee on Woman's Work in the Grange.

The Hawkeye Grub and Stump-Puller.

This most complete and powerful machine is now well and favorably known throughout the country. It has come rapidly into use wherever there is land to clear, working on either standing timber or stumps. The Hawkeye Grub and Stump machine will pull an ordinary grub in one and one-half minutes. Makes a clean sweep of two acres at a single sitting. A man, a boy and a horse can operate it. No heavy chains or rods to handle; steel wire rope being used instead. The crop on a few acres the first year will pay for the machine, and have the machine and land clear, left. Farmers having timber land to clear cannot afford to be without one, much less to continue to pay taxes on rich land which yields them nothing, while they exhaust their cleared land by constant crops. Its timber over six inches in diameter this machine will grub faster than six men can trim and pile the brush. It will pay those interested in clearing land to investigate its merits. They are manufactured by Jas. Milne & Son, Scotch Grove, Ia., who are also interested with Milne Bros., in their fine Shetland pony farm at the same place.

Complimentary Samples.

Persons receiving this paper marked are requested to examine its contents, terms of subscription, and give it their own patronage, and as far as practicable, aid in circulating the journal, and making its value more widely known to others, and extending its influence in the cause it faithfully serves. Subscription, paid in advance, 5 mos., \$1 10 mos., \$2 15 mos., \$3. Extra copies mailed for 10 cents, if ordered soon enough. If already a subscriber, please show the paper to others.

Breeders' Directory.

Six lines or less in this directory at 50c per line per month.

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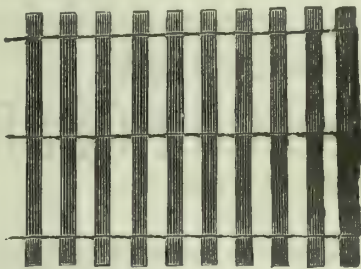
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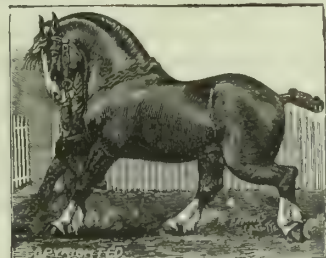
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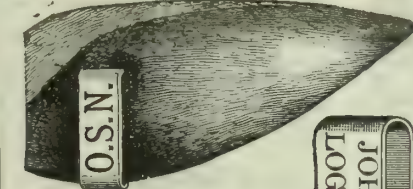
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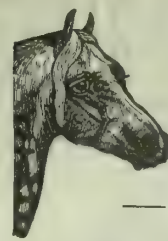
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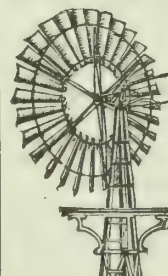
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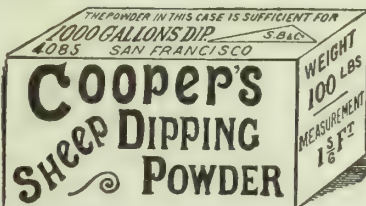
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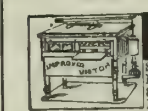
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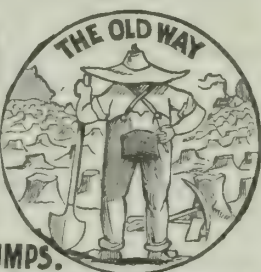
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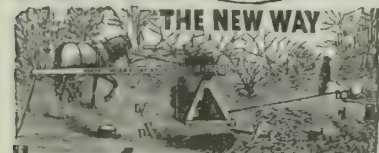
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 give yourself a chance to buy good
 ones at low prices and visit Oaklawn.

A Large and Choice Importation Arrived
 August, 1892.

Separate catalogue for Percherons and for French
 Coach Horses. Say which is wanted. Address
 M. W. DUNHAM, Wayne, Illinois.



WHAT'S THE
 MATTER?
 FARM
 COVERED
 WITH STUMPS.



HAWKEYE GRUB & STUMP MACHINE
 Works on either Standing Timber or Stumps. Pulls
 an ordinary Grub in one and a half minutes. Makes a
 clean sweep of two acres at a stroke. A man, a boy and a horse
 can operate it. No heavy chains or rods to handle. The crop on a
 few acres the first year will pay for the Machine. You can not
 longer afford to pay taxes on unproductive timber land. Clear it,
 raise a beautiful crop with less labor and recuperate your old,
 worn out land by pasturing. Send postal card for illustrated Catalogue,
 giving price, terms, testimonials and also information concerning our
 New IXI Grubber. Address the Manufacturers,
 JAMES MILNE & SON, SCOTCH GROVE, IOWA

School of Practical, Civil, Mechanical
 Electrical and Mining Engineering,

Surveying, Architecture, Drawing and Assaying,
 728 MARKET ST., SAN FRANCISCO, CAL.
 Open All Year.

A. VAN DER NAILLEN, President.
 Assaying of Ores, \$25; Bullion and Chlorination Assay
 \$25; Blowpipe Assay, \$10. Full course of assaying, \$60
 ESTABLISHED 1864. Send for circular

SPRAY YOUR TREES!

Whitewash Your Barns and Fences!

WAINWRIGHT'S PUMPS

Do Either Successfully.

Catalogue and testimonials sent by mail.

WM. WAINWRIGHT,

No. 5 Spear Street, San Francisco, Cal.

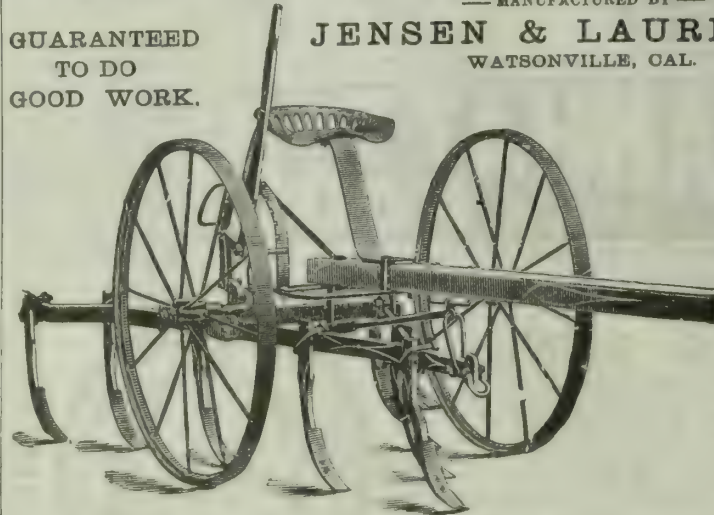
SIMPLE! STRONG! SUPERB!

McLean's Patent Orchard Cultivator.

—MANUFACTURED BY—

JENSEN & LAURITZEN,
 WATSONVILLE, CAL.

GUARANTEED
 TO DO
 GOOD WORK.



Any kind of
 shaped tooth
 can be bolted
 on.

New device
 for lifting out
 of ground that
 makes it very
 easy for opera-
 tor.

Three sizes
 are made — 7
 teeth, cut 4 feet;
 9 teeth, cut 4
 feet; 11 teeth,
 cut 6 feet.

Write for
 circular and
 prices.

GRANGERS' BUSINESS ASSOCIATION, SHIPPING AND COMMISSION HOUSE.

OFFICE, 108 DAVIS STREET, SAN FRANCISCO, CAL.

Warehouse and Wharf at Port Costa.

CONSIGNMENTS OF GRAIN, WOOL AND ALL KINDS OF PRODUCE SOLICITED.

Money advanced on Grain in Store at lowest possible rates of interest.

Full Cargoes of Wheat furnished Shippers at short notice

ALSO ORDERS FOR GRAIN BAGS, Agricultural Implements, Wagons, Groceries
 and Merchandise of every description solicited.

E. VAN EVERY, Manager.

A. M. BELT, Assistant Manager.

RED SEAL GRANULATED 98% LYE

HAS NO EQUAL

FOR DESTROYING SCALE BUGS AND OTHER INSECT PESTS
 ON TREES AND PLANTS.

FOR TREE WASH!

—USE—

One pound to 5 gallons of water.

Thousands of Orchardists testify to its
 value, using it in preference to all other
 preparations. Where the Red Seal is ap-
 plied it kills the insects and at the same
 time forms a coating through which
 others cannot penetrate. When used in
 the above proportions, it is a

GREAT BENEFIT TO
 THE TREES.

Put up in SIFTING-TOP CANS, so that
 any quantity may be used and the bal-
 ance preserved uninjured.

MANSFIELD LOVELL,
 124 California St., San Francisco.

P. C. TOMSON'S
 TRADE MARK



MANUFACTURED BY
 P. C. TOMSON & CO., PHILADELPHIA

SOLD
 —BY—
 ALL GROCERS.

FOR HOUSEHOLD PURPOSES

The Red Seal Lye is indispensable.

USED AS DIRECTED it will take the
 place, and at 75% less cost, of all other
 alkaline preparations, soaps, etc., now on
 the market. ONE CAN will make 10 to
 12 lbs. of Hard Soap, or 300 lbs.
 of Soft Soap. See Directions in Can.

It cleans floors, kills roaches and bugs
 of all kinds, cleans milk vessels, tin or
 wood; keeps farming implements bright
 and free from rust; is a perfect disinfect-
 ant; softens water, washes dishes and
 clothes; and can be put to a thousand
 uses in place of soap or other prepara-
 tions.

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 Manufacturers....Philadelphia, Pa.

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People who have been annoyed by the unpleas-
 antness caused by leaky roofs, draughty rooms, and
 the like, enjoy undisturbed bliss after using our well-
 known products. Those who are as yet ignorant of
 their many merits can be enlightened by writing for
 samples and descriptive circulars, furnished free by

PARAFFINE PAINT CO.,

116 BATTERY ST., - - SAN FRANCISCO.

MEXICAN PHOSPHATE AND SULPHUR CO.

SEASON OF 1893.

NITROGENOUS SUPERPHOSPHATE

AS AN EFFECTIVE FERTILIZER IT STANDS UNRIVALED.

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—AND DEALERS IN—

CALIFORNIA AND OREGON PRODUCE

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Grain, Wool, Hides, Beans and Potatoes.

Advances made on Consignments.

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POULTRY, EGGS, GAME, GRAIN, PRODUCE
 AND WOOL.

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WOOL, GRAIN, FLOUR

—AND—

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Members of the San Francisco Produce Exchange.

Personal attention given to sales and liberal advances
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SHIPPING ORDERS A SPECIALTY.

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 STOMACH, LIVER AND BOWELS,
 AND
 PURIFY THE BLOOD.

A RELIABLE REMEDY FOR

Indigestion, Bileousness, Headache, Consti-
 pation, Dyspepsia, Chronic Liver Troubles,
 Bileousness, Bad Complexion, Dysentery,
 Offensive Breath, and all disorders of the
 Stomach, Liver and Bowels.
 Ripans Tablets contain nothing injurious to
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 safe, effectual. Give immediate relief.
 Sold by druggists. A trial bottle sent by mail
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WELL MACH'Y All Kinds, Water, Gas, Oil,
 Mining, Ditching, Pumping,
 Wind and Steam: Heating Boilers, &c. Will
 pay you to send 25c. for Encyclopedia, of
 1500 Engravings. The American Well Works, Aurora, Ill.
 also, Chicago, Ill.; Dallas, Tex.; Sydney, N. S. W.

Continued on next page.

General Produce.

Extra choice in good packages fetch an advance on top quotations, while very poor grades sell less than the lower quotations. MARCH 29, 1893.

BEANS AND PEAS.		Do good.....		1 22 @	
Bayo, cil.	2 75 @	Do fair.....	1 20 @	—	—
Butter.....	2 75 @	Off Grades.....	1 05 @	1 12 @	—
Peas.....	2 75 @	Sonora.....	1 20 @	1 30 @	—
Red.....	2 75 @	HOPS.		1892, fair.....	
Pink.....	2 75 @	Do.....	16 @	—	—
Small White.....	2 75 @	Do.....	17 @	—	—
Large White.....	2 75 @	Choice.....	18 @	—	—
Lima.....	3 20 @	FLOUR.		Extra, city mills 3 90 @	
Flour, blk eye 1 10 @	1 65 @	Do country mls 3 90 @	—	—	—
Do green.....	2 00 @	Superfine.....	2 50 @	3 00 @	—
Split.....	4 50 @	NUTS—JOBBER.		Walnuts, hard	
BUTTER.		shell, Cal. lb.....	6 @	8 @	—
Cal. poor to 7 @	15 @	Do soft shell.....	13 @	—	—
Do good to choice.....	18 @	Do paper-shell.....	10 @	12 @	—
Do Giltedged.....	21 @	Almonds, soft sh.....	12 @	13 @	—
Do Creamery.....	20 @	Paper shell.....	13 @	15 @	—
Do do Giltedged.....	23 @	Hard shell.....	10 @	8 @	—
Eastern, butter.....	15 @	Brazil.....	10 @	—	—
Cal. Pickled.....	16 @	Pecans, small.....	8 @	10 @	—
Cal. Keg.....	15 @	Do large.....	14 @	16 @	—
Eastern Creamery.....	19 @	Peanuts.....	15 @	12 @	—
CHEESE.		Hickory.....	7 @	8 @	—
Cal. choice.....	11 @	Chestnuts.....	9 @	10 @	—
Do fair to good.....	10 @	ONIONS.		Silverskin.....	
Do Giltedged.....	13 @	Do.....	2 00 @	2 25 @	—
Do Skim.....	5 @	POTATOES.		River Red.....	
Young America.....	11 @	Early Rose, chl. 1 00 @	1 10 @	—	—
EGGS.		Peerless.....	80 @	90 @	—
Cal. "as is," doz.....	— @	Do do Oregon.....	1 15 @	1 25 @	—
Do shak.....	10 @	Sweet.....	1 50 @	1 75 @	—
Do candled.....	18 @	Oregon Burbank 1 30 @	1 60 @	—	—
Do do.....	18 @	Extra choice sell for more	—	—	—
Do fresh laid.....	— @	money.	—	—	—
Do do & laid white.....	— @	POULTRY.		Hens, doz.....	
Do selected.....	— @	Roosters, old.....	6 50 @	7 50 @	—
Do Outside prices for selected	— @	Do young.....	7 50 @	9 00 @	—
large eggs and inside prices	— @	Broilers, small.....	4 50 @	5 00 @	—
for mixed sizes—small eggs	— @	Do large.....	7 00 @	8 00 @	—
are hard to sell.	— @	Fryers.....	7 00 @	8 00 @	—
FEED.		Ducks.....	7 00 @	7 50 @	—
Barley, ton.....	13 50 @	Do large.....	8 00 @	9 50 @	—
Feedmeal.....	25 00 @	Geese, pair.....	2 50 @	3 00 @	—
Grd. Barley.....	20 00 @	Turkeys, goblr.....	20 @	21 @	—
Middlings.....	19 00 @	Turkeys, hens.....	20 @	21 @	—
Oil Oake Meal.....	— @	Do dressed.....	20 @	22 @	—
HAY.		All kinds of poultry, if poor	—	—	—
Compressed.....	7 00 @	or small, sell at less than	—	—	—
Wheat, per ton.....	7 00 @	quoted; if large and in good	—	—	—
Do choice.....	— @	condition, they sell for more	—	—	—
Wheat and oats 7 00 @	10 00 @	than quoted.	—	—	—
Wild Oats.....	7 00 @	Manhattan Egg	—	—	—
Cultivated do.....	6 00 @	Food (Red Ball	—	—	—
Barley.....	7 00 @	Brand) in 100-	—	—	—
Alfalfa.....	7 00 @	lb. Cabueta.....	— @	11 50 @	—
Clover.....	7 00 @	PROVISIONS.		Cal. bacon.....	
Straw, bale.....	35 @	heavy, per lb.....	13 @	13 @	—
GRAIN, ETC.		Medium.....	13 @	14 @	—
Barley, feed, chl 30 @	— @	Light.....	14 @	16 @	—
Do good.....	32 @	Lard.....	11 @	15 @	—
Do choice.....	35 @	Cal am'd beef.....	10 @	—	—
Do brewing.....	92 @	Hams, Cal salt'd	15 @	—	—
Do Chevalier.....	90 @	Do Eastern.....	16 @	17 @	—
Do do Giltedged.....	1 15 @	SEEDS.		Alfalfa.....	
Buckwheat.....	1 75 @	Do.....	10 @	10 @	—
Corn, white.....	1 35 @	Clover, Red.....	15 @	—	—
Yellow, large.....	1 12 @	White.....	30 @	—	—
Do small.....	1 00 @	Flaxseed.....	24 @	3 @	—
Oats, milling.....	1 40 @	Hemp.....	44 @	—	—
Feed, choice.....	1 40 @	Do.....	44 @	5 @	—
Do good.....	1 37 @	HONEY—1892 Crop.		White comb.....	
Do fair.....	1 30 @	2-lb frame.....	94 @	124 @	—
Do common.....	1 25 @	Do do 1-lb frame	114 @	134 @	—
Surprise.....	1 02 @	White extracted	5 @	8 @	—
Black feed.....	1 24 @	Amber do.....	7 @	—	—
Gray.....	1 26 @	Dark do.....	6 @	—	—
Rye.....	1 10 @	Beeswax, lb.....	24 @	26 @	—
Wheat, milling	— @	—	—	—	—
Giltedged.....	1 30 @	—	—	—	—
Good to choice.....	1 27 @	—	—	—	—
Do fair to good.....	1 24 @	—	—	—	—
Shipping, choice 1 22 @	1 25 @	—	—	—	—

Dried Fruits.

The quotations given below are for average prices received by commission merchants for consignments by growers. Something very fancy fetches an advance on the highest quotations, while poor sells slightly below the lowest quotations. Prices, unless otherwise specified, are for fruit in sacks; add for 50-lb. boxes 5c per lb. and for 25-lb. boxes 2c to 1c per lb.

APPLES—1892.		Do do choice.....	15 @	1
Sun-dried, 1's.....	4 @ 51	Do do fancy.....	— @	21
Do sliced.....	5 @ 61	Evap., peeled, in box-	— @	—
Evap. bl. ring, 50-lb. bx	8 @ 10	es choice.....	18 @	—
Fancy, higher.....	10 @	Do do fancy.....	20 @	21
APRICOTS—1892.		PEUMS—1892.		
Do sliced.....	13 @	Pitted, sun-dried.....	10 @	10
Do do fancy.....	15 @ 16	Do evap. boxes, choicell	@ 12	—
Evap. choice, in boxes 15	@ 16	Unpitted.....	4 @ 5	—
Do fancy, do.....	15 @ 17	PRUNES—1892.		
FIGS—1892.		Cal. French, ungraded 7	@ 8	—
Sun-dried, black.....	4 @ 6	Do graded, 60 to 100.....	8 @	10
Do white.....	3 @ 4	Do do 40 to 60.....	11 @ 12	—
GRAPES—1892.		Fancy sell for more money.	—	—
Sun-dried, stemless.....	24 @ 3	RAISINS—1892.		
Do unstemmed.....	14 @ 2	Do choicest do.....	1 50 @ 1	60
NECTARINES—1892.		Do prime pr bx.....	1 25 @ 1	40
Red, sun-dried.....	7 @ 8	Loose Muscatels.....	75 @ 1	00
Do Evap., in boxes.....	11 @ 12	Do 2-crown, pr bx.....	1 10 @ 1	20
White, sun-dried.....	9 @ 11	Do do do.....	1 20 @ 1	20
Do evaporated.....	12 @ 13	Unstem'd Musca-	—	—
PEARS—1892.		leins aka, pr lb.....	24 @ 3	—
Sun-dried, quarters.....	21 @ 3	Stem'd 2-crown.....	3 @ 4	—
Do sliced.....	4 @ 5	Stem'd 3-crown.....	34 @ 4	—
Evap., sliced, in boxes 7	@ 8	Do do 3-crown.....	4 @ 5	—
Unpitted, r'd bl'ch'd.....	3 @ 8	Do do in box.....	— @ 1	00
PEACHES—1892.		Do Sultanas, sks.....	6 @ 7	—
Sun-dried, unnealed.....	@ 7	Do do bxs.....	— @ 1	40
Do do prime, bl'ched.....	@ 10	Halves, quarters and eighths	—	—
Do do choice, do.....	@ 11	25, 50 and 75 cents higher re-	—	—
Sun-dried, d'd, bl'ched.....	@ 11	spectively than whole boxes.	—	—
Do do prime.....	@ 14	—	—	—

Live Stock.

BEEF.		MUTTON.	
Stall fed.....	6 @	Wethers.....	8 @
Grass fed, extra.....	5 @	Ewes.....	8 @
First quality.....	5 @	Do Spring.....	12 @
Second quality.....	5 @	HOGS.	
Third quality.....	4 @	Light, 30 lb. cubs.....	6 @
Bulls and thin cows.....	2 @	Medium.....	7 @
VEAL.		Heavy.....	7 @
Range, heavy.....	5 @	Soft.....	8 @
Do light.....	7 @	Feeders.....	8 @
Dairy.....	7 @	Stork Hogs.....	6 @
		Dressed.....	10 @

Easy Cutting.

The wonderful advantage gained through the use of correct mechanical principles has seldom been more clearly shown than in an exhaustive field test at the Government Experiment Station, Logan, Utah; where the Walter A. Wood mower, cutting in clover, registered a draft of only 215 pounds. This remarkable machine represents forty years of careful field and factory work, and it has everywhere been brought prominently to the front by its achievements.

To the World's Fair!

WEEKLY ENCOURAGEMENT!

Are you going? If so, call on or write to the undersigned before arranging for your trip. The "SANTA FE ROUTE" is the only line under one management from California to Chicago! Palace and Tourist Sleepers through to Chicago every day without change! Excursions every Tuesday. W. A. BISSELL, G. P. A., 650 Market Street, Chronicle Bldg., San Francisco, Cal.

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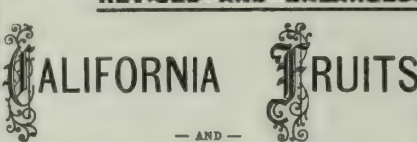
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PRACTICAL, EXPLICIT, COMPREHENSIVE.

Embodying the Experience and Methods of Hundreds of Successful Growers, and Constituting a Trustworthy Guide by which the inexperienced may Successfully Produce the Fruits for which California is Famous.

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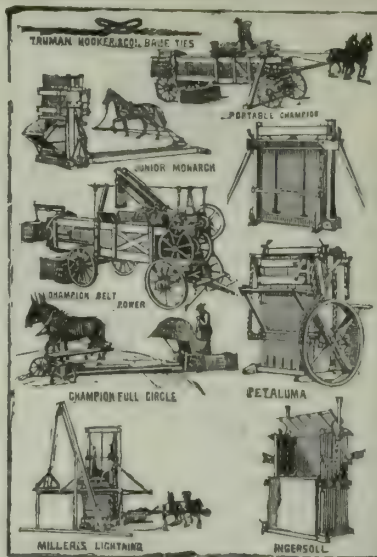
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930 ACRES, AT \$12.50 PER ACRE, EIGHT MILES east of Paso Robles, on the Southern Pacific railroad and but six hours from San Jose; 300 acres are under lease, to be planted to wheat this season. The land is of rich, alluvial soil from 6 to 15 feet deep. No irrigation necessary. The annual rainfall is sufficient for fruit trees, vines and grains. A farmhouse and well of excellent water, besides running water in the Huer Huero creek all the year; good fences, 3 fields; oak trees in abundance for posts and fuel. About 600 acres are well adapted to grain, fruit trees and vines; the balance is rolling and best for grazing; the land not cultivated is covered with the most nutritious of all grasses, the bunch grass, burr clover, alfalfa, wild oats, and on margin of creek wild alfalfa; mixed farming pays best. No better section in California for fruit-growing than that portion of San Luis Obispo county. Here is an opportunity to buy 10 to 15 acres for the price of one in Santa Clara county. Terms: One-half cash; balance in two, three and four annual installments. Interest seven per cent on deferred payments.

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NEAR SANTA ROSA.

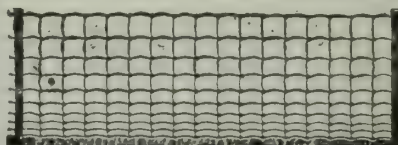
A Beautiful Place, comprising 4 1/2 acres, well improved; has a nursery, 50,000 trees, a well-stocked poultry yard, fine orchard; house, furniture (including new piano); horses, carriages, etc. All roses. This place will bear close investigation. Must be sold. Price, \$10,000.

Choice Fruit Land Cheap near Saratoga, Santa Clara county in lots to suit.

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when you unexpectedly come in contact with a solid body. Multiply the shock by weight and speed and you know how a running horse feels when he strikes a rigid wire fence. Barbs would have killed him, but Coiled Springs catch him like a bird alighting on a limber twig.

PAGE WOVEN WIRE FENCE CO. Adrian, Mich.

Thomson's Improved Navel.

I have for sale this year about 2000 Thomson's Navel orange trees, one-year-old bud, three-year-old roots, in line shape for planting this spring. Parties intending to purchase trees, who cannot visit the orchard and see said oranges growing on trees, may receive samples by mail upon application. I have now about 20 trees of this variety in bearing.

A. C. THOMSON, Duarte, Cal.

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European Crop Report for February.

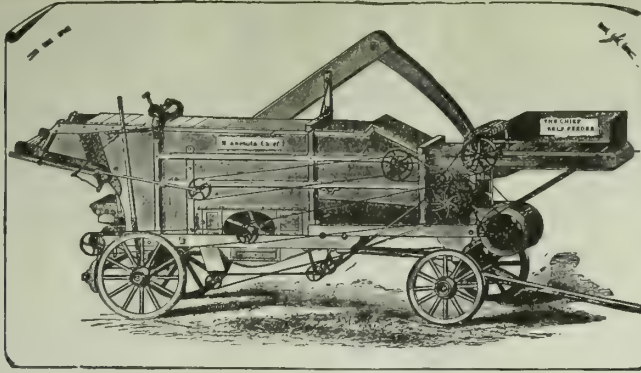
Summary.—The present conditions are very favorable.

Great Britain.—The mild weather that followed the severe frosts of January has continued throughout the month, and the autumn-sown crops are very forward. Slight frosts have occurred during the last days of the month, but no damage has resulted. The young wheat plants look strong and healthy, and are regarded as increasing in growth and vigor under the favoring conditions, though some fears are entertained that the later frosts may prove more injurious than would be the case if the crops were less advanced. Some barley has been sown already. Very little spring wheat is expected to be sown, owing to the low prices and diminishing yield. The *Mark Lane Express* regards it as an unwise venture to attempt spring wheat-raising in a country where the average rainfall is so high and the temperature so moderate as here.

The general agricultural depression is being much considered, both in and out of Parliament, but there is no unity of sentiment as to what the remedy should be, and no definite plan is proposed. It is certain that no grain duties will be imposed, though there is some agitation in favor of that course. Imperial federation or colonial reciprocity has been proposed, but no progress has been made. According to the recently published comprehensive returns of the Board of Agriculture, the area of arable land in Great Britain has diminished during the ten years, between 1882 and 1892, 1,165,000 acres, while the pasture area has increased 1,537,000 acres. The diminution in cultivated area chiefly affects the acreage of wheat and barley, as there has recently been a slight increase in the acreage of oats. Of the cultivated area of Great Britain in 1892, according to the above-mentioned returns, 14 per cent was farmed by owners and 86 per cent by tenants. The most striking, if not the most important, change indicated by the returns of 1892 is the great reduction in the stock of live hogs. The decrease in the totals in Great Britain is over a million head. The shortage in Ireland is estimated at 1,200,000 head. The abnormally high price of bacon and pork, as contrasted with other meats, will, it is thought, greatly stimulate hog-breeding. It is a most noteworthy fact, well worth the consideration of American farmers, that the hog products that command the highest price in the English markets come from countries that are not noted for the production of corn, namely, England, Ireland and Denmark. The quality and consequent high price of English, Irish and Danish bacon, which, at wholesale, now sells at from 19 to 21 cents per pound, is due, first, to the feeding of the hog, and second, to the manner of curing. The best quality of bacon is produced by feeding barley, rye, wheat, and peas, boiled potatoes, skimmed milk, buttermilk and whey. The hogs should range in weight from 180 to 220 pounds, and should be long and lean, with well-developed hams; thick, straight bellies, and the fat on the back should not exceed 1½ inches in thickness. The shoulders, sides and hams are cured in one piece. The overfat, corn-fed hog does not make the finest bacon and does not bring the highest price. By attention to these requisites, the Danish farmers have increased their sales of bacon in England from 4,000,000 pounds in 1881 to about 200,000,000 pounds in 1892, and the price has steadily increased. The bacon hog is best produced in conjunction with the dairy.

France.—The weather continues mild and fine, and farm work is going forward actively, though the recent heavy rains have caused some delay. Frost and storms are reported during the closing days of the month. The favorable conditions existing at the end of January are not abated, and the winter grains are healthy and vigorous. The general feeling is that of confidence. It is predicted that the acreage of spring wheat sowing will be rather under that of last year. Prices for grain have been dull, and nothing indicates any material advance. Oats remain firm. During the last week the importations of wheat have increased noticeably over the preceding week, but no improvement in price has taken place.

Germany.—The ice on the inland rivers has mostly disappeared and inland navigation is practically restored. There is a slightly increased activity in the grain markets following the opening of navigation, but prices are unaffected. The weather has been mild and wet, except in the closing days, when colder weather has been reported, and no serious damage has occurred to winter crops. The conditions are regarded as favorable, and an average crop seems assured. There is much agitation and unrest among the agricultural classes, and the Gov-



ernment seems resolved upon some action in their interest, the plan most favored being an extension of "commercial treaties," somewhat upon the line of those existing between the United States and several of the German States affecting American corn and bacon and German sugar. The Government has recently heard a number of experts on the question of regulating Germany's commercial relations with the United States by reciprocal treaties, but it is thought nothing will be done until after the new administration is inaugurated. A similar treaty has just been negotiated between Germany and Egypt.

Austria-Hungary.—The weather continues favorable and the crop prospects are regarded as excellent. The ice blockades have been broken by the rains and mild weather, the masses of snow are disappearing, and business is again about normal. No change has occurred in prices, though there is a downward tendency in wheat and rye. Oats are firm and the demand is fair. Winter crops are reported as in good condition and no serious damage has occurred.

Italy.—The reports continue to be generally favorable. Except in a few instances of damage from excessive freezing and thawing in January, the conditions are satisfactory, and the recent milder weather gives an assurance of an average crop.

Denmark.—There is nothing in the meager reports at hand to indicate other than normal conditions. No complaints of damage are made. Owing to the severity of the earlier weeks of the winter, there has been a slight over-consumption of feeding grain, though this is probably offset by the shortage in the number of live hogs in store, which is estimated to be over 40 per cent less than the number on hand in this month last year. In conjunction with Danish dairying the production of bacon hogs is one of the chief branches of agriculture. In 1881 the number of bacon hogs exported to England was 17,000. In 1892 the number was 927,500, according to the statements of the leading importers recently published. England is the chief market for Danish butter, cheese and bacon. The published results of a series of experiments, conducted under the authority of the Government, to test the comparative feeding value of various foods in the production of bacon pigs is here appended:

4 pounds of boiled potatoes, equal 1 pound of grain.
6 pounds of skimmed or buttermilk, equal 1 pound of grain.
8 pounds of boiled turnips, cut small, equal 1 pound of grain.
12 pounds of whey, equal 1 pound of grain.

Russia.—Milder weather has prevailed throughout the month. The autumn-sown crops are still protected by snow, and there are no complaints of injury from the extreme cold weather. The ice blockades still interfere with trade, though they have been broken in many places, and there is some movement in grain. Stocks are small and prices remain firm.

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Breakfast Foods
THE JOHN T. CUTTING CO. SOLE AGENTS

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If you want Pure Fresh Seeds Cheap, direct from growers, send for our Beautiful Illustrated Catalogue mailed Free. Pkt's only 2 and 3 cts. Market Gardeners ask for Wholesale Price List.
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The Most Perfect and Economical Grain and Bean Thresher in Use.

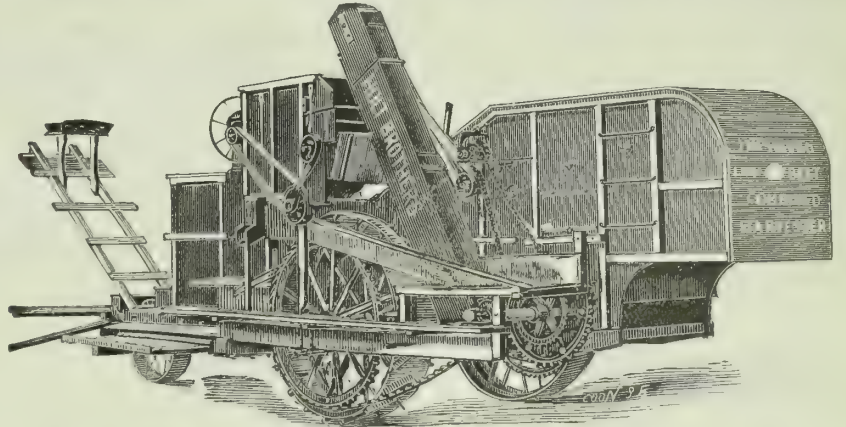
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Repairing and Machine Work of all descriptions.

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OAKLAND, CAL.

HOLT BROTHERS' IMPROVED COMBINED HARVESTER.



FOR EFFICIENCY, DURABILITY, LIGHT DRAFT AND FINE WORK

It is FAR SUPERIOR to any other Harvester of the present day.

We call special attention to our new.....

SIDE HILL COMBINED HARVESTER,

..... That will run as well on Side Hills as on level ground, and do the finest work.

Send for Circulars describing the Side Hill Harvester.

Those contemplating buying are invited to visit our manufactory at Stockton and see for themselves.

Circulars sent on application to

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\$50⁰⁰
SAVED. **\$50⁰⁰**
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I will ship you a
"NEW MILLER" WASHING MACHINE
On 60 days trial, at wholesale prices, subject to approval. It is destined to become the leading Washing Machine of America. Imitates the principle of hand rubbing. It is fast absorbing the large trade I have for the Becker. It only needs to be seen to be appreciated, and for merits you have never seen its equal. A trial is convicting. You want one for your own use. I want you as an agent. Terms liberal. Write to-day.
E. W. MELVIN,
Proprietor and Manufacturer, Sacramento, Cal

A. T. DEWEY } Dewey & Co.'s Scientific Press Patent Agency { ESTABLISHED
W. B. EWER. } 1860
GEO. H. STRONG.

INVENTORS on the Pacific Coast will find it greatly to their advantage to consult this old, experienced, first-class Agency. We have able and trustworthy Associates and Agents in Washington and the capital cities of the principal nations of the world. In connection with our editorial, scientific and Patent Law Library, and record of original cases in our office, we have other advantages far beyond those which can be offered home inventors by other agencies. The information accumulated through long and careful practice before the Office, and the frequent examination of patents already granted, for the purpose of determining the patentability of inventions brought before us, enables us often to give advice which will save inventors the expense of applying for Patents upon inventions which are not new. Circulars of advice sent free on receipt of postage. Address DEWEY & CO. Patent Agents, San Francisco

THE MORGAN SPADING HARROW.

The Best Pulverizer in the World.

HORTICULTURISTS AND FARMERS, TRY IT.

NOTE THE FOLLOWING TESTIMONIALS FROM OUR OWN PEOPLE.

GRANDEVILLE, CAL., Dec. 25th, 1891.
Mr. James Porteous, Fresno, Cal.—Dear Sir: Your favor of 22d, asking me how I liked the Triumph Spading Harrow I used on the "Oothous Vineyard and Orchard," received. In reply would say that I have used almost all the modern implements, but as a pulverizer and cultivator combined I never saw anything to equal them. I used two two-horse and one four-horse. Yours truly,
H. H. CLARKE.
Formerly Supt. and Manager of the "Oothous Vineyard and Orchard," at Fresno, Cal.

STOCKTON, August 15, 1892.
H. C. Shaw Plow Works—Gentlemen: I have used exclusively a Morgan Spading harrow purchased from you, in cultivating an orchard of 40 acres planted to apricot tree. In February of this year, near Bracks Landing, in this county. By the use of this harrow the ground has been kept free from weeds and well pulverized, thereby causing a retention of moisture and a rapid and healthy growth of the trees; the branches of some of them having grown nearly six feet within six months after planting. I consider the Morgan Spading Harrow the very best implement in use for tree and vine culture. The work is much better done than it can be done with a plow and at one-fourth of the expense.
JOSEPH H. BUDD.

FRESNO, CAL., Jan. 20th, 1892.
Mr. James Porteous, Fresno, Cal.—Dear Sir: In reply to your inquiry regarding the Morgan Spading Harrow will say that it is by far the best tool I have ever seen used in a vineyard. I had the Disc Harrow, the Drader Spading, the Clark Cutaway and the Morgan Spading Harrows all at work in our vineyard last year and soon discovered that the Morgan was the best of them all. The draft is much lighter and its work more complete, besides being the easiest handled of all others. The Morgan will be the only cultivator seen at work in our vineyard the coming season. All others will be found at rest in the fence corners. Yours truly,
S. K. LEMMON, Supt. Oakland Vineyard Co.



Especially Adapted for Orchards and Vineyards.

CONSIDERING THE IMMENSE AMOUNT OF LABOR DONE

THE DRAFT IS VERY LIGHT.

NOTE THE FOLLOWING TESTIMONIALS FROM OUR OWN PEOPLE.

FRESNO, CAL., Dec. 10th, 1891.
Mr. James Porteous, Fresno, Cal.—Dear Sir: Last winter I purchased a ten-foot Triumph Spading Harrow, and am pleased to say that I found it a most satisfactory tool. I used it in both my nursery and orchards and found that it left the ground in better shape than any cultivator I had ever used. For pulverizing rough and cloddy ground I don't believe there is an implement superior to it in the market. Yours truly,
GEO. C. ROEDING,
Manager for the Fancher Creek Nursery, Fresno, Cal.

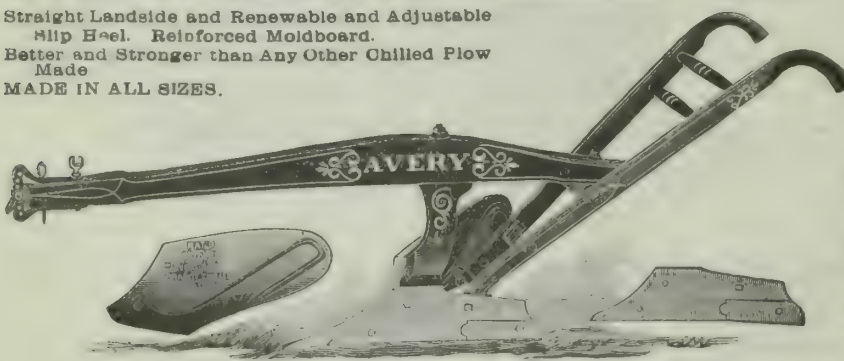
FRESNO, CAL., Dec. 19, 1891.
Mr. James Porteous, Fresno, Cal.—Dear Sir: Having used the Morgan Spading Harrow last season I can well recommend same for vineyard use; it is economical and does the work well. In heavy ground it is the best tool I have used for a pulverizer and it leaves the ground in good condition. Respectfully yours,
E. I. BABER, Manager for Eisen Vineyard, Fresno, Cal.

SACRAMENTO, CAL., Dec. 31st, 1891.
Gents:—In reply to your inquiry concerning the Morgan Spading Harrow purchased by me last spring, would say that I ordered it for the purpose of experimenting in my orchard to ascertain whether or not I could get an implement that would combine the qualities of the disc and cultivator. I find upon trial that the harrow above referred to is the most complete tool that can be used in an orchard. As a pulverizer, leveler, and cultivator, I do not hesitate to say it is the best I have ever seen. It thoroughly stirs the ground beneath the surface without opening it to the sun's rays and keeps the ground loose of sufficient depth to retain necessary surface moisture. I do not hesitate in recommending it. Very truly,
EDWIN F. SMITH,
Secretary State Agricultural Society.

BREWER, CAL., Dec. 17th, 1891.
Dear Sir:—Enclosed find check to pay for Morgan Spading Harrow. It is the best implement ever invented for the cultivation of the soil. Respectfully,
J. F. WARD.

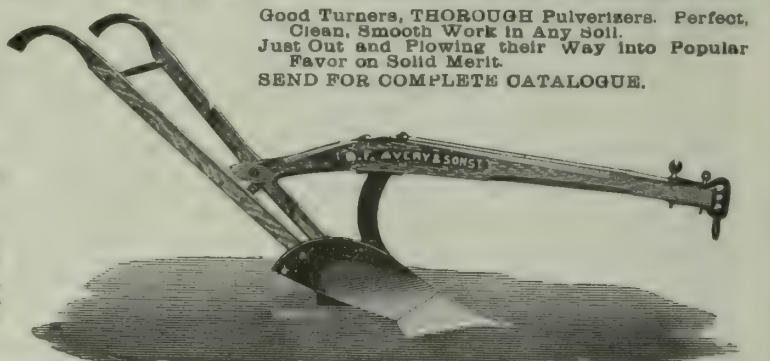
AVERY GRANITE CHILLED AND STEEL PLOWS.—BEST ON EARTH.

Straight Landside and Renewable and Adjustable
Flip Heel. Reinforced Moldboard.
Better and Stronger than Any Other Chilled Plow
Made
MADE IN ALL SIZES.



ASK FOR
AVERY
PLOWS,
HARROWS
AND
Cultivators.

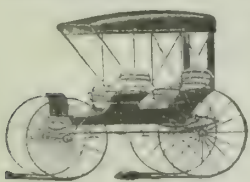
If your dealer
does not keep
them send to
us.



Good Turners, THOROUGH Pulverizers. Perfect,
Clean, Smooth Work in Any Soil.
Just Out and Flowing their Way into Popular
Favor on Solid Merit.
SEND FOR COMPLETE CATALOGUE.

PLEASE SEND FOR CIRCULARS AND DESCRIPTIVE CATALOGUES.

ADDRESS..... H. C. SHAW PLOW WORKS, General Agents, Stockton, Cal.



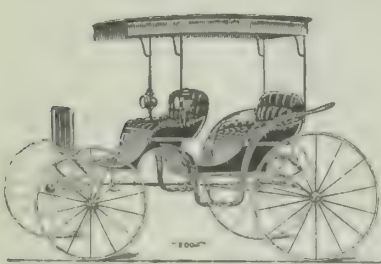
25 to 50%
SAVED.

ALL GOODS WARRANTED.

Price, \$125.
As good as any \$200 job.



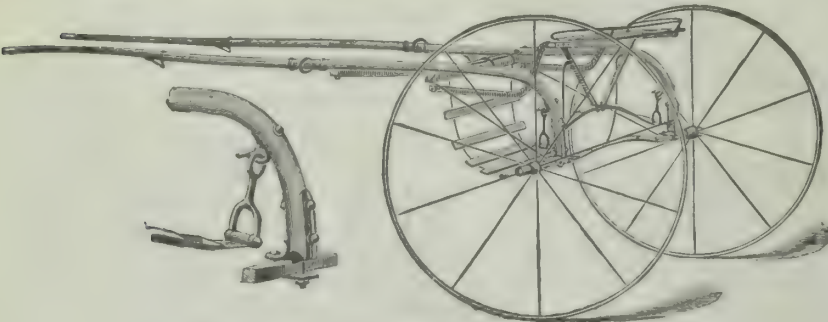
No. 50. Price, \$80.
As good as any \$135 job.



No. 200. Price, \$175.



No. 31 1/2. Price, \$135.



No. 5 Cart. A Good, Strong Cart. Price, \$15.

All Kinds of Vehicles and Harness Way Below
Anything on This Coast.

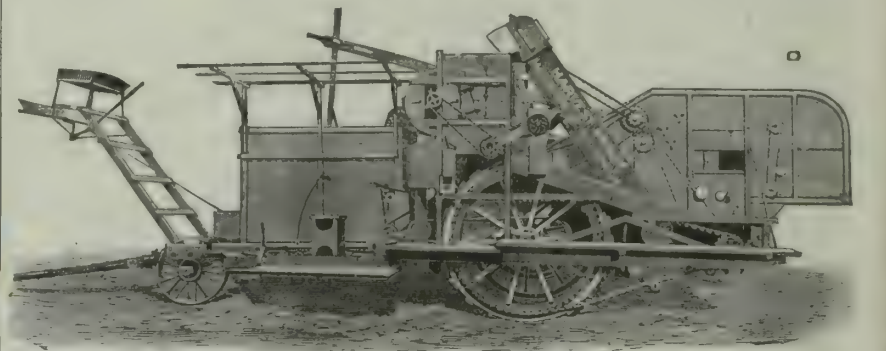
WE SHIP ALL OVER THE PACIFIC STATES.

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36 1/2 to 44 1/2 FREMONT STREET,

SAN FRANCISCO, CAL.

New Improved Belt Combined Harvester "PRINCE."



Farmers, Take Notice.

You who contemplate buying Harvesters this year, please examine the

HARVEST "PRINCE."

It has had a thorough test, having cut 500 acres in two weeks. Size, 18 feet; drawn by 18 animals. It starts easy and possesses light-running qualities. Having two 6-foot drive wheels, 20-inch by 8-inch tires, with a 5-foot header wheel, renders it very easy of operation.

We still manufacture the FAMOUS

STOCKTON CHIEF HEADER

With STEEL ANGLE SICKLE BAR.

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MATTESON & WILLIAMSON M'F'G CO.

STOCKTON, CAL.



Vol. XLV. No. 14.

SAN FRANCISCO. SATURDAY, APRIL 8 1893.

THE DEWEY PUBLISHING CO.
Office, 220 Market St.**Industrial Aspect of Waterfalls.**

In this intensely utilitarian age it becomes doubtful whether anything of nature will be able to command adoration for its own sake. When grand canyons become natural reservoir sites, when lofty peaks are valued for their sustaining power for sky-piercing observatories, when monarchs of the forest which may have scraped the barnacles off the keel of Noah's ark are valued by their lumber contents, we have no right to complain perhaps if the impressive grandeur of a waterfall comes to be measured by its power as a generator of electricity. The American people has for years held its breath while inventor and capitalist have been trying to harness great Niagara with some sort of bit and cinch which would make it push and pull in certain industrial lines. The average man is delighted by the thought that during his lifetime the rushing river, the cataract, the swelling tides, may lift from his back the curse of Eden and shoot him like a meteor into the blissful hereafter.

There is perhaps no use to complain of this modern tendency to throw life burdens upon nature. It is a condition of present-being which may as well be availed of, as it cannot be removed. If, then, people are going to possess themselves of the motive power of the waterfall, it is interesting to note that this coast is disposed to put its resources of this kind into training. The larger engraving on this page shows the Snoqualmie falls, 18 miles in a direct line from Seattle, Wash. It has the reputation of being the greatest volume of water falling perpendicularly from such a height—268 feet—in the United States. It is figured by Mr. B. T. Lacy, of this city, that this fall will yield from 10,000 to 15,000 horse-power the year round. Mr. Lacy intends to divert the water by partially damming or bulkheading, and connecting it by a pipe-line to impact water-wheels below the falls. The power of Snoqualmie falls is sufficient to operate all the machinery and all the street railways in Seattle, as well as that in other towns on the line. A number of "hurdy-gurdy" wheels will be placed at the foot of the falls and will transmit the power to shafting which will convey it to an electric plant on the banks. From these dynamos the electric current will be carried in an almost air-line to Seattle, where the current will be distributed by smaller wires to the points where it is to be used. The line will pass through Gilman, Newcastle and Renton, situated at different points between the falls and Seattle, and at each place power will be supplied where wanted. The enterprise is now being discussed



PURISSIMA FALLS, SAN MATEO COUNTY.



SNOQUALMIE FALLS, WASHINGTON.

and an incorporation to advance it is being projected.

The smaller engraving on this page is quite in contrast in character and in future with the foregoing. It is one of the most retired, unambitious and lonely of the lesser waterfalls of California. It is Purissima fall, in San Mateo county, in the region of Halfmoon bay, and is the resort of the quieter race of tourists. It is destined to plunge and gurggle in solitude, unvexed by inventors and "utilizers" for all time to come.

THIS is a good spring to compare notes on conditions unfavorable to the setting of fruit bloom. Is the old idea that the rain prevents pollination warranted? and if so, does it act directly by washing away the pollen, or by keeping bees under cover, or by checking sap flow, or by inducing decay in the tender bloom? We do not suppose all these things can be determined at once, but probably many who have lost their crop of apricots this year have reached some conclusions as to the manner of its taking off. Our own experience is that those apricot varieties which opened bloom during the week of low temperature and rain about the middle of March have no crop to speak of. The Blenheim, which has borne heavily year by year for ten years, has a very scant set this year. The Moorpark, usually empty, carries more fruit than the Blenheim. The Royal also is very light, though usually well laden. Our observation is also that the Newcastle apricot is late in blooming though early to ripen, and its late blooming this spring brought it out of the worst of the rains which injured other varieties, and the consequence is it is heavily set with fruit. Southern readers can furnish many interesting notes which may lead to a better knowledge of the phenomena indicated.

It seems that the U. S. Department of Agriculture proposes to investigate the "black pepsin" butter racket, and has sent out a circular requesting information in relation to it. We are aware that the subject has been widely advertised in California, and many papers have perhaps turned the crank of the pepsin boom machine for nothing. Pepsin recipe venders have also profitably canvassed the rural districts. As the inquiry comes from the division of the Department of Agriculture which deals with food adulterations, it is presumable that the subject is to be approached as an imposition. If any RURAL PRESS reader has information to dispense, the Government would be glad to hear from him.

PACIFIC RURAL PRESS.

By THE DEWEY PUBLISHING CO.

Office, 220 Market St.; Elevator, 12 Front St., San Francisco, Cal.

ANNUAL SUBSCRIPTION RATE THREE DOLLARS a year. While this notice appears, all subscribers paying \$3 in advance will receive 15 months (one year and 13 weeks) credit. For \$5 in advance, 10 months. For \$1 in advance, five months. Trial subscriptions for twelve weeks, paid in advance, each 50 cents.

ADVERTISING RATES.

	1 Week.	1 Month.	3 Months.	1 Year.
Per Line (agate).....	\$.25	\$.50	\$ 1.20	\$ 4.00
Half Inch (1 square).....	1.00	2.50	6.50	22.00
One Inch.....	1.50	5.00	13.00	42.00

Large advertisements at favorable rates. Special or reading notices, legal advertisements, notices appearing in extraordinary type, or in particular parts of the paper, at special rates. Four insertions are rated in a month.

Our latest forms go to press Wednesday evening.

Registered at S. F. Post Office as second-class mail matter.

ANY subscriber sending an inquiry on any subject to the RURAL PRESS, with a postage stamp, will receive a reply, either through the columns of the paper or by personal letter. The answer will be given as promptly as practicable.

ALFRED HOLMAN.....General Manager

San Francisco, April 8, 1893.

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The Week.

April has drifted along into March methods, and the week finds us in a storm which would do credit to January, except, perhaps, that it is warmer water. It is the late rains that make the crop, the experts say, but late rains bring little consolation to the grower whose seed served no purpose except, perhaps, to manure his fields. To the grower, however, whose grain is all right, to the stockman who likes late grass, and to the fruitman who has not got his ground into summer condition and needs another chance at a moist surface, the storm of the week will bring comfort. The rain record everywhere is now so satisfactory that small fractions do not count either way. May California always be so fortunately circumstanced.

What Co-operation Does.

The accomplishments of the West Side Fruit Association, in Santa Clara county, illustrate in a practical manner the substantial value of organization and co-operation. The association has been unpretentious in its workings, as well as modest in its assumptions; but its achievements have been real and tangible, and its benefit unquestioned. Col. Hersey narrated the history of the organization before the State Horticultural Society, last week, and his address is printed in another place in this issue.

The West Side Association was the offspring of a desire of a comparatively small community of fruit-growers for more satisfactory appliances to dry their prunes and more adequate machinery for marketing the fruit profitably. The main benefit of their labor and industry they believed should be derived by themselves, not by middlemen; the chief profit belonged in their own pockets. Unorganized and poorly advised as to market conditions and the actual value of their products, they were obliged to sell when they could and for what they could get, and they were too often made the prey of schemers and manipulators who aggrandized a large share of profits to themselves. So they concluded to take the drying and sale of their fruit into their own hands. They had no notion of revolution-

izing existing business methods; but they saw no reason why economy and common sense could not be advantageously employed in a new direction for their own benefit. They came together, organized, equipped a dryer and warehouse, opened dealings direct with wholesale buyers, and were successful beyond their most sanguine expectation. Members of the West Side Association last season distributed among themselves \$87.50 per green ton for their fruit, affording them a very large margin of profit. It is true that they were aided in large measure by unusual conditions; but that they got more than they otherwise would have received is not to be disputed.

From the West Side Association has naturally developed the Santa Clara Fruit Exchange, an organization more general in its scope and wider in its purposes, inasmuch as it is designed to include pretty much all the fruit-growers in Santa Clara valley. The spirit of mutual confidence, self-helpfulness and active co-operation that has been so important a factor in attaining the objects of the association, and the capable and unselfish management which contributed so much to its success, have been transferred to the new organization. From the community association has evolved the county exchange. It is but one more step to a State union.

The Apple.

We give on another page a few of the many suggestions which could be made as to the growing of apples in this State. Many other points can be advanced by our correspondents if they will take up the subject, and we conceive it to be in a certain sense a public duty to bring out the facts with reference to this fruit. We have undoubtedly planted some fruits right up to the limit of profitable production, and it is hardly wise to proceed in their direction until we begin to see how and where the product, which will be attained when all trees now set are in bearing, can be disposed of. While this outlook is developing itself, other plantings, which lead to a diversifying of the fruit product and to supplying demands which are now visible, seem to be wise.

We are aware in urging the claims of the apple that we shall be met with claims that the apple is a failure. Under certain conditions no doubt it is a failure, but otherwise not. If one gets the right apples, plants them in the right place, protects them from their natural enemies and properly picks, stores, grades and markets the product, he will have no occasion to regret his dependence upon apples. Early apples in late regions are seldom profitable; late apples in early and forcing regions are worthless; in the regions of greatest aridity and highest heat, all apples, except possibly a few salamanders from central Asia, are a failure. If any one has attempted to grow misplaced apple trees, he is naturally disposed to scout the business.

Again there are others who count apple growing unprofitable because of the pests to which the fruit is subject. This was a just cause of complaint a few years ago. The apple-worm revels in the climate of California. The babe of springtime becomes a grandfather before Thanksgiving, consequently the late apple has to run the gauntlet of three generations of worms. The late apple which feeds the first hatching at the spring still hangs on the tree (possibly) while 100,000 of descendants are prospecting for homes. It is little wonder that there were orchards at which every apple set from the bloom was destroyed. Is it any wonder at all that the people denounced the apple after such experience? But these old disasters should not discourage planting now. It is perfectly feasible to save 80 to 90 per cent of the fruit at perfect condition at a moderate outlay. The use of Paris green has rescued the apple business. This being the case it is wise for those who have proper land in favorable climates to look on the apple when it is red and establish for themselves orchards which will long be profitable. The subject is open for discussion.

What the Experiment Station Sends to Chicago.

Among the various manifestations of Californian resources and industries which will be made at the World's Fair, there is one of which there has been little said and yet is worthy of remark, because of its unique character and its peculiar significance. It is the exhibit forwarded this week from the Experiment Station of the State University at Berkeley.

The U. S. Government Building at the World's Fair is to be devoted to as complete a display as possible of the various ways in which the Government conducts its business and the beneficial results attained. A leading branch of this will be illustrative of the Department of Agriculture, and of this, one phase is the operation of the agricultural experiment stations, maintained in whole or in part with Government money in all the States and Territories. In this State the Regents of the University furnish a little

more than half the funds required for the maintenance of the College of Agriculture and its five experiment stations, but it recognizes, of course, its indebtedness to the General Government and participates in its undertaking at Chicago. As the investigation of soils under Prof. Hilgard's leadership has attained a fuller development in California than in any other State, the California station was placed in charge of the comparative display of soils from all the States at Chicago. The details of this effort, owing to Prof. Hilgard's absence, have been conducted by Dr. R. H. Loughridge of the station staff. He has secured the active co-operation of the experiment stations in other States, and the soil samples contributed will be set up in uniform style and constitute an exhibit which, in systematic method and comprehensiveness, has never been made before in the world.

There were 16 different soils in the samples forwarded from California. The soil is taken to a depth of three feet and is shown just as it occurs in nature. The advantage of such display compensated for the difficulty of obtaining the samples. A hole had to be dug to a depth of a little more than three feet—the hole large enough to admit a man with room for work. On one side of the hole the soil was pared down carefully. Vertical lines were then drawn so as to include a sample four inches wide. The soil on each side of this vertical strip was then carefully removed to a depth of four inches, so that the sample stood like a square column four inches wide and deep, and three feet high. A strong dove-tailed box just the right size was then slid over the column and when firmly fitting in this box, the soil column was carefully cut from its natural connection with mother earth, the face pared down flush with the sides of the box, a plate of glass put on and a soil sample just as it occurs in nature is thus entrapped and exposed to observation. From California 16 of these natural soil samples have gone forward. The samples were taken in different parts of the State, north and south, east and west. With each sample goes a label upon which is written the locality and the chemical composition, as shown by analysis made at the station laboratory in Berkeley. There goes with each soil also a set of small bottles showing the proportion of each size of soil particles as separated by a method of mechanical analysis devised by Prof. Hilgard. These bottles show the soil contents from gravel to sand of different sizes, fine earth and onward to the impalpable particles which form a fine clay. The mechanical soil analysis gives an insight into its physical properties just as a chemical analysis discloses its contents of plant food, and both chemical and mechanical analyses are necessary to correct conclusions as to soil character. A working model of Prof. Hilgard's apparatus for mechanical analysis of soils will also be exhibited in the Government Building.

Another very interesting feature of the soil exhibit sent from Berkeley is a set of the minerals and rocks of the United States from which soils have been formed. This collection is to be displayed in connection with the soils to illustrate their sources and formation. Still another and a very attractive feature of the exhibit is a large soil map of California. It is colored to represent 15 soil regions of California and embodies the latest observations as to the correlation of these regions. Only six States have attempted the compilation of such a map.

In addition to the foregoing, a collection of grasses and forage plants including about 100 species has been forwarded for the Government Building. The University collection of cereals including about 250 wheats, barleys, ryes, oats, spelts, etc., shown both in sheaf and bottle, was furnished last month for installation in the California Building. Thus the University has borne its share in setting forth the resources and characteristic growths of the State at the greatest show of all time.

The first installment of the southern California World's Fair exhibits left San Bernardino Saturday night—one carload from San Diego, containing 27,000 pounds; one from Santa Ana, containing 35,000 pounds; two from Ventura, containing 36,000 pounds; one from San Bernardino, containing 20,000 pounds; and three from Los Angeles, containing 70,000 pounds. The exhibits consisted of the unperishable displays and many of the decorative features. Santa Barbara's exhibit, consisting of one carload, will leave Tuesday. This makes a total number of nine cars from six southern counties, with 20 more to follow within the next month. In northern California no less activity is shown by the fair managers of the various counties. Part of the exhibits have already gone forward, and more are to follow. The county displays will doubtless all be on hand by May 1st, and the California building will be ready, or nearly ready, by that time.

The death of Dr. George Vasey, botanist of the U. S. Department of Agriculture, is announced. Dr. Vasey was upwards of 70 years of age; a native of England, coming

to this country in infancy and settling in New York. He graduated in medicine but drifted into botanical studies, and in 1874 was appointed to the place which he filled until his death. He gave his chief attention to grasses and forage plants, and that rendered his services of great importance to agriculture. Dr. Vasey made a brief visit to California three years ago while on a botanical examination of the forage resources of the arid regions. His name will long be cherished as a devoted and valuable public servant as well as a skillful botanist in his specialty.

HOG CHOLERA has made its appearance at Santa Ana. A. Goodwin has already lost several hogs, and says he expects to lose 50 more before the disease runs its course. Such outbreaks are not so frequent here as in the prairie States, but should be carefully handled to guard against spread of contagion. All animals apparently healthy should be immediately removed and kept apart. All dead animals should be burned or deeply buried. The premises should be thoroughly cleansed and disinfected by free use of fresh whitewash or equal parts of carbolic and sulphuric acid, two ounces of the mixture to each gallon of water. In lack of other materials, boiling water, if freely applied at full heat, will destroy the germs. The appearance of hog cholera in any district should induce all interested to co-operate in hemming in and stamping out the disease.

A LOS ANGELES ORANGE-GROWER—Walter S. Newhall of Duarte—has made an innovation in fruit shipments that seems destined to have an important effect on the retail trade. He puts up oranges in small packages—a dozen in a box—packed in crates in much the same manner as eggs. The convenience of this arrangement will instantly commend itself to the small buyer. The ordinary box contains from eighty to two hundred oranges, too much for most persons for domestic use. The paper bag is awkward and antiquated. The small box, for figs, apricots, and other small fruits has found wide-spread favor, and there is no good reason why oranges cannot be packed in the same way for retail trade.

CHAUNCEY M. DEPEW is one of the few great railroad men of the country whose views on public questions are not popularly supposed to be dictated by corporate interests. When, therefore, Mr. Depew gives advice like the following, it can be estimated at its true value by those for whom it is intended. Mr. Depew says: "You farmers will never enjoy the best fruits of your labor until you are thoroughly organized. Great corporations are organized, labor fully organized; nearly every industry is organized except the industry you represent, which is the foundation of all prosperity. My advice is to organize. * * * Ask only for what is just and right and insist upon getting it."

THE opulence of those individuals whose fancy in the past has run in the direction of pork is equalled now by the happy condition of those other gentlemen who tilled the soil for potatoes and still hold them. Unhappily they are few in number. Supplies in the local market are very light, and prices are high. The new crop will probably not be heavy, and the outlook for a prosperous year among tuber-growers is very good indeed. The potato is not as good-looking as the orange, but it is gilt-edged just the same.

THE orange-growers of southern California appear to have taken the right method for co-operation of interests. It was decided, at a meeting held at Los Angeles, Tuesday, to formulate a plan for local unions to work in harmony with one another, similar to the one which has successfully operated several seasons at Riverside. Until local associations are formed, a State union is not likely to be a success. They must be the basis of the greater organization.

EDWIN F. SMITH, Secretary of the State Board of Agriculture, writes and informs the *RURAL PRESS* that the late legislature made the usual appropriations for citrus fairs, and that they will be expended under the auspices of the Board of Agriculture, as heretofore. We are very glad to know that our previous information—it was a current newspaper statement—was erroneous. The citrus fairs will not, therefore, be stranded for lack of funds.

SHIPMENTS of beef cattle from Reno are about over for this season, there being about 1500 yet to go. There have been over 30,000 shipped from Reno since last fall. Nevada sheepmen are busy shearing and shipping wool. The clip is fully up to the average. The clip has just fairly begun in California.

AUSTRALIA has appointed a veterinary officer at the port of San Francisco, who shall control, so far as he can, shipments of horses to the colonies. A law was recently enacted imposing more stringent regulations upon horse importations, and the effect probably will be to discourage exports from the United States.

From an Independent Standpoint.

The annual convention of the Republican National League which will meet at Louisville, Ky., on the 10th of next month, will be an occasion of exceptional interest because the first official assemblage of Republicans since the late election. The proceedings of this convention can hardly fail to develop the lines of policy upon which the party will stand before the country during the next four years. There is no subject of higher political concern at this time than the future course of the party, because it is related to the whole future of American politics. Two ways are open, and one or the other must be chosen. Either the party must readjust its leadership and relate itself to the questions of the present time, with the same spirit with which it took up the questions of the time when it was created, or it must continue to travel along the lines which have led it away from success and driven multitudes of its best men into new political relationships. The Clarksons, the Quays and the Platts will repeat in the Louisville convention the fight they made at Minneapolis last June. The future of the party depends, in our judgment, upon their overthrow. If they shall be cast off, if the party shall return to the high ground which it occupied in the days of Seward and Lincoln and Garfield, it will surely return to power; but if it allows itself to be ridden by its mercenary, selfish and unprincipled element, it will be ridden to death. The leadership of this mercenary element is the disease from which the party has suffered during the past ten years, and it is a disease which nothing but radical methods can cure. A party founded like the Republican party must go right or it will not go at all. Its membership is not a "gang" to be led or driven to courses similar to that of the New York Tammany Society; and if those who seek to so lead or drive it are allowed to stand to the front, the great moral mass of the party will abandon the party standards and seek other political associations.

The situation of the Republican party is not at all bad if it can be brought to realize the causes which led to its defeat and to remedy them. That no great proportion of its forces have gone over to the Democratic party is illustrated by the fact that, in 1892, Mr. Cleveland received only 26,694 more votes than were given him in 1888. In other words, the great Democratic victory was won, not by growth of its own vote, but by the division of its opponents. The plain truth is that great numbers of Republicans either stayed at home or voted the People's party ticket because they were disgusted with the failure of their own party to take hold of the great questions of the time. The membership of the party is largely made up of men who resent bitterly the failure of the party to take up the currency question, the railroad question, the questions growing out of the labor disputes, and other subjects of equal importance now before the country. The sign of this resentment is the existence of the People's party. If the Republican party will put itself in the line of moral and industrial progress, take up public questions with the old-time spirit, it has still a great future. But if it allows those who led it to failure to continue their mischievous policy, it will never win another national victory. It is an axiom that new conditions require new men, and it is, perhaps, on the whole, better for the Republican party at this time that there is among its membership no man of commanding position and authority. The one man who might have been the law-giver to the party died in the crisis of the defeat. Of those left, the man of greatest experience is, unquestionably, John Sherman of Ohio, but he is not at all qualified for leadership in the present crisis. He has somehow come to be regarded by vast numbers of people as a personification of economic and political vices. Furthermore, his temper is cold, not to say forbidding; and the members of his party who recognize his ability would not support him with that entire and enthusiastic devotion which they have given to men of less wisdom and of less honesty. Governor McKinley of Ohio, is perhaps the Republican just now highest in the party esteem, but he is disqualified for leadership, partly through his identification with the extreme high-tariff principle, and partly through his want of capacity for large control of political forces. Mr. Harrison, though very able, lacks the qualities for leadership. Clearly, the party must find new leaders, and it must look for them in the younger element of the party and select them, not more for capacity and force of character than for the higher moral qualities of courage and earnest conviction. They must be as different as it is possible for men to be, from those who, during the past eight years, have been the official guardians and guides of the party. Such men are abundant; they may be found in every State of the Union, but they will not be found attempting to force themselves upon a convention at Louisville. Such men do not grasp at power for the sake of power, but they

are always found ready to serve when their service is required.

A movement for reform of the pension laws has been started by Farnham Post, G. A. R. No. 485 of New York City. At a meeting held about the middle of last month the following preamble and resolutions were unanimously adopted:

WHEREAS, It is apparent to this post that the ill-considered speeches of some legislators are calculated to do serious injury to the reputation of old soldiers and sailors and to the Grand Army of the Republic; and,

WHEREAS, The only veterans entitled to pensions are those who by wounds or disabilities incurred in the service of this country are prevented from earning a living in their respective callings, as they might have done had such wounds or disabilities not been incurred, and whose circumstances are such as to justify them in calling on the country for aid and support; and,

WHEREAS, The Grand Army of the Republic is an association organized for the purpose of enabling old soldiers and sailors to take care of themselves and each other; and

WHEREAS, As much real patriotism may be shown by refraining in time of peace from inflicting any unnecessary burdens on the country as by coming to her defense in time of war; therefore be it

Resolved, That any old soldier or sailor who applies for or accepts a pension, except under the conditions above set forth, is, in the opinion of the post, guilty of conduct calculated to injure the good men who were and are willing to give their lives for their country without any reward save the approval of their own conscience and that honorable fame that is due to every patriot.

Resolved, That a copy of these resolutions be sent to the President of the United States, to the United States Senators from this State, and to the representatives in Congress from this city, accompanied by a letter from the commander of the post, urging upon them to use their best endeavors to have the pension laws so revised as to make them applicable only to such soldiers and sailors as are indicated in the preamble to these resolutions and to such persons as were immediately dependent upon such soldiers and sailors during or within ten years after the expiration of their term of enlistment.

Resolved, That this post urgently requests all posts in the Grand Army of the Republic to take, as soon as may be, similar action to this, to the end that the reproach may be taken away from the Grand Army, viz: that it is a charity-seeking organization and a tool in the hands of the claim agents.

This declaration puts the reform movement on the right basis, and shows conclusively that it is not a measure in opposition to worthy veterans, but, on the contrary, a measure against those who are not worthy. Reputable veterans ought to be the first to drum out the bummers whose names swell the pension rolls, and whose fraudulent pretenses are a reproach upon every patriotic soldier.

A telegram from Washington announces that Senator S. M. White, of California, left on Tuesday for his home at Los Angeles in answer to the demands of his private business. The Senate has not adjourned and probably will not for some weeks come, and it is Mr. White's public business to attend its sessions so long as they shall be held. Either Mr. White should dispose of his private business in a way that would allow him to attend to his public business, or else he should resign his public business and give his whole attention to his private business. There is entirely too much absenteeism on the part of high officials. Senator Stanford has not been in his seat at Washington one day out of six during the past winter. Now, if the state of Senator Stanford's health or the state of his private business is such that he cannot attend to his public duties, then by all means he ought to resign. It is an abuse of a public trust to accept responsibilities like those involved in an election to the Senate, and to neglect them at the call of private interests. If those interests are such that they cannot be neglected, then the Honorable Senator should resign and allow somebody to represent the State and to draw the salary who can sit in his seat and do the work.

Farming in the Year 2000 A. D.

The recent publication of an article in the *North American Review* on "American Farming One Hundred Years Hence," by ex-Secretary of Agriculture Rusk, of which mention was made in the *RURAL PRESS* March 25th, recalls the appearance in the *Overland Monthly* several years since of an imaginative sketch on a similar subject, by Mr. Edward Berwick of Monterey. Mr. Berwick fancied himself to be living in the year 2000 A. D., under the name of a Mr. West, and, by some violent process, to have been "replunged into the cruel vortex of 19th century antagonism and brutality." Awakening from his hideous dream, and being restored to life in the year 2000, he makes an excursion into the country with a Dr. Leete, who instructs him as to conditions surrounding agriculture in the 20th century, and contrasts them with the crude, primitive and unsatisfactory methods in vogue among the semi-barbarians of 1890. Dr. Leete is not able to understand why the prejudice against the farmer's vocation was so marked in the 19th century, resulting in an exodus from the rural districts that overcrowded the cities and left the country almost depopulated. The sanitary conditions and influences surrounding the unfortunate inhabitants of these cities were, says the doctor, unspeakably squalid and malodorous. Says this learned philosopher: "The grime and filth of your back alleys and byways—ay, often of your main avenues and thoroughfares—must have acted as repellents and nauseants to one accustomed to sweet country air. The dense canopies of soot and impure gases overhanging them like a funeral pall were themselves danger signals, warning the unwary that life's most precious possession—health—

was imperiled." The obliging 20th century savant cites a number of instances where miasma and defective sanitation, that might have been avoided by care and intelligence, were fatal. "These abominations," interrupts Mr. West, "were due to that root of all 19th century evils—the greedy grab for money," and he says: "Incredible and monstrous as it may seem to you, there were among our farming communities the same mutual jealousy, suspicion and antagonism that embittered and impeded all other walks of life; the same blind, misdirected, feverish energy, unintelligently overproducing certain staples which had to be sold at unremunerative prices. Some few evaded this curse by the successful substitution of the sweat of some one else's brow; but, as a rule, the farmer and his family were debarred from almost all social recreation, and precluded by excessive fatigue from mental culture at home." Mr. West also refers to the innumerable plagues of beetle and bug, mildew and mold, canker-worm and caterpillar, weather and tax-gatherer by which the farmer was harassed.

The doctor then rejoins in a somewhat contemptuous allusion to the fact that our scientists could barely foretell the weather a few hours ahead and that our farmers looked to birds, insects, and even trees, for intimation of hard winters or early springs. The representatives of the two centuries then seated themselves in a "light, beautifully appointed electric curicle," and made a trip into the country along a smooth, broad, tree-shaded avenue. They crossed lovely streams, over "sculpin-haunted" bridges, passed "snug villas, lawn-begirt and flower-adorned, glorious in their greenery, the ideal of everything home-like and hospitable." The charming vista, the lovely scenery and magnificent fairy palaces of iron and glass and other concomitants to this earthly paradise, are picturesquely described. "How soon, Dr. Leete," asked Mr. West, "shall we reach the farming district?"

"You are now in the heart of it," he replied. Mr. West had apparently expected a very different scene. Then it flashed across him that neither sheep, hog or cow had intruded themselves upon his befuddled vision. The doctor informs him that there is no live stock.

"You have none? Then whence came that juicy cutlet I had for breakfast, savory as the fattest of fat venison fed on the Delectable mountains?"

The doctor gently informed the antiquated aborigine that the advanced people of the 20th century never taste flesh. Said he: "Your morning meal was blood-guiltless. Your juicy cutlet was but a slice from an agaric"—whatever that is. The doctor mildly insinuated that the benighted nations of the preceding century were cannibals, and said that their cooks prepared purely vegetable dishes, "compared to which the rarest flesh-pots of Egypt were but as carrion." "No, the farmer of to-day—and his name is legion, agriculture being by far the most popular of all vocations—performs none of that repulsive and brutalizing labor in connection with live stock which constituted farming in your day." He spoke of the enormous manual labor that made up the greatest part of the ordinary farmer's lot, and compared them with the stalwart frames and ruddy countenances of the later generation. Then he said: "Under our improved dietetic regime, we not only have succeeded in maintaining a population of 30 from the same acreage that fed only one, but we have effectually banished that demon of the 19th century, dyspepsia." The fields and gardens, further explained the good doctor, are fertilized by that endless natural supply, the refuse of cities. When deodorized by dry earth it is delivered by pneumatic transmitters to such lands as need renewing, and there distributed by electric carryalls. Electricity is the favorite mechanical agent of this modern people and is called "the slave of the lamp." The subtle fluid is mainly obtained from that omnipresent and inexhaustible nitrogen mine, the atmosphere. Fields are plowed, seeds are sown, fuel is cut, crops harvested, all by that same swift servitor—magnetic power. Fluvial and tidal forces furnish ample energy for all purposes, so that cold water literally boils our kettle, warms our hands, and even smelts the most refractory ores.

Mr. West then offered a fresh contribution to the doctor's knowledge of the woes and calamities of the miserable dwellers of the preceding century, telling of the codlin moth, the cut-worm, wire-worm, gopher, squirrel, scale-bug, locust and fly, and of the tares which sprang up and choked his wheat.

"What appeared impossible, and was impossible in your chaos of antagonism," replied the doctor, "has become not only possible, but easy, with our system of harmonious co-operation."

He then told how the difficulties under which the ancient agriculturalists labored were abolished by united effort, and how the noxious species of predatory insects were long ago eradicated; how most suitable crops are always planted in best favored places; how distribution is rapid and easy, and has reached a degree of perfection unknown in any previous age. Chemistry, intelligent labor and advantageous use of the "slave of the lamp" have brought about this happy result.

All this profitable and interesting conversation has occurred, while the two friends who sit side by side and talk to each other from the extremes of kalpa of time, are speeding in the electric curicle along a magnificent avenue, through a splendid country adorned by architectural, horticultural, floricultural and agricultural embellishments that surpass the flights of all fancies except the wildest. The various appliances of comfort and refinement to be found within roadside places are inspected and described by Mr. Berwick, who is impersonated by Mr. West. "A glorious sylvan cloister, extending all around the building, rich with the verdure of the tropics, through which flashed the starry wings of strange bright birds, and among whose arches echoed their warbled melodies," was one of the beautiful things presented to the visitor's view. In this Utopia, gardeners are all artists, they have embellished nature and have wrought by tender care and exquisite taste a marvel of horticultural perfection.

The doctor then told how sordidness and selfishness have been abolished by rapid psychical evolution, and the word

money is never heard of, and its substance never thought of. This admirable type of twentieth century culture, Dr. Leete, says in conclusion of California, which he has just visited (the main scene is in Massachusetts):

"After your nineteenth century experience," said he, "you can have no conception of the glories of that American paradise. All your visions of vine and fig-tree, of myrtle and palm and orange, your grapes of Eshcol and clusters of Mamre, are belittled by the Edenic reality. Blossom-clad rose-fields for perfume, hills purpled with wealth of the vine, terraces silvered with olives, or gold with the orange's glow, plains where the peach and pear shared the bounteous soil with the prune, mountain sides where the racy apple stored up the sun's kisses for winter. No more dread of draught, as in your day, no more crying of a parched earth to a pitiless sky, but intelligent man, working in happy harmony with bounteous nature; the State overspread with a network of waterways, wealth-bearing, life-giving, making even the deserts kind and hospitable, and the barren hillside a fruitful grove. All this and more, because man has, after centuries of strife and antagonism, learned at least the wisdom and policy of mutual help; a lesson long taught him by the practical socialism of the ant, the bee, and even that type of unenvied malice the wasp."

Repair of Roads.

James McPherson thus writes to the Oroville Register:

"As a first principle in fixing roads, it must always be borne in mind that no good results can be accomplished without a thorough system of drainage, as a poor road, if kept free from water, will stand a great deal more traffic than a better one allowed to be in a constant wet state. When holes are to be repaired they should always be picked around in a square form, the object being to prevent the material put in from slipping out. No round gravel should be used in filling up, as it will not bind together, but push out. Neither should rock be put into holes and then broken. It should be broken first and then put in, all soft matter having been previously scraped out, so as to have a dry, firm surface to work on; then some fine gravel thrown on top to cause it to bind firmly together. In some districts where gravel is used for road-repairing, it is all broken up into sizes of one, one and a half and two inches, and used according to requirement, and not all different sizes in one place.

"A cheap way of making permanent roads in Butte county would be as follows: Have, say, ten feet of the working part of the road composed of broken rock six inches deep all over, and the sides plowed into that, and good, substantial water runs put in at the sides. As I do not know what the cost of providing the material would be, perhaps those who are interested in the maintenance of roads can calculate, as there will be considerable difference in different localities. A road made so would be much easier kept in repair, and cheaper in the end than those made by plowing alone."

Premiums at the State Fair.

The executive committee and premium list committee of the State Board of Agriculture have made the following changes for the year 1893 in the premium list:

In the premiums for thoroughbreds the rule requiring registration was adopted.

Class 7 (premiums for horses of all work) was stricken out, and a new class for coach-horses substituted.

Class 12, for draft-horses other than Normans, Percherons, etc., was stricken out, the committee being of the opinion that standard classes only of draft-horses should be encouraged.

Dairy prizes for butter test were offered for all classes of cattle, as follows: For the cow three years old and over making the most butter in a three days' test on the fair grounds, \$40; for the second best, \$25.

The pavilion premium list was amended to only a limited extent. The sum of \$2,000 was appropriated for premiums for county exhibits, and the first premium placed at \$500.

Ontario Lemons.

A southern California correspondent writes that he does not think our report of the Colton Citrus Fair does full credit to the lemon display of J. W. Freeman of Ontario. It is true that the list of awards gives Mr. Freeman first prizes both for display and quality, while our report gives chief mention of the fruit of another exhibitor. We presume the statement was given as the impression of our representative at the fair, and was not intended to reflect at all upon Mr. Freeman's display. Mr. Freeman is a new accession to the ranks of citrus fruit-growers, and he begins with the commendable determination to excel. He is naturally encouraged at his success on his first appearance as an exhibitor, for it is creditable to capture awards both for style and quality. This achievement will aid him considerably in popularizing his fruit—an enterprise which he proposes to pursue.

Shorthorns.

Attention is called to the advertisement in another column of P. H. Murphy, Perkins, Sacramento county. Mr. Murphy is offering for sale highly-bred bulls from 8 to 20 months old. Those who are looking for stock of this class will do well to correspond with him.

MR. W. A. SHAFOR of Middletown, Butler county, Ohio, one of the largest importers of Oxford Down sheep, has just returned from England where he has been selecting and purchasing a choice lot of show sheep to supply the season's demand on this side. Mr. Shafor will sail for England again about the first of May to bring over his stock. Those who are desirous of introducing thoroughbreds and breeding up their flocks, should correspond at once for particulars and get their orders in before he sails.

Gleanings.

THERE is a scarcity of hay in Modoc county.

OTAY is taking steps to procure sufficient funds to start a sugar plant.

THE Mount Shasta Fruit Association has decided to incorporate. And still the good work goes on!

THE Amedee Geyser has begun its second volume. The Geyser is a first-class spouter for the interests of Amedee.

THE close season for trout expired March 31st at midnight, and the speckled beauties may be fished for with impunity, also with a hook and line.

THE largest watermelon last year was from Capistrano, Orange county. Its weight was 150 pounds; circumference, 4 feet 9 inches by 5 feet 6 inches.

THE interior press is engaged in a controversy as to who is the oldest man in the State. So far, Grandpa David McCoy, living at West Redlands, seems to be in the lead. He is 103 years of age.

APPLES from northern California are retailing in Los Angeles at six cents per pound—over \$3 per bushel. A good apple orchard in the foothill or mountain region, would be worth as much as the best orange grove in the State.

"A ROLL OF BUTTER must henceforth weigh 32 ounces, not 26 or 28, or the seller and maker may be convicted of misdemeanor. Now if there was some way of putting a cord of wood into a cord of wood, the job would be complete," says the Hanford Sentinel.

A WELL-KNOWN FIREMAN recently died in San Francisco, and one of the local papers spoke of the post-mortem obsequies as "His Last Alarm." This is a little indelicate, to say the least. Might just as well have alluded to things to come as "His Last Fire."

THE Governor has appointed the following as the State Veterinary Medical Board under the act passed by the last Legislature: W. F. Egan, San Francisco; R. A. Archibald, Sacramento; R. F. Whittlesy, Los Angeles; Thomas Maclay, Petaluma; W. B. Roland, Pasadena.

THE proposition to establish a cannery at San Jacinto is making excellent headway. It is proposed to place the maximum capitalization at \$30,000, ten per cent to be paid in at once, and ten per cent at the beginning of the canning season for the purchase of supplies, etc.

AND NOW TRAVER is advertising the starting of a cannery. The movement is State-wide. A recent article in the RURAL PRESS by Mr. George Ohleyer of Yuba City on "How One Cannery Was Started" has been extensively reprinted by our exchanges. It tells how the cannery at Yuba has been successful.

THE man who never reads the papers sent \$1 East a few days ago to get instructions from a party who proposed to tell him how to raise beets for that price. The reply has been received. It is short and sweet and straight to the point. It says: "Take hold of the tops and pull hard enough."

IN SPITE of the very cold winter just beginning to let go in the Eastern States, it is claimed that most of the fruit buds are uninjured. It has generally been taught that when the mercury goes to 12 or 15 degrees below zero in the Mississippi valley and along the Atlantic Coast, it is good-bye to the peach crop at least, if not also to apples, pears and plums.

THE total eclipse of the sun of April 16th will be one of the longest of the century, maximum duration of totality of four minutes and forty-six seconds. The totality commences in the southern Pacific, enters Chili in 29 degrees south latitude, passes northeasterly across South America and the Atlantic, enters Africa in 14 degrees north latitude, and leaves the earth in the interior of northern Africa. Astronomers from many nations will observe the sight.

THE champion liar has been located at last, says an exchange. He resides at Ferrus Falls, Minn., and is connected with the editorial staff of the Journal of that place. A recent issue of that paper says that a farmer of that place raised one thousand bushels of popcorn this year and stored it in a barn. The barn caught fire, the corn began to pop and filled a ten-acre field. An old mare in a neighboring pasture had defective eyesight, saw the corn, thought it was snow, and laid down and froze to death.

"THE most important thing to do in Tulare county," says Major C. J. Berry, "is to protect the young trees from sunburn. The following wash should be used for that purpose: One pound whale-oil soap mixed with one gallon of water; add whitening enough to make a thick whitewash (do not use lime) and dab it on the body of the trees from the fork to the ground. This wash should be put on all trees in the first part of April. If a late rain should come and wash it off, the trees should be painted with the wash again, as it is cheap and efficacious."

THE Marysville Appeal tells this story: "It is related of General Grant, that while engaged in an animated argument with Mrs. John A. Logan on one occasion, he opened his cigar-case, offered her a cigar and took one himself. He lit his own and proceeded with the discussion. Mrs. Logan quietly accepted one, too, but secreted it without attracting attention." Singular that Mrs. Logan should have been guilty of so gross a violation of smokers' ethics! No gentlemen will accept a cigar from another and not light it in his presence. The conclusion is plain that Mrs. Logan is no gentleman.

SENATOR STANFORD, says the Stanford Palo Alto, has an only brother living in Australia. He is a younger man than the Senator, but, like him, he is a many times millionaire who accumulated all his own great wealth. T. W. Stanford is a bachelor and a staunch believer in spiritualism. He has lived in Australia since 1852, where he began his money-making career about the same time that his brother was laying the foundation of his great fortune on this coast. At his home in Melbourne he has a very fine large collection of oil paintings.

A MINOR HEIR of a great California estate is in a woful state of mind. The courts have just refused to increase his allowance of \$1000 per month. The poverty-afflicted young man already fancies he hears the wolf howling and scratching at his door. Among his items of expense is \$125 per month for three rooms at the Palace hotel, and \$175 per month for two private tutors. Alackaday! These be hard, hard times. Let the rest of us all thank the propitious fates which did not doom us to a mournful existence of unspeakable worry, striving to make both ends meet on a paltry \$12,000 per year.

The Minnesota Chief.

Messrs. Robert Brand & Co., at 521-525 Third St., Oakland, have a large force of skilled mechanics employed at their factory building the justly celebrated "Minnesota Chief" threshing machines and self-feeders. They report a steadily increasing demand for this make of thresher, due, no doubt, to its superior separating and cleaning capacity, which threshing-machine men generally admit. The firm do a general repairing business of threshing machines and agricultural engines, also keep extras in stock. See advertisement elsewhere.

A YOUNG MAN who has good city references desires to secure a place on a fruit farm where he can work by the year and get a full knowledge of the business. He is used to handling horses and is a strong capable young man. Any reader who has a place for such a man can get into correspondence with him by addressing this office.

The Apple in California.

The "King of the Temperate" Zones as a Source of Profit—Best Methods of Culture.

In recent issues the RURAL PRESS has given much attention to the achievements of one king of fruits, the orange. It is proper to remember the prowess of another pomological potentate, the apple. And we take up the trumpet in praise of this old king of temperate zone fruits with all the more zest because a paragraph which we published some weeks ago, upon "a neglected fruit," has attracted considerable attention and prompted many inquiries.

With reference to the parts of the State suited to the growth of the apple and the exposures and soils which give best results, Wickson's "California Fruits," which has a long chapter on this fruit, gives the following:

Localities for the Apple.—Speaking generally, it may be laid down that the great valleys of the interior are not well suited to the apple. Of course some varieties will do well enough to warrant planting them in family orchards, or for local sale, and in the early regions of the Sacramento valley and foot-hills there is some profit in the better early varieties for shipment to the territories and beyond, as will be shown, but this demand would not call for large planting. In the great valley and lower foot-hill region of the State the apple usually lacks character and keeping quality. On the great plains it is liable to sunburn, or sunblight, as it is called. Some varieties, because of the character of their foliage, are less liable to this injury than others, and it is possible that this evil may be finally overcome by the selection of varieties with blight-proof foliage, as will be mentioned later. In the great valley, however, on the rich river-bottom land of the Sacramento and the San Joaquin and its tributaries, the apple roots deeply, attains good size, bears good fruit, with fair keeping quality, while but a few miles away on the plains it would be inferior. In the interior, the region of adaptation to the apple lies at an elevation on the foot-hills, on both the east and west rims of the great valley. Its limits are not well defined, but there are flourishing orchards at an elevation of about 4500 feet on the slopes of the Sierra Nevada mountains, and from 2000 to 3500 feet is commonly regarded the best apple region of the mountains. The trees attain large size and bear heavily, and the fruit, of well-adapted varieties, is large, crisp and juicy, and has exceptional keeping qualities. Along the coast the apple succeeds well from end to end of the State. There is a certain advantage in elevation in the coast region as well as in the interior, but the advantage is not so marked nor is the required elevation so great. Coast valleys in the upper portion of the State, where the soil is suitable, produce most excellent apples, but even here the hillsides with deep, well-drained soils are, perhaps, preferable to the floors of the valley. As you depart from immediate coast influences and approach the interior, with its greater heat and aridity, the greater elevation becomes desirable. The apple, excepting the very early varieties, does not relish the forcing heat which brings such perfection to the peach, but to insure it late ripening and long keeping, with accompanying crispness, juiciness and flavor, it must have atmospheric surroundings which favor slower development. Localities for apple growing in southern California are to be chosen with much the same rules as in the upper parts of the State. As has already been said, valleys in which coast conditions largely predominate produce good apples on suitable soils, but away from the coast proper, elevations must be sought, and they should be above the so-called thermal or frostless belts. Good apples are grown on the low lands near the coast in Los Angeles county. Sixty miles inland, in San Bernardino and San Diego counties, winter apples fail in the valleys, but are most excellent at a sufficient elevation upon the slopes of the surrounding mountains.

Exposures for the Apple.—The choice of exposure for an apple orchard may almost be inferred from what has been said about localities. In region with high summer temperature the apple will do best on cool, northerly slopes, and this exposure becomes doubly desirable when the location has high temperature with only moderate annual rainfall, or where the soil is not well adapted to the retention of moisture. With such prevailing conditions the apple will be grateful for the cooler air and the greater moisture of the northerly slope. Where the temperature is moderately cool and the rainfall adequate, the matter of exposure is of less account, and the grower can make the existence of the best soil the test of location of his orchard. At elevations on the sides of high ranges where the cold storms are liable to rush down from higher snow-fields, protection from the usual course of such storms, or from the course of cold winds generally, must be sought; and directly upon the coast, especially in the northern part of the State, in certain places where the peach does not usually succeed, even the apple may need protection, and the benefit of all heat available, and then a southerly or southeastern exposure becomes desirable. The choice of exposure is thus seen to be largely a local question and to be determined by a knowledge of local conditions. A new-comer in a region can best learn these conditions by conference with older residents, or by personal observation of older orchards.

Soils for the Apple.—Experience with the apple in California confirms what has long been set forth as its choice of soils in older regions. If one avoid an extremely light, sandy soil on the one hand, and a very stiff clay or adobe on the other, he may plant apples on almost any soil which allows extension of the roots to a considerable depth without reaching standing water. The apple thrives in a moist soil, but it must be well-drained, naturally or otherwise. A soil which may be called best for the apple is a deep, rich, moist, calcareous loam, but the tree will thrive on coarser materials. A comparatively shallow soil, even clay underlaid by gravel, has been shown to be good, and it is claimed that an apple root as thick as a man's wrist has

been found 28 feet below the surface in a gravel subsoil in this State. A subsoil of loose rock has also supported good apple trees, and the roots have taken wide lateral extension instead of depth. There seems, however, to be no exception to the rule that the subsoil, whatever its nature, must be sound and open to the passage of moisture. The most unfavorable condition of the tree is a subsoil of clay which holds water.—California Fruits and How To Grow Them, pages 225 et seq.

Planting, Pruning, etc.—Be sure you have good trees, with strong, clean roots to begin with. For a family orchard, trees of three years or more growth can be safely moved, and have fruit right along. For the orchard, good strong trees, one year from bud or graft, are best. Twenty to twenty-five feet each way is near enough to plant, and often thirty feet or more is better. Be careful not to set your trees too deep.

As to pruning, I have no arbitrary rules, except I want my trees branched near the ground. After planting, cut your tree off twenty inches to two feet above the ground. Use your judgment about the number of branches to let grow, but keep the tree well balanced, so as not to grow too much one-sided. Cut back enough to keep the branches strong, and trust a good deal to nature to make a good tree after getting a start in the way a tree should grow. If you are going to put a two-story top on your tree, do so at once, or as soon as the body will be strong enough to carry it. Cut the branches well back, or the first heavy crop of fruit will either break or bend the branches down all around the body of your beautiful tree.—O. N. Cadwell, Carpinteria.

Pruning must be done with reference to the characteristic growth of different varieties. Suppose the tree to be Yellow Newtown Pippin, Red Astrachan or any similar variety having a decided tendency to shoot up in long, slender canes, then if we commence on the north side of the tree, and see two limbs crowding or pressing against each other, or there are more of them than the tree can support, laden heavily with fruit, then remove the one or ones which stand nearest vertical; and even then much shortening in and removal of vertical branches is needed. But on the south, southeast and southwest side, if a limb is to be taken off, leave the ones which shade the trunk and south side of the tree best, for upon them the life of the tree depends; for if they are removed, or none grew upon the south or southwest, and the prevailing winds be from the south, together with extra weight of limbs on north side, the tree will lean to the north, and the hot sun will strike the trunk, or even the exposed limbs, and scald the bark and sap, and the borers will attack it and destroy the tree if not quickly removed. This is not mere hypothesis, or even theory, but our actual experience and observation. All of this may be avoided by planting a tree that has been headed low, say 16 inches, more or less, and thus force limbs out on the south side, where they are "shy" or of uncertain growth in California.

If the tree is a Bellflower or Fall Pippin, or even a Rhode Island Greening, or any similar tree, then the pruning should be exactly the reverse of the above (except the reference to low heading and shading on the south side), and the horizontal limbs should be removed, notwithstanding they are the first to bear in a young orchard. As to the place where a limb should be sawed or cut, viz., near the little rim or collar of bark close to where the limb joins the tree or main trunk.—H. J. Dennison, Ventura county.

Is Apple Growing Profitable?—This question was brought up during a recent discussion by the State Horticultural Society. Mr. Senator DeLong, of Marin county, a large grower of this fruit, was asked the question, "Is it profitable or can the growth of apples be made profitable in this State?" His answer was: "Yes, if you grow good apples." After a careful consideration of the subject, I cordially indorse that reply to the question. There is every reason to expect good prices for good apples, as many as can be produced, for a long time to come, and when it is considered that a good apple orchard well cared for may last and bear fruit for fifty years or more, it must be apparent that apple growing in this State will be profitable if we can grow good good apples.

In selecting varieties of the apple for market fruit he would take but five or six varieties, and for commercial purposes he would plant no apple ripening before the end of August. The very early apples have to compete with summer fruits, and generally get the worst of it. In certain localities early apples will pay and they are now sold for eastern shipment in the Sacramento valley and foothills.

For an early apple, then, in his experience in a late region, he would consider the Gravenstein early enough and would plant no Astrachan or Early Harvest. He considered the four best varieties for keeping and shipping to be as follows: Yellow Newton Pippin, Esopus Spitzenberg, White Winter Pearmain and Winesap. The last-named apple, he said, according to his observation, produced and kept well if grown on unirrigated ground, and would stand shipping around the world. He mentioned Twekesbury Winter Blush as keeping to June 1st. Being asked concerning the shipment of apples to Australia, Mr. DeLong said he chose apples fit to pick in September. As to varieties which are rather uncertain to ship such a distance, he mentioned the Gravenstein, the Pennock, and Roxbury Russets as sometimes good and sometimes bad. Of the russets he had 500 boxes go through well one year and 400 spoil the next year.

Milton Thomas of Los Angeles, gives the following on the profitability of the apple: Apples can be produced a greater distance from market than any other fruits. An apple orchard planted 25 feet apart contains to the acre 69 trees. Now, these trees, well taken care of at the age of six years, should produce 50 pounds to each tree, and when eight years old 100 pounds per tree, and at ten years 150 pounds. Now every year after that for a long time to come the tree will yield more apples each year. I have gathered 300 pounds from trees ten years old. A tree ten years old should pay at least \$1 to the tree. Prices of apples being low, I am purposely making the profits smaller than I

think they should be. I do not approve of exaggerated reports going out to the public in regard to the profits of fruit-raising. I think it is better to underestimate. The facts are good enough.

Choice Varieties of the Apple.—In addition to what has been incidentally said of varieties, the following may be given:

I will commence at summer apples, naming the best of summer, then fall and winter apples. Red Astrachan and Early Harvest; these two varieties will last from four to six weeks. Then early fall and fall apples are Gravenstein, Skinner's Pippin, Fall Pippin, R. I. Greening, Yellow Bellflower, Smith's Cider, Jonathan and Ben Davis. For winter apples, White Winter Pearmain, Yellow Newtown Pippin, and in some localities, the Baldwin. For market, Red Astrachan, Gravenstein, R. I. Greening, Bellflower, Jonathan, Ben Davis, W. W. Pearmain and Yellow Newtown Pippin. It would be worse than folly to have any more varieties. This list gives a succession of fruit from July until March. Now I was requested to give the names of the best 25 varieties of apples. I could give 25 or 50 best varieties, but I will not do any such thing, for it is not to the interest of any one to spoil or waste his land in planting out so many varieties of apples.—Milton Thomas.

The yellow Newtown Pippin is the best apple that grows for shipping; the Red-cheeked Pippin is a good shipper; the Spitzenbergs that will ship are a splendid shipping apple; the Smith Cider will ship well; the Winesap, also, is a good shipper; the No. 2 White Winter Pearmain if picked while just so green that it will not wilt, will probably ship well; the Swaar will ship well if it is picked a little green, that is just when the seeds commence to turn black; the Northern Spy is a good shipper if picked a little green, but after it has ripened up it will not do to ship; the Jonathan is a good apple to ship; the Roxbury Russet, if it can be picked just so green that it will not wilt—if it can be shipped immediately—it is all right, but if you have got to keep it it won't do to ship, it must be shipped immediately; the Gravenstein will not ship; they are a poor carrier; the Summer Pearmain will not ship; I wouldn't advise the shipping of the No. 1 White Winter Pearmain, as the probabilities are that they will turn mealy when they ripen. These remarks are with reference to long shipment by sea, as, for instance, to Australia. For rail shipment to the territories the Astrachans, the Gravenstein and Skinner's seedling reach market early, and are very profitable when grown in early fruit regions.

FRUIT MARKETING.

How Santa Clara Fruit-Growers Find Good Markets.

The last meeting of the State Horticultural Society Friday, March 31st, devoted its time to the discussion of the methods and achievements of the Santa Clara fruit growers Col. Philo Hersey, president of the new Santa Clara Fruit Exchange, and Mr. E. F. Adams, manager, were the principal speakers, and told a number of very interesting things in connection with the West Side Fruit Association, a local organization, and the larger and more general exchange. The meeting was well attended. Mr. Adams spoke as follows:

"I do not wish to discuss the question of 'How we can co-operate in marketing fruit.' In my paper, read at the last meeting, I said what I have to say on that topic, and Col. Hersey, who is now here, is much better equipped than I for continuing the discussion; but I introduced into the topic set for discussion to-day the words 'how far' we can co-operate for the purpose of saying 'thereon a few things which both Col. Hersey and myself think highly important to be understood at the outset, but which might not happen to occur to him to-day.

"There are certain limitations to co-operation imposed by those habits and conveniences of business which we call the 'laws of trade'; if we try to break through them, we shall go to smash. For example, we cannot sell our fruit directly to consumers, which everybody can see, and we cannot sell our dried fruit to retailers, which many farmers do not see; not that we have any objection to sell fruits to any one, but simply that the classes mentioned are not so situated as to conveniently deal with us. Our market for dried fruits is with the wholesale grocers, and our market for green fruits is, except in the auction cities, with the jobbers of green fruits. Citrus fruits may be sold for spot cash f. o. b. California, but I do not think deciduous fruits ever can be sold here. We must study the natural channels of trade in each line of our business, doing for ourselves the work which is now done for us by others, as far as we can profitably do it, and then bidding it God speed in the hands of those to whom we deliver it. Dried fruit for the wholesale trade must be collected and graded just as it now is, but the growers are entirely competent to do that work for themselves, and should do so. When so graded and prepared, it is ready for sale to the jobbing trade. This is now done by the so-called commission houses, but their services are entirely unnecessary, and should be dispensed with; we are competent to sell these goods, and should do so. When the jobbing trade gets them we have done with them. These are the limitations in the dried fruit trade on this side; on the other side we are limited by the intelligence of growers; they must direct the general plan of work of their business just as they do of their farms. If they are incompetent to oversee their directors, they are likely to be deceived, either by their own directors or by others, who may persuade them that the directors are misleading them. Our first and most important work, therefore, after organizing is to make sure that the very simple methods of the business are so thoroughly understood by all growers that they will naturally keep a careful oversight of their own business, direct the general lines of policy, and choose directors able and willing to carry them out.

"These are the principal limits of co-operation which I

have in mind, and within these limits we can co-operate not only in selling in established markets, but in opening new markets. We shall do well if the stockholders push their business, but if the directors have to drag the stockholders it will go hard; hence I repeat it is not so necessary to exhort the growers to co-operate as to show them how to co-operate. As soon as they know how they will do it."

Col. Hersey spoke without formality, and as he said, without preparation. He said:

"There has been no more opportune time for growers of fruit to co-operate than at present. While in the past we have had fair crops and fine machinery for marketing them, this year the yield of our deciduous fruits, if we have a good average crop, will be very nearly double what it has been in the past. The question is, therefore, what are we going to do with this great surplus over previous years. If no method is at once provided to regulate and market this output, we are going to throw upon those managing the marketing business a great flood of fruit that they will not be able advantageously to dispose of, and they will be embarrassed and hampered in their efforts to get reasonable prices. No one wants to place them in this position. Union is necessary to concentrate the product and to furnish those individual growers who are pressed for money, and who may be induced to make injudicious sales, with means to maintain them during the season, and thereby to keep the market steady.

"In Santa Clara county, if the crop is what may be deemed good, there will be an output of from twelve to fifteen million pounds of prunes, in excess of former years. I will confine my remarks largely to prunes. The processes of growing and marketing prunes are such that the largest part of our 1500 growers must pick and dry the fruit, going no further than that, leaving all the rest to the packers. We have found that in every large California product the conditions are such that, without union and intelligent combination in its distribution and sale, there has been a surplus very difficult to dispose of at a profit. When there has been a large yield in grains, wines and raisins, for instance, buyers have come in from everywhere, made their offers to the individual growers, and the result has been great loss. Each individual, realizing the congested condition of the market, has disposed of his output at cut prices. His dealings have been directly with the buyer, and he has attempted to act independently, and he has suffered severely. In Santa Clara county we recognized the influences that had surrounded these growers, and we decided to unite on such a basis that each grower would say, 'We will pool our issues, and we will each take the average price for the season and be satisfied.' The one thing necessary to secure such combination is to get the common assent of intelligent men, who will agree to abide by results; to secure the best available men for the management of their allied interests, and to supply them with authority and means to carry out the common purposes of the association.

"Our 1500 growers in Santa Clara county, if a good crop comes to them, will produce this year 1700 carloads of prunes, an excess of 600 carloads, or 12,000,000 pounds greater than any crop heretofore produced in this county, or 8,000,000 more than previously produced in the State. Even with this gigantic yield, only one-half the available acreage in Santa Clara valley is in bearing. The necessity of co-operation is therefore clearly manifest in several ways. If we are going to have no union of forces, and there is going to be independent and individual action, or if a squabble among growers arises, dealers and not producers are going to settle the question of prices. The business will settle down into the usual channels of trade with unsatisfactory results, and we are certain to have a period of dullness lasting several years. The Santa Clara Fruit Exchange now has 300 members and we expect to have 500 altogether. These men who have been competitors with each other, are now partners. Their interests are mutual, the success of all means the success of each, and the advantage of one is the advantage of the others. Now, the main thing that these stockholders in our organization want to know is whether we can be successful. There is no reason why we cannot. We know men of ordinary capacity succeed in business, and there is no reason, therefore, why the ordinary rancher cannot safely manage in his own business, having every possible incentive to be successful. All should feel an interest in success. Our people have that feeling, and they have confidence in us, because co-operation heretofore has been successful. When the West Side Fruit Association was first organized, about 75 growers met and decided to co-operate. That was year before last. But notwithstanding this comparatively large membership, only 18 or 20 had sufficient confidence in us to market their fruit through us. But, when the others, who wanted from \$40 to \$45 per ton, finally got \$25 offered, they concluded that it might be a good thing to place confidence in the association. When we got through a year ago last fall, we paid all of our expenses, eight per cent on all money subscribed, and divided \$37.50 per ton amongst those subscribers who marketed through the association. The difference between \$25 and \$37.50 was sufficient to indicate to other growers that our method might be worth trying, and last year about 35 out of 75 decided to reach the markets through our method. Owing to the small crop, we dried and sold only about 26 carloads of prunes. As a result of the season's work and after deducting 8 per cent for payment as dividends on all stock, and setting aside \$2.38 per green ton as a sort of sinking fund, we distributed \$87.50 per ton among the growers. Now, everybody has confidence. Because of these results, they think that the business of drying and marketing through their own agents can be conducted on a prudent and intelligent plan. Thirty outside persons, representing more than 1200 acres of prunes, and from 4000 to 5000 tons, want to come into the West Side Association. The spirit of co-operation is in our people. They trust in the good faith, intelligence and fidelity of those they select to manage their business. We have set forth as a declaration of principles, that growers may come in at any time. We will advance them from 50 to 75 per cent of the market price on their green fruit.

Or, if they do not like that method, they may prepare the fruit themselves, deposit it with us, sell it to anyone they please, and we charge them only storage. Some opposition to our methods has been manifested by men who have been buying and drying green fruit, and who think that we interfere with them. They say we are trying to handle all the business. We are not. We want these men to co-operate with us, store with us and work with us. There is plenty of room for all. Their interests are ours. They are beginning to find it out, for one of the big packers has recently taken stock with us. We are trying to unite all interests, and we seem to be succeeding.

"What are we going to do for the money, you ask? In the Santa Clara Fruit Exchange, we are going to get \$25,000.00. That amount will buy land, and build our buildings, construct a side-track for a railroad, and leave from five to eight thousand dollars as working capital. The bank people assure us that if we conduct the business as we have in the past we can have what money we want. Last year, in the West Side Exchange, the volume of our business was about \$50,000.00. On a borrowed capital of about \$4,000, of which we used \$800 in improvements, we paid interest on the money and cancelled the debt in a reasonable time. So the demand for advances by growers who deposit with us is not great. What producers want to know, is, as to the trustworthiness and faithfulness of the concern and to feel that they are able to get money if they want it. If the Santa Clara Fruit Exchange can start with a working capital of \$25,000 (and we think it can,) it can get \$25,000 more credit, and can, upon this amount, transact business aggregating in volume from three to four hundred thousand dollars, without difficulty. Another feature of the concern that should be mentioned, is, that if the manager has not tact, genius and ability enough to manage its affairs advantageously, he can easily call from his associates among the stockholders men of intelligence and information. There may be men among them who are as bright, or brighter than the manager, and he has the advantage, at all times, of their advice and instruction."

Col. Hersey, announcing that he desired questions to be asked by those seeking more specific information as to the methods of the exchange, was interrupted by frequent inquiries from members of the society. Responding to an inquiry as to whether or not the fruit exchange intends to establish a fixed price upon fruits, Col. Hersey stated that the price would be settled only for a certain period; but it was liable to change any moment by the managers to meet changing conditions. No attempt will be made to establish an arbitrary price to remain for the entire season at all hazards and under all circumstances.

Q. "Suppose a commission man, who belongs to the association, uses the prerogative he undoubtedly has of selling prunes for 11 cents when the association price is 12, what can you do to meet his cut prices, and how can you discipline him?"

Col. Hersey: "We shall be in a position to give him an everlasting 'sidewinder' if he does. The difference between growers and buyers, is that the farmer's fruit costs nothing in actual money. The dealer must pay a fixed price and make a money investment. Where growers so largely predominate over buyers, as in our organization, they are stronger and are at an advantage in forcing the buyer to meet their requirements. If commission men join our association under the impression that they can beat us at our own scheme and undersell us one-eighth of a cent, they will find that we can change the price just as soon as they. We do not propose in an unbusiness-like way to put a 'cinch' price on prunes. We only want to steady the market through conflicting and changing conditions for the benefit of both buyer and seller."

Q. "How do you obtain data for fixing the price?"

Col. Hersey: "We propose to have as manager someone whose business it will be to obtain the most accurate information from all reliable sources as to conditions in all places, and to have the best possible knowledge obtainable in relation to the output. Then to take into consideration the consumption, the cost and method of distribution of the product, the circumstances and necessities of our own and other producers, the history of production and marketing in the past, and to adjust the price to all these conditions. Two years ago, before organization on the part of our growers, they sold their prunes for four and three-quarter cents. I have been assured by eastern buyers that market conditions were such that the fruit should have brought six cents, and there was no necessity to sell a single pound for less than that amount. Buyers saw growers tumbling over each other in their anxiety to sell, and they bought practically at their own prices. They dealt with the growers independently, and they were able to buy for what they chose to give. With reliable information as to circumstances and influences surrounding the crop and the market, I am sure we can fix the price at something near what it ought to be, and at which the buyer will be satisfied and confident. When we control from four to five hundred carloads of the total output, we ought certainly to be able to say something about the price. We know what it costs to raise prunes, and we know when we are making a profit or loss. There is another conclusion that our experience has forced upon my mind. We cannot successfully co-operate in a State institution until we have begun with localities. The ordinary fruit-rancher is cautious about placing the disposition of his product out of his sight and reach. He wants to see how it is marketed. If we are to establish a State institution, we will find that it will be necessary to gain the confidence of all our members. If we can work successfully in localities, I think we will find that we can reach a State organization much sooner."

Mr. Adams, interrupted to say: "No considerable number of people will deliver their business to a State exchange out of their reach. It has been difficult enough to induce them to place their business in the hands of their neighbors, men whom they know. It might be, hereafter, that farmers will trust those who have been successful at home to establish relations with, and to market their fruit through, a State organization. I am very much in earnest

in the wish that organization begin first in localities. The people living in a neighborhood can organize. They can affiliate with others in similar organizations, and then they can establish relations with a general association."

Q. "What provisions have you made for an 'off' year? Suppose there is some sort of a calamity, and there is a small crop, and prices go up and buyers go directly to growers and offer fancy prices. It may appear to the grower that there is no need of an exchange."

Col. Hersey: "This same condition occurred last year. There was a small crop and high prices. The experience growers have had in marketing their own products has been too recent to be forgotten. It has been a lesson to them. It is well to co-operate, and they know it. To cite an instance of the working of our exchange: One grower, living 20 rods from our packing establishment, was offered \$52.50 per ton for 70 tons of prunes, to haul three and a half miles. He accepted the offer, made the haul, and afterward found that he could have realized \$2600 more on his crop if he had marketed at his door through the association. The \$2600 represents a difference in his receipts which he realized would have been very acceptable to him. The lesson was a dear one, but it has been well learned. Nothing succeeds like success. There are certain calamity howlers, however, who still refuse to go into the exchange. One I have in mind, an excellent man and a large grower, says that prune-growers are planting so much that they will swamp the market with their immense output. He stays out, he says, because he wants the crash to come as soon as possible. It may be that this gentleman feels a little bit more easy, in view of his gloomy prognostications, than the rest of us might, because he is a lawyer and is able to charge a \$500 or \$2000 fee whenever he feels the need of money. The rest of us are just plain fruit-growers, and have no such desirable resources. The lawyer grower says his fruit is so good that he can, under any circumstances, get a half a cent a pound more than the rest of us; that is, if we get four cents he gets four and a half. I asked him the other day if he did not think it was a mighty good thing for us to co-operate and get six cents, and then he would get six and a half. He replied that, taking that view of it, probably it was."

Q. "Do you intend to make the price of prunes on the same principle that freight charges are said to be made, 'all the traffic will stand'?"

Col. Hersey: "No, we do not fix the price at what we think we ought to have, but what we think we will be able to get. I might call to your attention the instance of the citrus fruit growers, who worked on the principle that they ought to have so much money for their fruit. They do not seem to me to have taken into consideration all the conditions that surrounded the market. Their California output was 6000 carloads, but they failed to take that into consideration. They asked what they wanted at the beginning of the season; but I think they are finding that they must take what they can get. I should be slow to establish a price at the beginning of the season. There should be no idea of 'combine' prices, to be quoted at the beginning of the season, and to be stuck to under all circumstances, on the principle that you will either make or break. We allow to our stockholders the utmost liberty of action. When one wants to sell, he sells; another wants to hold, and he holds. We estimate that these things will average themselves through the season. We want most that the grower should have confidence in us and allow us to close out the fruit when we think best, letting each shareholder share and share alike."

Q. "Suppose an individual grower brings fruit to you, and wants to deposit it on individual account. Do you guarantee a sale?"

Col. Hersey: "In such case, it must come to us all prepared to sell. We give him a receipt and sell subject to the usual charges."

At the conclusion of Col. Hersey's address, ex-State Senator L. W. Buck, Manager of the California Fruit Union, was called upon for a few remarks. "Incorporation has done more for the fruit growers of California than all other things put together," said he. "If you have co-operation and concentration you can fix the price at about what it should be. By concentration of a large portion of the fruit in any locality, you can become an important factor in the control of the market. The things that enable the price thus to be fixed are to know what you have yourself, and to be informed as to the visible supply that will come into competition with your product. Local corporations are very essential and profitable in more ways than one, and until there is thorough local co-operation in this State, fruit-growers will find many places where the sledding is hard. What is true of the dried fruit is more than true of green. The latter must be sold at certain times; the former can be sold almost when the owner chooses. At the fruit association at Florin, Sacramento county, I believe I am safe in saying that fruit growers have received twice as much since incorporation as they did before, and that, too, when prices for grapes would otherwise have been less than now. Instead of 30 to 35 cents for grapes, they have received from 75 to \$1.50."

Mr. I. A. Wilcox, referring to the old California Dried Fruit Association, said that the organization failed for a special reason, because its management was placed in the hands of a party who had other business. "Heretofore," continued Mr. Wilcox, "somebody has skimmed our milk for us, but now we propose to get milk and cream both if we can."

At the conclusion of the addresses, the following resolution was adopted:

Resolved That the thanks of the State Horticultural Society be extended to Col. Philo Hersey and E. F. Adams for their attendance and explicit explanation of the plans and purposes of the Santa Clara Fruit Exchange. We conceive that the success of that institution will be one of the most important factors in the future prosperity of the California fruit industries, and to that end we express our fullest interest and sympathy with the movement.

REPORT OF CITRUS FRUIT COMMITTEE.

The Citrus Fruit Committee reported as follows: "Your committee appointed for the purpose of investigat-

ing the 'California scale for judging citrus fruits' as adopted by the State Fruit Growers' Convention, held in San Jose November 15th to 18th, 1892, beg leave to report as follows: We have made a thorough and critical examination of said 'scale,' and in our judgment found it well adapted for the purposes intended—that of judging citrus fruits grown in California. In accordance with the wishes expressed by this society, your committee presented this report to the Executive Committee of the California Citrus Fair Association for the purpose of securing the indorsement of that association. The Executive Committee after due consideration referred the matter to a committee of three, consisting of B. N. Rowley, J. K. O'Brien and Wm. B. Gester, with instructions to bring the matter before the Citrus Fair Association at its annual meeting in March. After due consideration that committee recommended the adoption of this scale at their annual meeting, which was held in Sacramento, Saturday, March 25th, 1893.

"The matter was discussed, and by resolution the 'California scale' for judging citrus fruits was unanimously adopted, and will hereafter be used by that association at all fairs and exhibitions where citrus fruits are entered for competition and premiums. Your committee further reports that this 'scale' was submitted to the judges of awards at the late citrus fair, Messrs. A. W. Porter, David E. Allison and J. G. Wetmore, who are of the unanimous opinion that the labor and difficulty now experienced in classifying, judging, and rendering decisions upon competitive citrus fruits at exhibitions would be rendered less difficult and the awarding of premiums made much more satisfactory by the use of this scale, and they unhesitatingly recommend its general adoption.

"Your committee further reports that the Southern California Citrus Association and the executive officers of the late citrus fair have adopted this scale, and are unanimous in their opinion as to the beneficial results in judging and passing upon the merits of citrus fruits. Respectfully submitted, B. N. Rowley, Fred C. Miles. San Francisco, March 31, 1893."

During the regular proceedings of the session, members of the society from various parts of the interior were asked as to fruit prospects. Mr. S. J. Stabler said he had been in various parts of Butte, Yuba and Sutter counties and had himself examined a great many hundred acres of orchards. Every tree of every variety was in healthy condition, and prunes were particularly fine. Apricots, however, were falling off. On one orchard of 45 acres one-half the bloom of Blenheim, Royal and other varieties was on the ground and was seared and yellow. Part of the remaining bloom dropped at the touch. Such as stayed on the tree was healthy. There will be a fair crop.

E. F. Adams had been in the Santa Cruz mountains. "The fruit," said he, "is crowded into the middle of the tree and is blossoming clear to the end of the new wood. Prunes are very vigorous and are a month earlier than usual. There has been a snow-storm, as well as rains, but they have done no damage. In Santa Clara county all fruits are doing well, except Moorpark apricots."

Mr. J. C. Shinn said that he had about the same report to make from Alameda county. Apricots had a tendency to be light. Pears and prunes were heavy and cherries apparently good. The early-blossoming almonds were fairly set. It is too early for peaches to be in full bloom.

Mr. Leonard Coates reported that, so far as he could judge, apricots and almonds would be light in Napa county.

Mr. I. A. Wilcox said that pears were flourishing in Santa Clara county.

Mr. A. L. Bancroft found almonds in satisfactory bloom in Contra Costa county.

From Yolo county Mr. Edgar Depue said everything was favorable, so far as he had observed. Blooms were very full in the young orchards, perhaps too full. Near Woodland, apricots are thrifty.

Mr. W. H. Pepper, of Sonoma, reported that it was too early to make a definite statement as to his county. The trees were just coming into bloom.

HORTICULTURE.

Mountain Fruit Ranches.

TO THE EDITOR:—Within quite a few years several fruit ranches of different sizes have been opened up in the mountains of El Dorado county, at an elevation of from 2000 to 5000 feet above sea level. These ranches vary in size from a few dozen trees to three and four thousand, while in a few years some of them will number upwards of ten and twelve thousand trees to the ranch.

Generally speaking, most of these new ranches were originally timbered with a thickset growth of yellow pine, fir, spruce, cedar, sugar pine and other coniferous trees, while in the canyons and mountain meadows maple, dogwood, alder, willow, hazel, etc., abounded. This land is extremely hard to clear, but once deprived of its pristine growth, it is then very valuable land.

Some very fair samples of mountain fruit ranches may be found three miles northeast of Placerville. Located there are the La Rue, Turner and Irving fruit ranches. The owners of the above-mentioned ranches are very enterprising and progressive men and their ranches have a look of thrift and prosperity.

The soil here, and in fact a great per cent of the soil of the Sierras, is a brownish red volcanic soil, which darkens when it is wet but never bakes. The underbottom is lava and other volcanic rocks. This soil is very light in tillage and remarkably free from clods or hard lumps of any kind when cultivating.

At the La Rue ranch we found that his specialty was the growing of the French prune, and here this celebrated fruit grows to perfection. Mr. La Rue, in the near future, contemplates planting about 4000 more trees of this variety. He also has the Hungarian, Silver and Fallenburg prunes,

which do well. Nowhere in California have I observed trees of the Hungarian prunes that had made such a growth as last season here, and the fruit was of the largest size and intensely highly colored. Mr. La Rue has several varieties of apples, peaches, plums, cherries, etc., all of which do exceedingly well. He tried an experiment 12 acres of field corn. This latter did not turn out quite as well as he expected, but still did first rate. A small nursery of choice trees was partly established last spring, including apple, peach, pear and French prunes. Strawberries do well, and Mr. La Rue has several patches, including the Jessie, Monarch of the West and Mitchell's Early. Buckwheat also flourishes in its glory here—in fact, I was surprised to see how well it did on lava soil.

At Mr. Turner's ranch we find that he too believes that the different varieties of prunes are the fruit that will attain their greatest perfection at that altitude. Mr. Turner believes in planting not less than 1000 trees of one variety, for if the fruit is desirable and worth raising why not raise enough of it to encourage fruit buyers and shippers? Mr. Turner raises at his place the Petite de Agen, Robe de Sergeant and, as soon as possible, will have at least 1000 trees of the Tragedy prune. He has the finest young Bartlett pear orchard that I have observed in El Dorado county. The trees have been well taken care of and well pruned, so as to carry a good load of fruit, and are very symmetrical in appearance. There are 750 trees in his pear orchard, and they are about four years old. There is quite a peach orchard on the Turner ranch, principally Orange Cling and Early Crawford. As an experiment he is trying the Royal and Peach Apricots. This altitude is no doubt too high for successful apricot culture. Among the apples grown at this ranch may be mentioned the Baldwin, Gravenstein, R. I. Greening, Arkansas Black, Mammoth Black Twig, Delaware Red Winter, etc. There are also growing on the place, and doing well, olives, Japanese persimmons, several varieties of strawberries, raspberries, red and black currants; also quite a nursery of peach, pear and apple trees. All varieties of vegetables do exceedingly well and give very satisfactory returns.

Mr. S. L. Turner's ranch is known as the "Boa Vista" Ranch. We must not forget to mention the superior peach plums grown here, which are a very successful crop, rarely missing a single season. These plums are of good size and very brilliantly colored.

At the ranch of J. G. Irving the trees and plants were in splendid condition. The principal fruit grown here seemed to be peaches, although he has a number of apple, pear and French prune trees which have not yet commenced bearing. He cultivates quite a patch of strawberries, principally the Monarch of the West and Mitchell's Early. There is also quite a patch of raspberries and blackberries, all of which had made a very thrifty growth. The foreign varieties of grapes do well here (altitude about 2200 feet) and are very large in size, of an exquisite flavor and sugary sweetness; alfalfa also does splendidly.

The view of the surrounding country from the Irving ranch cannot be surpassed. To the east the frozen summits of the Sierras loom up, white as crystal silver, against the eastern horizon, while in the immediate foreground dark, interminable forests of pine, spruce and fir rise up in countless spires from every ridge top.

Summing up the good qualities of this favored land, we may mention sublime scenery, delightful climate, the best of water and unrivaled land for the growing of highly flavored and superior fruits.

Grizzly Flats, April 2, 1893.

S. L. WATKINS.

Oranges in Northern California.

TO THE EDITOR:—The pioneer settlers of Sonoma county were few and far between. They were mostly from Missouri and the States north of the Ohio river. Grazing cattle and growing grain naturally engrossed their attention. They were unaccustomed to other kinds of fruit-growing than apple orchards and the like. It never entered their minds that the rarest and finest of European grapes would grow in the open air, or that oranges might be raised in perfection. In a vague sort of way these hardy frontiersmen knew that citrus fruits came from the West Indies or across the ocean. The fragrant smell of lemon peel, it is true, some of them had sniffed when tarrying at St. Louis or had seen the fruit at confectioners' windows before they crossed the plains. That they might be planted and grown anywhere in California was a suggestion too ridiculous for consideration. Nevertheless, at a few points in the State settled by the Jesuit explorers, long before, there were vines and citrus fruits in a small way. Few were informed or cared to pattern after the thrifty habits of these enterprising fathers. There was little in common between the trappers and bullwhackers and the missionaries. Their red-tiled churches and gardens were avoided, as the devil stands clear of holy water. Possibly they felt no call to cultivate closer relations, or there was a spice of jealousy at the bottom. At any rate, the border-men built themselves huts on the vast ranges convenient to their cattle, and troubled themselves little with other pursuits. A few scraggy apple trees, brought all the way from Oregon, yet bear witness to the forethought of some careful land-owner who tried to make home comfortable. Beyond such attempts, it is not believed that the first 20 years after the advent of Americans, in 1842, saw the planting of a dozen orange trees north of the bay of San Francisco. Then a few were planted in boxes for ornament, and, when they bore fruit, were pointed out as curiosities. J. A. Kleiser at Cloverdale, General Vallejo at Sonoma and possibly others ventured to plant in the lawn and orchard. At the present day these matured trees are laden with great crops of the golden fruit. Many other residents of Sonoma county—T. L. Harris, James Shaw, the Carrigers and perhaps 50 others—have long since had orange trees in full bearing.

The warmest localities, favored with a light soil of sandy loam, are the best for their growth. The grafted sorts usually bear when quite small, like the Navel and Mediterranean. In the foothills, at a slight elevation, they seem

to succeed best, though we know of one tree 15 years old growing in the garden of Judge Overton, at Santa Rosa, out in the plain from the foothills and in comparatively stiff soil, that has borne for the past five years. For a few winters it was necessary to protect the tree with branches until it became hardy.

The degree of cold which an orange tree will stand is considerable. We have seen the leaves frozen as stiff as a sheet of tin without the slightest injury, provided the rays of the morning sun were shaded from the tree. At that time the thermometer marked 18° above zero, which does not often happen here. Lemons are a trifle more tender. The grapevine is uninjured by any temperature we have, unless in the spring when the young tendrils are sometimes nipped.

There are thousands of acres of cheap lands in Sonoma county better for fruit-growing at from \$20 to \$50 an acre than the higher-priced lands of the valley. Each mountain range, almost every curve in the undulations of the foothills, can show nooks especially adapted for orchards. There are broad expanses of sandy, rolling lands about Sebastopol, in the redwoods along Russian river, about Sonoma, Santa Rosa, Cloverdale, Healdsburg, Glen Ellen, Forestville, where oranges, olives, prunes and all semi-tropical fruits are grown in perfection. The ranches owned by T. L. Harris and Capt. Gross, near Santa Rosa, the Italian-Swiss colony near Cloverdale, at the ranches of James Shaw and Capt. Drummond, Glen Ellen, and on the places of Gen. Vallejo and the Carriger estate, Sonoma, are examples, selected from many others, of the profit and beauty of such orchards. Other counties no better favored by nature are making rapid steps to the front in these industries. The late citrus fair held at Cloverdale proved that the exhibit from that vicinity, 50 miles north of the bay of San Francisco, was equally as good as any ever made in the State for size and quality. Lands are certainly cheap here, and Sonoma county is near the world's market, adjoining San Francisco.

J. B. A. Cloverdale, April 3, 1893.

New Orchards in Kern County.

A partial list of new orchards planted in Kern county the past season is thus given by the *Californian*:

English Colony.—Earl of Gosford, 350 acres, peaches, prunes, vines; Lord Clifben, 250 acres, peaches, prunes, vines; Union Avenue Colony, 150 acres, various fruits and vines.

Rosedale.—A. W. Hansen, 20 acres, raisins, fruit; F. Kneeling, 60 acres, raisins, apricots, peaches; F. S. Ashton, 5 acres, pears, apricots; W. Coltsworth, 50 acres, raisins, pears, apricots; R. Milvie, 17 acres, raisins, pears, prunes, peaches; F. S. Caldwell, 18 acres, raisins, apricots, prunes; H. S. Ashton, 5 acres, pears, apricots; N. Harris, 35 acres, raisins, pears, apricots, peaches; — Jopson, 20 acres, raisins, pears, apricots, peaches; J. E. Dothrie, 24 acres, peaches, raisins; R. P. Brown, 40 acres, pears, apricots, peaches, raisins; J. H. Batterett, 50 acres, raisins, peaches; W. H. Farquarson, 14 acres, peaches, apricots; C. Kehr, 35 acres, prunes, apricots, peaches; Hunt Bros., 350 acres, pears, apricots, prunes, peaches; — Roach, 65 acres, pears, apricots, prunes, peaches; — Valentine, 80 acres, pears, apricots, prunes, peaches; R. & T. Grovenor, 15 acres, raisins, peaches; James Osborne, 35 acres, raisins, apricots, peaches.

Mountain View.—O. D. Kincaid, 40 acres, orchard fruit; H. R. Freear, 40 acres, orchard fruit.

This gives a total of 1759 acres in this small area of the county, and this would be largely increased if the list for the whole county was complete.

Land Values in Italy.

H. B. Lockwood, of San Francisco, sends to the *River-side Press* extracts from a letter recently received from a relative now resident in an unimportant Italian town of some 3000 population. As showing values of similar bare lands elsewhere, it should prove instructive to such parties as are continually exclaiming against what they are pleased to term the "high prices" asked for lands in California.

The portion of the letter referred to reads as follows:

"Property here is very valuable. Good land on which grapes, olives and roses can be grown, sells for 250 francs a metre, rather more than \$2000 per acre. I was never more astonished in my life than to go the other morning to see some land that was offered for sale, and to be told that it could not be bought for less than \$2000 per acre. We, Vernon and I, expressed our surprise at the price, when the owner said: 'Very well, you can, if you want the property, pay any price fixed by three experts that will pay you eight per cent on your money, net, and I will guarantee it will be more than I ask.' It only goes to show what land in southern California will be worth in time.

Spraying Codlin Moth and Pear Scab.

The Horticultural Commissioners of Sonoma county, at a recent meeting, unanimously agreed that trees affected by root knot should be dug up and destroyed. The board reports that the prospects for fruit are very good. The cool, damp weather made the season somewhat later than usual, but the trees examined in various parts of the country show the fruit buds well set, and with close attention and careful spraying a full crop may be expected.

For spraying for the codlin moth and fungus, or pear scab, the board recommended a reduced formula as follows: 30 pounds of lime, 20 pounds of sulphur, 15 pounds of salt to 100 gallons of water, add one-half pound of Paris green dissolved in aqua ammonia. Apply in cool, foggy days about the time the bloom drops. Don't spray when the north wind blows or in the middle of the day if the sun shines; in the first case, the spray will dry too quickly to be of service, and in the last, the hot sun may cause the Paris green to destroy the tender fruit. The antidote for fungus is sulphur; arsenic poisons are required to kill the codlin moth. There are only a few days that the

moth can be reached. The spraying must be done while the young fruit is still upright on its stem; when it once droops downward it is too late to reach the larvae, which, once hatched out, makes its way inside and is beyond the reach of the spray.

By using the above mixture, scale missed in previous spraying may be killed, the tree stimulated to do its best, and a paying crop is expected.

THE FIELD.

Test the Soils for Hops.

"In answer to the query of a Sonoma county hopgrower, who desired to know why it was that hops grown in different localities have different values, P. Carroll of Nicolaus, Sutter county, writes as follows to the Sacramento News:

The only answer that can at present be given your Sonoma county correspondent is that conditions differ in many respects in the various hop-growing districts of the world. Climatic conditions have, of course, a good deal to do with the existing state of affairs, but it seems strange to me that with such an important industry as the growing of hops on the Pacific Coast, or confine it to California alone, no more attention has been given to the subject by the State Agricultural Society.

"What is particularly needed is an intelligent and careful investigation and analysis of the various soils of the country where hops are grown, followed up by a comparison of the results. The writer has tried to get the hopgrowers of this section to select a sample of the various soils and send them to Professor Hilgard of the State University at Berkeley, but up to the present time his efforts have been in vain.

"The science of chemistry has already been invoked to prove that our methods of curing and packing are almost perfect, certainly so where the hops are cleanly picked and placed in the kilns. But with all our care in these regards it is evident the Bavarian and some English hops are richer in those attributes which go to make up a perfect hop, and it is to enable us to supply the deficiency that an analysis of the various soils is necessary.

"If you will give this matter a space in your hop department it is likely that others will take up the subject and the discussion will be of advantage to all. The analysis of foreign soils need not be hard to accomplish, as a request from the Agricultural Department at Washington to our foreign counsels will bring us just what we want.

"These reports when submitted would enable Professor Hilgard to compare them with his own reports of the chemical formation of our native soils, and would also enable him to tell us to a fraction how much of this or that chemical manure is necessary to bring our soil up to the standard nature has given the Bavarians and English growers to enable them to produce hops of a quality that are superior to ours, no matter what care we used in our picking, packing and curing.

If the local hopgrowers would just take hold of this idea and expand so as to suit all, they would find they could accomplish a great amount of good for themselves and their neighbors without being out of pocket more than the necessary postage stamps and express charges. The results would be immense and a little judicious correspondence with the State Board of Agriculture would make that august body pay a little more attention to this important subject, and in the end the entire Pacific Coast would be benefited, and the growers may in due course of time find their hops as valuable in the markets of the world as are the foreign hops at the present time.

"Just reflect for a moment and you will be able to see what a great thing that would be for Sacramento county alone!"

Cost of Hay Production.

A writer in the Vacaville Reporter disputes the accuracy of figures given by a Contra Costa farmer and republished from an exchange in the RURAL PRESS, as to the cost of hay production. The Contra Costa estimate was as follows:

Rent of land per ton.....	\$1 25
Cultivating, cost of seed and putting in.....	1 25
Cutting, raking and stacking.....	1 25
Pressing (which cannot be reduced).....	2 00
Hauling to landing or warehouse.....	1 25

Cost at the landing.....	\$7 00
Now add freight, \$1.25 or more, and commissions and other expenses 50 cents.....	1 75

And you have.....\$8 75

Says the Reporter:

"We disagree entirely with the conclusions of the writer. At \$10 per ton in this locality, baled hay does not pay the production. We will take land worth \$25 per acre—a low rate. A rent of \$2.50 per acre, ten per cent of the price of the land, is not more than enough to pay interest, taxes and the cost of fencing. At this rate of rental the cost per ton on land averaging what it will produce in this section, about a ton, is about as follows:

Rent.....	\$ 2 50
Plowing.....	1 75
Seed.....	1 30
Harrowing (twice).....	36
Cutting and stacking.....	1 25
Baling.....	2 40
Hauling.....	1 00

Total.....\$10 56

"Some of the ranchers of this valley think they pay extortionate rates when they are asked to pay \$10 per ton for baled hay. If the showing is no better on land worth \$25 per acre, what do they think they save when they raise hay on land worth from \$250 to \$300 per acre."

After all, the cost of hay production depends upon the kind of hay, the soil, and the method of cultivation. The cost varies. No estimate will hold for all places and all varieties.

THE STOCK YARD.

What I Saw in the San Joaquin Valley.

TO THE EDITOR:—During the month of March I took a trip through the San Joaquin valley, traveling southward by the west side and returning by way of Fresno and Lathrop. I made my first stop at Newman, a new and apparently thriving village, situated in a fertile part of the country, largely under irrigation and alfalfa. On arrival I was at once driven to the stock farm of Wm. H. Howard, Esq., of San Mateo, where I found a herd of Shorthorn cattle, kept chiefly with a view to furnishing a supply of good bulls for use on his stock ranch, about 12 miles distant and situated in the foothills of the Coast Range, where I spent the night and a part of the following day.

Devon bulls are now being used on the range cattle, which are mostly high-grade Shorthorns. The object in crossing with the Devon is to produce an animal of rather smaller size and finer bone, with an increase in activity peculiar to the latter breed, which fits them for adaptability to rough and hilly pastures. Mr. Howard having been breeding his own bulls for several years, his cattle had become in-bred to a greater or less extent. The above cross has also for its object the introduction of the new blood necessary to prevent constitutional deterioration through too much in-breeding.

After a limited amount of the Devon blood has been introduced the cows will be bred to Shorthorn bulls again.

After leaving Newman I stopped all night at Mendota, not from choice, however, but because the train for Armona did not go from there till next morning. There was an advantage in the forced delay, which gave me an opportunity of making the whole of the journey by daylight, by a slow train, and seeing a country quite new to me. While there is a vast area of desert-looking country, containing a large proportion of alkali land, through which we traveled, the area of irrigated alfalfa land seems to be on the increase, apparently, from year to year, and there are many miles of new irrigation ditches being made and the adjoining land leveled and checked up into proper shape for flooding with water.

In traveling as far west as Pleasant Valley, some 10 miles west of Huron, and afterwards to Visalia, I saw only short pastures and, with rare exceptions, poor cattle—a class of cattle inferior in quality as well as poor in condition. It is all well enough to talk of dairy cows being "wedge-shaped" from wide hind quarters to narrow shoulders, yet these may be too narrow and thin, indicating a delicate constitution, which should at all times be guarded against, in cattle bred for any purpose. Much less do we want that other wedge-shape too frequently seen among cattle—a big belly and a sharp back. When the wedge-shape comes both ways it makes an unsightly and unthrifty looking beast. Avoid this and breed for wide hind quarters, broad loins and round ribs, with a good thickness through the heart. There will then be room for the vital organs, and an animal that will make good use of the food consumed. While the roomy belly is a necessity in a dairy cow, it answers the purpose equally as well if carried beneath a broad back.

Although there had been rather more than the average rainfall in all the country through which I traveled, the season had been and still was cold, and vegetation of all kinds backward. There were some sharp frosts about the middle of March, freezing hard enough to form ice on small pools of water, consequently the ground was cold and altogether unfavorable for rapid growth. After the frost there was more heavy rain; this in turn was followed by a few warm days, during which the alfalfa and barley made such rapid growth as was surprising to one used to the cooler climate of the coast counties.

I was told by several stockmen that it had been the hardest season for wintering cattle they had experienced for many years, and it was, as far as I had opportunity of seeing, only such cattle as had had some hay fed to them, or those that were on lightly stocked alfalfa pastures, that were in really good condition.

From one herd, wintered in the latter manner, I saw some barren Shorthorn heifers, that weighed 1200 to 1300 pounds each, which sold at three cents a pound, live weight; also a number of large veal calves, at an average age of less than five months, that realized over \$11 each at the above price per pound. At the same time I saw a lot of 20 head, mixed-bred ones—there was certainly no good breeding about them—from yearlings up, sold for \$8.50 each. Evidently, in this case, there was fault in both the breeding and the feeding, or, rather, the want of it.

If these cattle had been allowed to suck their dams, as they probably were, and sold off when weaned, they would have made fully as much money when five months old as they did at an average age of 25 months, thus showing a waste of 20 months' keep on pasture, besides loss of time, labor and money.

While at Hanford I was the guest of Mr. Vincent E. Hill and his sister, Miss Hill, whose hospitality I enjoyed for several days. This gave me an opportunity of seeing and knowing something more of the surrounding country than I could have done by simply passing through it as a stranger.

Hanford is a thriving town, and there are at present some large brick buildings being put up, including an opera house, which is the largest building in the place. It is apparently the business center of a very large population of agriculturists, if I may form an opinion from the large number of farmers' vehicles of almost every description that daily throng the sides of the streets and crowd up, in double file, the long lines of hitching-bars that are placed along the main street.

Just outside of the town is a cheese factory in successful operation. The cheese is bought up as fast as made. At present "Young Americas" are being made. Ninety cents per 100 lbs. is being paid for milk delivered at the factory. Hanford does not lack competition in the town

milk supply, which comes from three different dairies, twice a day.

About half the milk comes from the Durham dairy, owned by V. E. Hill. The dairy is rightly named, all the cows kept by Mr. Hill being Shorthorns. Several of them are giving five to six gallons of milk a day and all of them, except one, came from the herd of R. Ashburner of Baden, San Mateo county, or were got by bulls bred by him, who, as most of your readers that are interested in good cattle know, has been breeding milking Shorthorns in this State for the last 25 years. The herd is one of the oldest and one of very few that have been persistently kept up through all the changes that have taken place during that time.

Mr. Hill's cows have no grain feed in any shape, only hay and the alfalfa pasture, yet they are in better flesh than any other cows I saw, notwithstanding the large quantity of milk some of them have been giving.

HAY MAKING.

Mr. Hill's first crop of hay was about equal parts of alfalfa and "foxtail" grass. He called my attention to the fact that the cows gave more milk on this hay than they did on the clean alfalfa hay made from the following crops, attributing the beneficial influence to the foxtail, which had been cut quite young, was stacked green and had heated in the stack till a portion of it was brown, or "mow-burnt." This the cows ate with avidity, picking out the browned portions first in preference to that at the sides of the stack, which still green. On comparing this hay with that of the following crops, which was all alfalfa, I found that the latter had been allowed to stand too long before it was cut for making good cow hay to be used for the production of milk. Had the second crop alfalfa been anywhere near of as young a growth as that in the first crop, I cannot but think that its use would have given as good results in the production of milk. For that reason the increased flow obtained when using the earlier cut hay may, with some show of reason, be attributed to its nearer similarity to grass in its natural state.

We all know that the nearer grass in the pasture approaches to maturity the less milk it will produce, therefore the nearer we can have hay in assimilative qualities to that of the succulent and nutritious grasses, the better will be the results obtained in the dairy.

NOTES ON THE SHORTHORNS.

Returning to the cows in Mr. Hill's herd, I find Fidget 8th still in milk and growing fat, looking as if she may be worth noticing in the cow class at the coming State fair, as she did last year in the milking class, but for which she will not calve in time to compete in at the next fair. There are, however, two or three more of the Baden-bred cows to calve about the right time, and should the Shorthorn Breeders' Association's premiums be offered again at our State fair there will no doubt be some lively competition for them. Fidget 11th is at present one of the best cows, being wide, deep and lengthy, standing on very short legs and giving fully 40 pounds of milk a day, she is in all respects a typical Shorthorn cow. Her sire was Baden Duke 34408, so long and successfully used in the Baden Farm Herd, from which she came, in calf to Baron Oxford 10172, the produce of this union being the bull "Lucerne Duke," that has been for some time used in the herd. He was second prize two-year-old bull at the last State fair, when he "had come right off the lucerne pasture."

Some of your readers may possibly remember that, as being reported of him then by

YOUR OWN CORRESPONDENT.

Sore-Eyed Pigs.

TO THE EDITOR:—I have lost many pigs this winter by their going blind with sore eyes. They were also covered, especially about the head, with dry, rough sores or lumps. I was much pleased when a man told me, a few weeks ago, that he cured his hogs of the same disease by starving them to drink bluestone water strong enough to look milky. I have tried it, and am satisfied of its great worth. When water came in the ditch so that I could not compel them to drink the bluestone water, I persuaded them to drink it by putting bran in it. Have it the proper strength and they will suck at it very mannerly, and you have the pleasure of seeing a pig not eat hogishly until you almost pity him. I have kept it where they can run to it for about three weeks, so it is not dangerous. But this man (I don't know his name) said his sows drank of it, and, though he kept them two years, they would not have pigs. H. E. DYE.

Raising Hogs.

The improved breeds of swine are now so universally introduced that cross-breeding and the breeding of any but pure-bred sires is not practical or profitable. If we have only grade sows, grade them on up to pure-bred boars of the same breed, and if we have pure-bred sows of a good, uniform type, why cross them with any other breed? After the first cross, no advantage is gained, even with the crossing of two pure breeds, which are better bred pure. The strong constitution is maintained by introducing new sires of the same breed. All of our breeds of swine are now so much alike in size and model, that nothing is gained by crossing the breeds. Let us breed for the model form, early maturity and good constitution—the breed of our choice—and maintain the uniform type that commands the best price.—Western Agriculturist.

A Straw-Stack Stable.

In grain-growing localities the cheapest and most comfortable stable for stock is made by building the straw-stack at the threshing time on a platform supported by posts standing about ten feet above the barnyard level. The posts may be made lower if it is calculated to throw out the manure. Left to run over it at will, cattle, horses and sheep will trample down a good deal of straw, which, with their droppings, will make an excellent manure. The

trampling will keep it from heating to any great extent, and the liquid excrement will also be saved. When thrown out in spring, the manure will accumulate to a depth of three or four feet. The stable straw-stack may be indefinitely extended by putting other posts near the stack, and covering with straw the spaces between them. No man who has plenty of straw need let cattle suffer from cold. Exclude the outside cold, and the internal heat from breathing and from food will keep animals warm.—American Cultivator.

Feed with Regularity.

With all stock or poultry, regularity in feeding is an important item in securing the best gain in proportion to the amount of food supplied, says the *Marysville Democrat*. This is of more importance when stock depend upon what feed is given to them than when at least a portion of their food is secured from the pastures.

The times of feeding should be divided as equally as possible. If they are fed twice a day feed reasonably early in the morning, and in the evening a good plan is to feed what is fed first in the morning first in the evening; with the exception of the work teams, it is not usually necessary to feed more than twice a day, but care should be taken to give it at regular hours and in regular quantities. It is poor economy to fill the racks full of hay or fodder, and then let them pick it over until it is gone, and then feed again. Regularity in quantity is of as much importance as in hours of supplying when a regular grain is supplied. Whenever they fail to get their feed they will fret, and, if their appetites are not satisfied and they fret, they are losing what must be made up again. It is the looking after the details that largely determines the profits, and feeding regularly is an item of detail in management to be looked after.

To Prevent Spread of Infectious Diseases.

The following law relative to spread of infectious diseases among domestic animals was passed by the late Legislature:

Section 1. Any person or persons, company or corporation, owning or having possession or control of any animal affected by any contagious or infectious disease, who shall fail to keep the same within an inclosure, or herd the same in some place where they will be secure from contact with other animals of like kind not so affected, or who shall suffer such infected animals to be driven on the public highway or to range where they will be likely to come in contact with other animals not so affected, shall be guilty of a misdemeanor, and, on conviction, punished by a fine of not more than \$500 for each offense.

Sec. 2. This Act shall take effect immediately.

Extra Feed for Young Pigs.

There is no better feed for pigs than milk. After a litter is two weeks old, the sow never gives all that they require, and we can generally begin to feed them earlier than that. If enough skim-milk cannot be had, make an oatmeal porridge to add to it, adding small quantities of linseed meal, which will keep the pigs sleeker looking than any other feed, besides greatly assisting their growth.

THE DAIRY.

The Economics of Dairying.

The following are extracts from an address of Prof. J. W. Robertson, Dairy Commissioner of Canada, at Owego, N. Y.:

Dairy farming will enable the farmers to enrich their soils with an increased store of plant food while getting a good living for themselves and those dependent upon them; hence it is a most economical method of farming. Of the many elements essential to the growth of plants probably only three are becoming scarce in their necessary supply for the profitable growth of crops. These three are nitrogen, phosphoric acid and potash. The following table, which shows the proportionate quantities of these elements which are removed in one ton each of the ordinary crops of the farm, may have interest and be of service to you:

	NITROGEN, PHOSPHORIC ACID AND POTASH IN ONE TON EACH.		
	Nitrogen, lbs.	Phosphoric Acid, lbs.	Potash, lbs.
Wheat.....	41.6	15.6	10.4
Burley.....	32	15.4	9
Oats.....	38.4	12.4	8.8
Peas.....	70.6	17.2	19.6
Beans.....	81.6	23.8	26.2
Indian corn.....	32	11.8	7.4
Hay.....	31	8.2	26.4
Clover.....	39.4	11.2	36.8
Potatoes.....	6.8	3.2	11.4
Fat cattle—alive.....	50	31.2	2.8
Fat sheep—alive.....	44	22.6	2.8
Fat swine—alive.....	34.8	14.6	2
Cheese.....	93	23	5
Milk.....	10.2	3.4	3
Fine butter.....	5	....	....

Corn is one of the most economical fodder plants which can be grown by a dairy farmer. To secure the largest amount of feeding value per acre, it is necessary that the crop should be grown in such a way that each plant will have sufficient leaf room to obtain the largest possible degree of substance from the atmosphere and the soil. Cornstalks which grow too close together take on a sickly, pale appearance, which hinders their vigorous feeding. They become ill-nourished, like the waifs crowded into tenement dens without adequate sunlight and enough fresh air. Give your cornstalks abundance of leaf room; that is to them what elbow room and the chance to make the most of one's self on this broad and bountiful continent is to its free citizens. When planted in rows or in hills three feet apart more feeding substance can be obtained per acre in most sections than when sown broadcast. It is economical to put on a liberal dressing of barnyard manure.

I find the proportion of nubbins and ears on the manured part of a field to be 23 as against 7 on the part of the field not manured. Besides, in the former case the corn will ripen in from a week to ten days earlier. I do not find much appreciable difference in the yield per acre from corn grown in rows 3 feet, 4 feet or 5 feet apart. However, for the economical and advantageous cultivation of the soil I would prefer a distance of from 3 feet to 3½ feet. For the making of sweet-smelling and well-preserved ensilage I have found it to be economical to allow the corn to wilt in the fields for one or two days after cutting. It may then be drawn direct to the silo. A thorough tramping in the corners and around the sides will prevent nearly all waste. For a covering on top I prefer a thickness of two feet of straw to planks or other more cumbersome contrivances.

It will now be in place to present a few thoughts on the economical methods of keeping cows. A good deal of undeserved abuse has been heaped at the so-called general-purpose cow. Much as the general-purpose cow has suffered at the pens and tongues of her critics, she has suffered still more in the stable at the hands of her owner. If the owner of a so-called general-purpose cow would be specific in his own thinking over his plans for and his treatment of the animal, he would find many cows which can be kept economically and profitably for milk, for calves and for beef. I do not think that dairymen should seek for milk and beef in the same animal at the same time, but they may keep such a herd of dairy cows that they will realize a large flow of milk and find a number of animals salable for beef from the same herd at the same time. It will help a farmer to an economical appreciation of the relation which the cow sustains to his business if he will regard her as a boarder. She boards at his expense, and it is his part of the business to see that her board is paid for in full. Indifference to the individual performance of each cow in a herd is no more excusable in the case of a man who keeps a cow boarding-house than it would be in the case of a man who keeps a man boarding-house. By watching the individuality of the animal, by testing her milk once or twice a week to discover its quality and quantity, a dairyman can soon find out the class of boarders which it will pay best to feed. The Hon. Thomas Ballantyne, of Stratford, Ont., mentioned in my hearing a few weeks ago that in his stables there was one cow which gave last year over 12,000 pounds of milk. He had another cow which yielded over 11,000 pounds. These results have been reached by selection and good feeding. To assist the ordinary farmer in selecting dairy cows of large producing capacity let me cite a few of the more important points in the appearance of a good dairy cow. I put them in their relative order of merit. First of all a cow should have a strong constitution, which would be indicated in most cases by plenitude of hair and long rump, and by firmness of her muscles. The principal points I would mention are: A long udder, quite elastic in its quality and of such a structure that it will shrink to a comparatively small size after the cow has been milked and may be extended to an enormous size before the milk has been drawn. Length of attachment or connection between the udder and the body is a most desirable point. The longer the line of attachment is the better it is. The next point of importance to be looked at is the skin of the animal, which should be mellow, movable and covered with fine soft hair. The skin is a particular and indispensable organ of digestion. The skin which covers the lips and passes down the throat, being continued, becomes the lining of the inside of the stomach. The quality and condition of the skin on the outside of the animals' body will very materially affect and act upon the condition of the inside of the stomach. The barrel of the cow should be roomy, with flat ribs very wide apart. The cow should have broad loins with long rumps. This quality will indicate large milking capacity, and will also give form to her calves, which will specially adapt them in many cases for being fattened as steers. A rather long, lean neck, with a clean-cut face and prominent eyes, indicate a temperament which can stand the strain of a long milking season. If you find these five points in a cow, she will usually have the power of paying for her board and leaving a profit for her owner.

Selecting a Cow.

The good points of a good cow are not her good looks. She may not be and probably is not very good looking except to the eye of an experienced dairyman. She certainly is not fat while giving milk, and to be a really good cow she should never be long time enough between the times of milk-giving to fatten. She will most likely have a large paunch, giving her a somewhat "pot-bellied" look after she has filled herself. Something cannot come from nothing, and we never knew a cow giving large messes of good milk which was not a ravenous feeder. Hence her digestion must be good. She should have a broad chest, indicating large lungs. There is no good digestion without good lung power. She should be "deep" from the back down to the belly, but with a thin and rather flat neck. The skin of most good cows is of velvety texture, and looks as if it had been groomed for several generations, as in most breeds of the best cows it has. The good cow is, indeed, less an accident than a product. With good material from which to breed, the good farmer can make sure of nearly heifer calf he gets.—American Cultivator.

Co operative Creameries.

In response to several correspondents lately, asking about the same questions concerning the advisability of joining a creamery company to build and operate a co-operative creamery, we repeat in substance what we have several times said heretofore.

1. Where one owns a herd of twenty Jersey cows, it will pay him better to buy a hand separator, fit up a good dairy house, and hire a good butter-maker to run his dairy, than it will to send his milk to a creamery, unless he gets cash for his milk.

2. If a man owns ten good Jersey cows, and is a good

butter-maker himself, or has a good butter-maker, it will pay him better to make his own butter than to join a co-operative creamery. If, in addition, he is a good feeder and has business tact enough to make a market for his butter, it will pay him to buy a separator for his ten cows and fix up his dairy with a first-class churn and butter press.

3. Whether a creamery, co-operative or otherwise, is advisable or not, depends upon (1) whether there are sufficient number of cows, say 200, within easy reach; (2) whether the owners of the cows can be relied on to keep their engagements to the hour; (3) whether the plant is well planned and economically built, and finally, whether it has an honest and capable man in charge of it. If either of these conditions are wanting, sooner or later, and generally sooner, the enterprise will fail. When these conditions meet, a creamery is needed and will prove a success. In short, creameries are advisable in some localities and not in others; creameries are good investments for some men and poor investments for others.—Jersey Bulletin.

Dairy Notes.

Milk-giving is a function separate and apart from beef-making, and to train a heifer properly you must feed her up.

The value of the calf will nearly always make up for any probable loss in milk-production for the few weeks before she calves.

Unless the farmer fully understands that better breeding and better feeding means better profits, he had better stick to his scrub cows.

As food is indispensable for the production of rich milk it remains to adjust the ration to the ability of the cow to digest it and turn it into profit.

In nearly all cases, the feeding standards are intended simply as guides to rational feeding, to be modified as experience may show to be necessary.

It is an important item to ascertain how much food it requires to keep a cow in a good, thrifty condition, and how much beyond this is converted into milk.

There is no guesswork about the creamery. The clock, scales and thermometer are used at every turn, and the quality of the butter varies only with the quality of the cream.

The *Dairy Messenger* says that the cream from cows fed a large amount of cotton seed requires to be churned at a higher temperature than other cream, and suggests 72° as about right.

The old practice of feeding a farrow cow everything she will eat to fatten her, and milking her until she is sold, is a good one, that might be followed with profit by many a family now going without milk.

The first year of milking is the proper time to lay the foundation for a persistent milker, and many an otherwise good cow is ruined by her treatment during her first year's experience as a milk cow.

A few good cows ought to support their owner if he gives them good feed and care, but they ought not to be expected to do that, and at the same time support about as many more that do not pay for their keeping.

To get a good cow it is necessary to begin with a good calf, and follow up with good feed. Steady and rapid growth means early maturity, and that means a quick profit, the amount of which depends upon the care and feed given afterward.

Because the Devons can get a living where the Holsteins could not, and where the Jerseys would not do much more, is not a good reason for keeping the Devons, if one can have a good pasture, hay as good feed, and keep his barn decently warm.

Ex Gov. Hoard of Wisconsin says that two pounds of pea meal are equal to six pounds of bran for feeding cattle. An acre of peas should yield at least 25 bushels, which is called a light crop. This would make 1500 pounds of pea meal, equal to 4500 pounds of bran.

While the same amount of milk will make three pounds of cheese that it takes to make one pound of butter, and the cheese brings 12 cents a pound as easily as the butter does 25 cents, we do not wonder at the establishment of cheese factories in certain localities, nor at the popularity of the little Jersey that will make almost as many pounds of butter as of cheese.

Those who have rich pastures fitted to carry large animals, and yet desire to get the largest amount of butter possible, may find the Guernsey or a cross with it to give the sort they are looking for. The animals are of good size, and the milk is abundant and rich in butter fat, but they do not thrive on the scanty growth of a hill-side pasture as do the Jerseys.

The regular feeding of a certain amount of salt to milch cows increases the milk production, not because it is a milk-producing food, or even because it creates a thirst that causes the taking in of more water, but because it stimulates the digestive organs to a more thorough digestion and assimilation of the other food. Perhaps a more free use of water may have its share in this work, but the cow's stomach cannot change water into milk, though water may help to change solid food into milk.

We hear of a farmer, says the *American Cultivator*, who fed steamed food to his cows every day excepting Sunday, when he gave the food dry, that he might go to church. The cows fell off from one to two quarts each on Sunday, and did not get back to their usual flow until Tuesday or Wednesday. And now we are wondering whether he continues to go to church or stays at home and feeds the cows hot food. But perhaps he hires some man who does not care for church-going to feed them on Sunday.

Parsnips for Cows.

Milch cows of the Jersey islands are largely fed on parsnips. It is the staple root, and makes a sweet, high-colored butter. It is quite possible that the feeding of

parsnips, together with the mild climate of the Jersey islands, are largely contributory to the good qualities of the Jersey cows as milk and butter producers. The mild climate leads to early breeding, and this makes cows of heifers at a very early age, thus reducing their size. It also cultivates the tendency to produce milk rather than flesh or fat.—American Cultivator.

A Good Watering Device.

Our cows stand two in a stall; a galvanized bucket, holding about three gallons of water, is set in a socket by making a hole in a board to fit the pail; this board or socket is fastened between each two cows, about two feet from the floor, something like Buckley's device.

The water runs into a tank in the stable, which has an overflow pipe which leads to a tile drain, and a gate valve near the bottom of the tank. The water is drawn into the pails; while one is filling, another is being placed in the sockets. In this way I have watered 20 head of cattle in nine minutes, and left the pails full for them to use when they want it. If one had a large tank of water with hose connected, the pails could be filled quicker than I can tell it.—B. D. Sidwell in Hoard's Dairyman.

That Dairy Cow.

One method of keeping her neat: She is given a wide stall and a generous but safe length of halter. Her hay, whether cut, and mealed or dry, is thrown, not into the manger, but on the floor in front. This keeps her standing well back while eating, and ordinarily, but when she lies down she naturally moves forward where the floor is entirely clean. This method renders milking an agreeable chore, and the milk itself agreeable and wholesome in the use.

POULTRY YARD.

Mrs. Shaw's Happy Experiment.

TO THE EDITOR:—I presume many of the readers of the RURAL PRESS have had chicks from three to six weeks old whose wings drooped to the ground, or nearly so, and ceased to grow. They would stand and peep and not eat. When the mother hen began to get too far away, the little chick would trot along where it could see its companions, and so on and on until it died. I do not know what to call this disease, but have come to the conclusion that it is indigestion. When living in Sonoma county, in my first experience in chicken culture, I think it safe to assert that we lost 50 fine chicks from this disease, and I never saved one having those symptoms. At Eureka a number of our chicks had that disease. I had been away, and on my return Dr. Shaw said: "We are going to lose a chick, as I never knew one to recover having those symptoms." They were fine birds, and I could not think of losing one. I knew it would die anyway, and I concluded to experiment. I said: "What is good for a person is good for fowls," and I administered two drops of 3 X Nux (Homeopathic) in five or six drops of olive oil. In the morning this little chick was all right, following the hen as briskly as any in the little family. Later, another hen had one having the same symptoms. One dose saved it. One of my neighbors had one so sick that it could not stand and laid on its side. I thought it foolish to try to save it, but I gave it a dose, and to my utter astonishment it lived and was all right in the morning. But its growth was retarded somewhat.

I also had a hen which refused to eat, and was sulking by herself. I gave her five drops in olive oil. She recovered quickly, being well in the morning and able to attend to the business of the day. I use a dropper, which gives smaller drops than otherwise, but not for the oil.

Applegate, Cal., April 2, 1893. MRS. O. F. SHAW.

Poultry Failures and Success.

TO THE EDITOR:—During my first eight years' residence on a farm in Fresno county, I bought over 100 fowls, hens, ducks, geese and turkeys, costing over \$100. We ate no poultry; we had no eggs. The one word failure covers the entire poultry experience of those years. Then my family went East and remained the better part of a year—an entire summer and autumn. During this time I had work that compelled me to stay at home—a post-office to attend to, 80 tons of fruit to dispose of, and about 10,000 nursery trees to take care of. I kept a single hired man, and I determined that we would make a success of poultry or quit the farm.

I bought ten grade Leghorn hens and a rooster. I carefully saved the eggs till eight hens wanted to set. I made eight nests with stiff adobe mud in old milkpans and lined them with excelsior, and sprinkled them freely with coal oil, sulphur and bupach. Then I put in the eggs—13 for the smallest hen and up to 17 for the largest. I warmed them by the fire; then, after dark, placed each one of these nests under a hen. In two cases where two hens were on one nest I inclosed one in a tall bamboo fence and fed and watered them in these inclosures. I fed them freely. I killed 19 hawks, burned off their feathers and chopped the rest up finely and fed each hen a portion. They ate a score or more jackrabbits singed and chopped in like manner, also rations of wheat and durra.

When they had set 20 days I prepared seven new nests in the same way as at first and changed seven of the hens on to these new nests. I carried these seven hatching nests of eggs in by the kitchen stove. I allowed the eighth hen to finish her hatch, then shut her in a bamboo picket pen inclosing a coop. I made a brooder by nailing three long-haired goatskins on to an old barn-door. One edge of this door I fastened tight to the ground; the other edge rested on stakes six inches tall. The goat-hair reached to the ground, into which the chickens could huddle for warmth. This brooder opened into the pen containing the

hen and brood of chickens. There were 83 chickens in this hatch. They were all placed under the brooder with the one hen the first night after she left her nest. She owned and cared for them all alike.

At the end of 20 days more, six hens were fooled by changing the nests on them, and the seven broods were given to one hen to raise. At the end of the next 20 days, two of the hens had become so poor, evidenced by loss of weight, that I allowed them to come off and mother the six broods. I set two of my four "setters" now on duck's eggs. The young ducks at hatching were transferred to two ducks set at the same time. These two hens each raised a brood of chickens after incubating the ducks' eggs, making 110 days that these two best hens set to incubate four settings of hens' eggs and one of ducks' eggs.

The net result of the summer's work in poultry-raising was 217 chickens and 44 ducks that reached mature growth. I fed only \$1.75 worth of refuse grain and probably over 200 pounds of rabbit and hawk meat chopped, bones and all, very fine. I bought and borrowed 170 eggs to set during the summer. My first hatch came off in May, and before Christmas the pullets had laid eggs enough to much more than repay the 170. I had also sold \$59 worth of fowls and had the farm stocked with 150 as fine fowls as one could wish to see.

I used 6 pounds of bupach, about 20 of sulphur, 2 gallons of coal oil and about 30 pounds of lime, and all the ashes from the kitchen stove to make a good, big "dust bath." I gave them about one hour of careful attention daily for 150 consecutive days. For this they paid me about \$150 net.

My six bamboo pens were a prominent factor in my success. They enabled me to move any hen and brood on to green feed—to a new "dust bath"; into the edge of the ditch; under dense shade; out into the sunshine; anywhere that fancy dictated. These pens cost only labor of making. I raise the bamboos, and wove them together with refuse wire, to be found anywhere.

Sanders P. O., Cal., April 2d. W. A. SANDERS.

Eggs and Incubators.

Mr. P. H. Jacobs, a well-known and graphic Eastern writer, in relation to incubators, says:

"As long as operators buy their eggs for incubation, the work will be uncertain, no matter what make of incubator is used. Small incubators of a capacity not exceeding 200 eggs give the best results. The incubator is more easily operated in a room of even temperature. It should not be placed near the window. Having placed the eggs in trays or drawers, keep the temperature at 103 degrees. Turn twice a day.

"The cause of chicks dying in the shells may be due to too much moisture, too high temperature, too low temperature, lack of constitutional vigor of parents, too frequent opening of the incubator or to the fact that the eggs are from hens that are too overfed and fat. Where the chicks do not hatch out until after the time is past, it indicates that the temperature was too low. If they hatch on the nineteenth day, it indicates that temperature was higher than necessary.

"Give no food the first 36 hours; then allow rolled oats scattered for them to be picked up, also stale breadcrumbs dipped in fresh milk, which should be placed in little troughs. After the fourth day give the bread and milk as a morning meal, rolled oats at noon and cracked wheat and cracked corn at night; occasionally a little chopped eggs or meat. Dry food is best for chicks. After they are ten days old, feed them anything they will eat, compelling them to scratch for as much as possible. Water must be given in a manner to avoid allowing the chickens to become wet. Grit, such as pounded shells, etc., should be always within their reach. The main requirements for chicks is warmth. When the chicks crowd together at night under the brooder it indicates a lack of warmth. When they separate under the brooder it shows that they are comfortable. In winter the warmth under a brooder should not be less than 90 degrees or more than 100 degrees. As the chicks separate and seek the edge of the brooder the temperature should be about 95 degrees. Keep the brooders clean. Do not attempt to ventilate the coop with cold air. As a chick is close to the floor, it will secure all the pure air necessary. Feed a variety of food if possible, but cracked wheat and cracked corn ought not to be omitted after the chicks are old enough to eat these. When chickens are large enough to keep themselves warm, they may be taken from the brooder and placed in a warm, comfortable coop or house."

A Good Whitewash.

The following was "picked up" somewhere years ago, and parties to whom it has been given say that the wash is in every way satisfactory:

"Take one-half bushel of unslaked lime, slake it with boiling water, cover it during the process to keep in the steam; strain the liquid through a fine sieve or strainer, and add to it a peck of salt, previously dissolved in warm water, three pounds of ground rice boiled to a thin paste and stirred in while hot, one-half pound of powdered Spanish whiting and one pound of clean glue, which has been previously dissolved by soaking in cold water and then hanging over a slow fire in a small pot hung within a larger one filled with water. Add five gallons of hot water to the mixture, stir it well and let it stand a few days, covered from the dirt. It should be applied right hot, for which purpose it can be kept in a kettle or a portable furnace. It is said that a pint of this mixture will cover one square yard, if properly applied, and answers equally as well as oil-paint for wood, brick or stone, and is much cheaper. Coloring matter may be added as desired. For cream color, add yellow ochre; pearl or lead, add lamp or ivory black; fawn, add proportionately four pounds of umber to one pound Indian red and one pound common lamp-black; common stone color, add proportionately four pounds raw umber to two pounds lamp-black. The east

end of the President's house at Washington is embellished by this brilliant whitewash; used by the Government to whitewash lighthouses, etc.

Some Pertinent Questions.

A subscriber sends us a number of questions to answer. He says:

1. I wish to raise chicks, keeping the pullets for eggs, and selling the cockerels, (of course I should feed them differently.) What breed would you advise?
2. I have 35 hens. How would this do for feed? In the morning chopped clover, scalded and mixed with bran. At night two pounds of meat every alternate day. Morning, table scraps mixed with bran and cornmeal, and at night wheat thrown on the ground to be scratched for.
3. I may be mistaken, but I had formed the opinion that bone, as well as oyster shells, was of no use in forming egg shells. Why, then, are there so many bone cutters, etc., in the market?
5. How shall I feed young cockerels, say three or four months old? They do not seem to thrive on cracked corn, with an occasional change to wheat.

Answers:

1. For eggs the pullets of the small breeds should be preferred, but the cockerels will not, perhaps, be as valuable as those of some other breeds. You cannot get prolific hens and choice market birds in one breed.
2. The method of feeding alluded to is very good, and no suggestion is necessary.
3. Bones furnish food, as they contain phosphate of lime, and also nitrogen. Fresh bones usually have a proportion of adhering meat.
4. Corn and wheat will not answer. Give the cockerels a variety, including bone, clover and meat.—Poultry Keeper.

Keeping Old Hens.

The editor of *Farm Poultry* expresses himself as follows over the question of keeping old hens:

"The question of keeping the fowls over another winter is a complicated one, and each individual must decide for himself. As between old fowls and immature (late-hatched) pullets, we would take the old fowls every time, notwithstanding the cost of feeding them through the time of moulting; but we like early-hatched and well-matured (full-sized) pullets for breeding, and the pullets will lay two eggs to the old fowls' one through November and December. The old fowls usually moult in October and November, and do not come back to laying again until January or February and sometimes March. Another point: If you sell the old fowl in September (having an early-hatched pullet to take her place), the sum she sells for swells the total receipts, whereas if she is kept over she must be housed, and consequently takes up the room wanted for an early-laying pullet. We are satisfied that with us the running of the poultry department for best all-the-year-round profit demands the selling of the bulk of the old laying stock each season and replacing with new."

THE GARDEN.

Vegetables in Kern County.

Tomatoes may be made to do well in almost any soil, although to ripen early a sandy soil is best. They will flourish on land containing a considerable amount of alkali. When transplanting set the roots deep, one-half length of plant. Gardeners frequently complain of an excess of foliage which prevents the fruit from ripening and also weakens the productive power of the plant. In that case they should be severely pruned. We who raise a quantity take the scythe and "go for" them. They will grow up again for the second crop. The plants require plenty of moisture and I do not think there is danger of over-irrigating them. They may be set on the level surface and flooded, but do better to receive water by seepage. Occasionally a plant gets what the Chinamen call a "fever," it sickens and dies. I do not know the cause or the cure. We plant enough and depend upon the "survival of the fittest." However, I have never observed a plant to die which received irrigation by seepage.

Tomatoes are best for canning in October, as they contain less acid then and are more solid. Two full crops will mature in this valley before frost comes. I consider the Mikado one of the best. It ripens second early, bears until frost, is very large, solid and fine flavored. The yellow tomato ripens early and makes nice preserves, but is not good cooked in the ordinary ways. The Acme is a fine variety. Illustrative of what may be done with tomatoes, we permitted volunteer plants to grow on about half an acre of ground last year. They received nothing but water, no fertilizing or cultivating. We let most of the first crop go to waste in the hot season, but when canning time came, we sold, at one cent per pound, about \$70 worth, besides giving away and using many. Had we given them proper care and sold all the amount received would have been nearly doubled.

As the spring season is getting late for many varieties of vegetables, as beets, cabbages, turnips, cauliflowers, carrots, parsnips, salsify, etc., I would say that all these varieties do as well and some do much better when sowed in July and permitted to mature in cool weather and they may be used from the ground all winter. String beans (wax) do best in the fall.

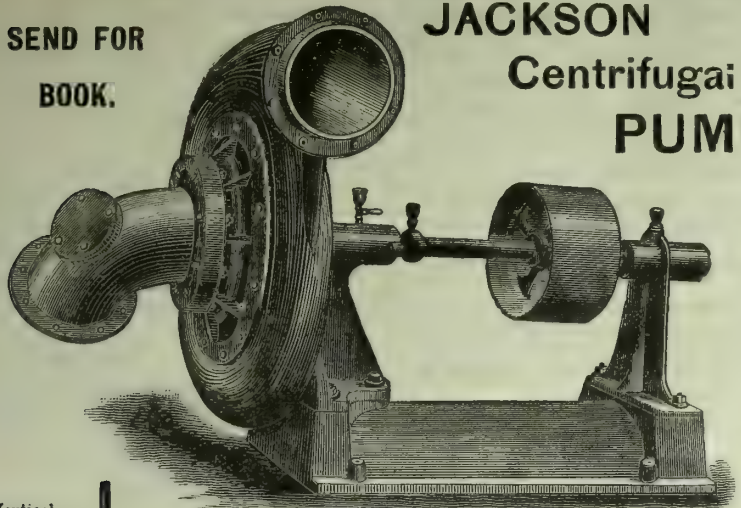
We are using dandelion greens which grow nicely here. They are just like those we got from the meadows in New York State, only much nicer and larger here.

If the soil inclines to bake, be sure to scatter a mulch of fine dry manure, after covering the seeds with soil.

I know of no vegetable listed in the catalogues which will not do well here. We enjoy testing all varieties.—Mrs. F. M. Reynolds in Kern Californian.

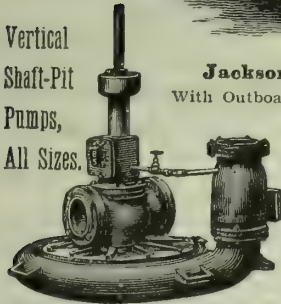
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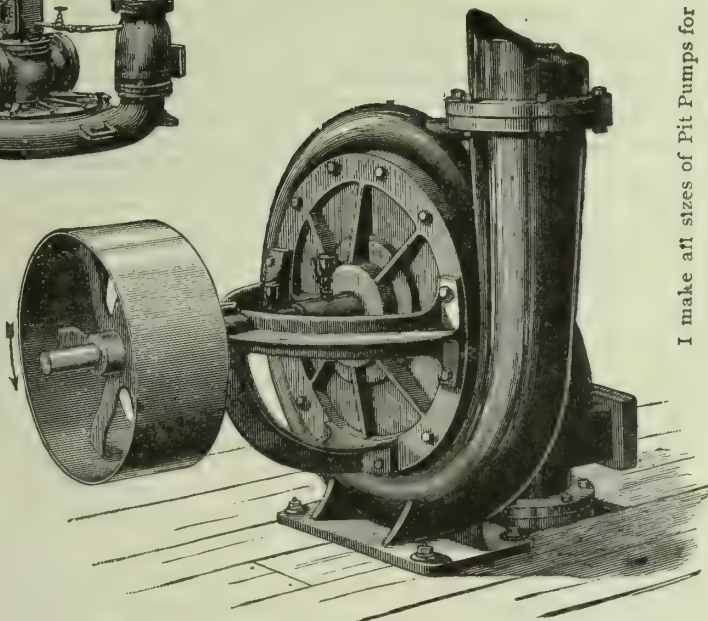
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All Sizes.



Jackson's "Whirlpool" Centrifugal Pump,
With Outboard Bearing, and Adjustable Suction and Discharge.

I make this design of Pump in all sizes, from
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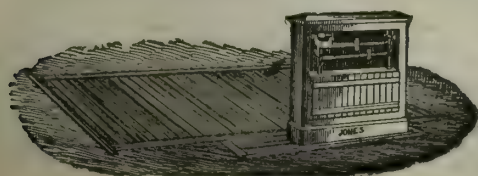
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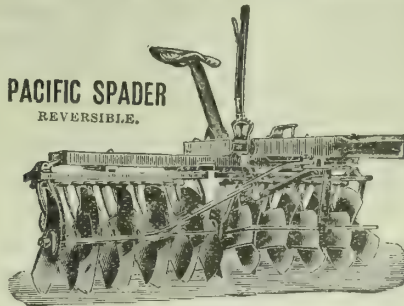
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THE LATEST STYLE PULVERIZER! THE PACIFIC SPADER!

Operated by one small Boy. No Man required.

PACIFIC SPADER
REVERSIBLE.



Spader throwing Soil from the Center.

The Pacific Spader and Vineyard Cultivator
does more work in one stroke than a Disc Harrow in ten.
Sizes, 5 1/2 to 12 feet.

TRUMAN, HOOKER & CO.,
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SIZES:

No. 4-4 ft.	Reversible Spader, with 16 inch Spades.	" 16 "
No. 6-6 ft.	" " " " " "	" 20 "
No. 8-8 ft.	" " " " " "	" 20 "
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No. 12-12 ft.	Regular Spader, with 48 inch Spades.	" 48 "
No. 14-14 ft.	" " " " " "	" 48 "
No. 16-16 ft.	" " " " " "	" 48 "
No. 18-18 ft.	" " " " " "	" 48 "
No. 20-20 ft.	" " " " " "	" 48 "
No. 22-22 ft.	" " " " " "	" 48 "
No. 24-24 ft.	" " " " " "	" 48 "



AN OLD STYLE PULVERIZER.

Especially adapted to pulverizing "bottoms"—on
man and a small boy can operate it.

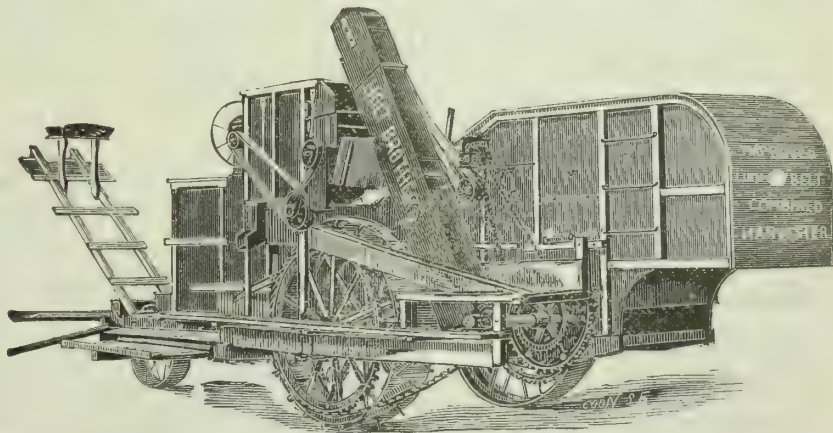
Salinas, Feb. 22, 1893

Messrs. Truman, Hooker & Co.,
San Francisco, Cal.

Gentlemen:-I have laid aside my plows and substituted the 10-foot Pacific Spader. It is the best implement I have ever seen for pulverizing the ground and destroying the foul stuff. It works like a charm in adobe and I can heartily recommend it above any other implement. An implement of this kind is what I have wanted for years.

Yours truly, Chas. Graves.

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It is **FAR SUPERIOR** to any other Harvester of the present day.

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Those contemplating buying are invited to visit our manufactory at Stockton and see for themselves.
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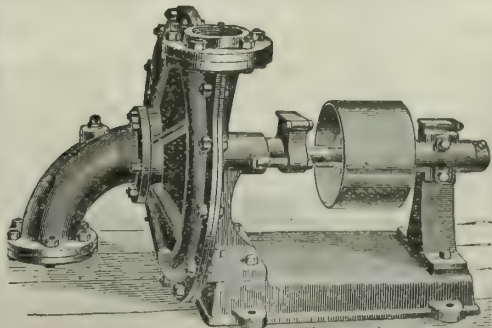
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THE HOME CIRCLE.

The Where and the When.

On the thirty-second day of the thirteenth month of the eighth day of the week;
On the twenty-fifth hour of the sixty-first minute, we'll find all things that we seek,
That are there in the Limbo of Lollipopland, a cloud island resting in air,
On the nowhere side of the Mountain of Mist, in the Valley of Overthere.

On the nowhere side of the Mountain of Mist, in the Valley of Overthere,
In a solid vapor foundation of cloud, are palaces, grand and fair;
And there is where our dreams will come true and the seeds of our own hope will grow—
On the thitherward side of the Hills of Hope in the hamlet of Hocus Po.

On the thitherward side of the Hills of Hope, in the hamlet of Hocus Po,
We shall see all the things that we want to see, and know all we care to know,
For there the old men will never lament and the babies never will squeak,
In the Cross Road Corners of Chaosville, in the county of Hideandgoosek.

In the Cross Road Corners of Chaosville, in the county of Hideandgoosek,
On the thirty-second day of the thirteenth month, of the eighth day of the week,
We shall do all things that we please to do, and accomplish whatever we try—
On the sunset shore of Sometimeorother, by the beautiful Bay of Bimeby.

—Sam Walter Foss.

The Milking of the Cow.

The milkpail used to verify a mild and mellow meter,
When I used to milk old Brindle in the yard,
And the shining milk was sweeter unto me and little Peter
Than Oriental perfumes or frankincense and nard.
The sunset flung its banners from the gilded hills about us,
And the odors of the evening seemed to drop from every bough;
There was peace and glad contentment both within us and without us,
At the sweet mellifluous milking of the cow.

And wandering like a memory from the silent past's abyss,
I smell the graceful odors of the fragrant evening breeze;
And I bend to catch the chrism of the twilight's glad baptism
And the outstretched benediction of the trees.
The glory of the summer night, the magic of the mountains,
And the tinklings of the twilight on the farm are with me now;
But through all the mingling music still I hear those falling fountains,
The sweet mellifluous milking of the cow.

—Sam Walter Foss.

Life and Death.

What's for the babe?
Why, mother's eyes,
Twin patches of those summer skies
That beamed on him in Paradise.

What's for the child?
With faith to skip,
To taste the honeysuckle's lip—
The butterfly's companionship.

What's for the boy?
The haunted wold,
The squirrel's nest in leafy hold,
The rainbow's fabled pot of gold.

What's for the youth?
To dream of fame,
In shifting sand to write his name,
With sighs to fan a passion's flame.

What's for the man?
Courage to bear
The load of wisdom and of care,
And some true heart its weight to share.

And what's for age?
Pain's prison bars,
Comfort that every trifle mars,
Dimness and fear—and then the stars!

—George Horton.

Widder Rattlebee and the Easterners.

Written for the RURAL PRESS by LAURA J. DAKIN.



LAWSY me, ye orter hearn them Easterners go on; the' was a party of 'em come up to the ranch t'other day an' they jest went into extremes 'bout our mount'ins. They said they never seech prospective scenery, thet it beat Switchland all out; she couldn't hold a candle ter our trees and things, an' ez fer climt she wa'nt no caparison to Californy. An' I sez, sez I: "Thet's so! Californy has got the most superfluous climt an' embracin' air in the hul world. An' we don't want no candles held to our trees nether; they're burnt out anuff a'ready. The biggest tree on this ranch must a had its insides burnt out a hundred years ago, but its top is green an' growin' unto this day." So then they wanted to see my big trees.

I told 'em they was on'y thirty-five an' forty-five feet round, but they hadn't seen the Santa Cruz big trees nor the Callyvarious, so they thought mine was giants, an' sent Jasper fer some twine ter measure 'em with. An' the way they danced round in the holler tree—you'd a thought they was plum crazy. But they was tickled when they seen my duck-house. It's jest a big holler stump with a openin' in the side fer a door, an' so a door I had hung to it an' it makes a mighty peart duck-house.

"Oh, dear, thet's awful cunnin'", sez one of the young ladies, "but it's too good fer sech a use; ye orter clean it out an' chip off the burnt walls an' put seats in fer a summer-house ter rest in."

"I don't have much chance ter rest," sez I, "an' it saves buildin' a duck-house, same's this stump over here saves buildin' a smoke-house. Ye see we allers smoke our own sides an' shoulders, an' I thought I might ez wal nateralize one o' these holler stumps ez ter build a smoke-house out o' shakes thet wouldn't last half so long; so I put slats 'crosst the upper part ter lay the meat on, an' hung a door, an' there 'tis."

Wal, they exclaimed an' ejackerlatten an' took on so 'bout them stumps, an' said I was sech a aboriginal woman ter think er usin' 'em, thet I reely begun to reckon I was plum full o' ideas an' might git ter be quite a inventory sometime, like Mr. Ed'son with his funnygraft; yis.

Then one of the young men said if I could on'y think o' some way ter set one o' my trees over ter Newport, in Mr. Vanderbilt's or Mr. Astor's front yard, they'd give me \$10,000, or mebbe \$20,000, fer it quicker'n a wink.

My land, if I could do it I would mighty sudden, sure's yer born. Thet tree would go careening through the air like a comic. Folks would think a sighclone had struck it sure. An' thet money would come in right handy. I don't think riches would spile me. I'd halp folks a lot. I'd build a new house an' let the schoolma'am an' her mother hev this one rent free, an' I'd—

Law what a goose I be! Here I'm spendin' thet money in my mind's eye when I know the' ain't no Laddins lamp now-days ter transigrate them trees nowher. There they've stood a thousan' years an' I hope they'll continer ter stan'. It ain't ev'ry ranch thet kin show sech trees. I like 'em, fer they're reely kind o' high toned, higher than any other tree.

Depew's Advice to Young Men.

A late number of *Donahoe's Magazine* contains an interesting article on "Should Young Men Go Into Politics?" from the pen of Chauncey M. Depew. As to whether young men should adopt politics as a career, he answers with an emphatic "No." Mr. Depew then goes on to say: "Every young man should start out in life with three definite objects: First, to earn an honest living; second, to secure an income large and permanent enough to support a family; and, third, to lay up something for old age and the care of the helpless ones whom he may leave behind when he dies. This excludes other and obvious efforts in life, and confines the question simply to the material side of success. If a young man enters the professions, or business, or the trades, and is industrious, intelligent, economical and of good habits and associations, he is sure to rise until, in a less or greater measure, he accomplishes the three objects I have named."

He then says to the reader that the trouble with politics is that its pursuit is an adventure and not a career; that the compensation is not sufficient; promotion is not accorded to merit, but to political influence, and to retain a place requires backers powerful in influence with the party; that the time will certainly come when the place-holder will have to vacate to a member of the opposite party, and that then the one displaced finds himself handicapped with a family, untrained for business, and out of line with the active competitors of the community. Mr. Depew's article closes with the following:

"Every young man should be interested in politics and take as active a part in the political affairs of his neighborhood as the time at his disposal from his business will permit; he should attend its caucuses and do such party service as he can; he should go to political meetings and never fail to vote on election day; when there are movements on foot for reforms necessitated by corruption, or to put bad men out of office, he should be on hand and ready to fight for the redemption of his city, town and State; when he has become sufficiently independent to afford the luxury of public life, or his business can be run without him, so that he can give his time and thought to the performance of official duties, or he has partners

who will run the office or shop which takes care of the family while he gives his energies and mind to running the Government; then, and not till then, can he enter politics as a pursuit with any prospect of happiness, any hope of permanent success, or any future but failure and wretchedness."

Three Curious Finds.

In June, 1886, when I was in command of the ship *Dunkeld*, of London, on a passage from London to Shanghai, we were taking sounding during a fog in the Formosa channel.

In the centre of the arming of tallow, which is placed on the lead to ascertain the nature of the bottom, we found a Chinese coin after striking the bottom at a dept of sixty-eight fathoms.

It is six years ago since I met with my lucky friend.

I was then living at Hoe lane, Enfield Highway, and was on my way to St. James's Boys' School when I saw a bird's nest up in a high willow tree.

I climbed the tree and reached the nest, but instead of finding eggs or young ones, as I expected, to my surprise I discovered a gold ring.

In 1883 a young bandsman named Chappell, serving in the Durham Light Infantry, (106th,) stationed at the Buena Vista barracks, Gibraltar, was accidentally killed by a fall of about 200 feet over an almost perpendicular though rugged cliff 380 feet high.

The accident was observed by a number of people who were bathing in Camp bay, a bathing resort below the cliff. On the alarm being given Corporal Hammond, medical staff corps, and myself, commenced to climb the almost inaccessible cliff to where the body lay, and when about 140 feet high Corporal Hammond, who was a few feet in front of me, placed his hand, while in the act of reaching another ledge, upon what turned out afterward to be a gold watch in fairly good preservation, which it is supposed must have been there several years, as no owner for it could be found.—London Answers.

Some New Definitions.

Man.—A biped without prejudices—which he calls principles.

Woman.—A biped with more prejudices—and less principles.

A good chap.—Any one who might, could, would or should lend us money.

A bad chap.—The same individual after he has lent us money.

Principle.—Any opinion which it is our individual interest to support.

Marriage.—An investment for woman and a speculation for man.

Religion.—Eternal principles modified to suit temporary requirements.

A perfect lady.—The highest praise which the scullery maid can accord to her mistress.

A smart little woman.—A young married woman in search of a husband—somebody else's husband.

Society.—A hotch-potch of pretentious people having nothing in common but uncommon assurance.

Friendship.—A game for two, of which only one wins.

Respectability.—Constant conformity to inconsistent mediocrity.

The soul.—An element of discord, intended by Providence to be saved, and expected by theologians to be damned.

The world.—A place in which we all hate each other for a time, in expectation of loving each other later for eternity.

The flesh.—A thing which modern artists paint pea green.

The d—l.—A discarded illusion—still popular with the children.

Preservation of Rings.

"Don't wear your rings under gloves unless you remember to have them thoroughly examined twice a year," is the advice given by a jeweler. The constant friction wears out the tiny gold points that hold the stones in place, and unless strict attention is paid to them they become loose in a very short time. Small purses of suede leather are made on purpose for rings, or any soft pouch of skin or chamois may be used to place the rings in when desiring to carry them around with one. They should never be put into the ordinary pocketbook, as the rubbing against coins is also bad for them. Diamonds can be cleaned at home to look as well as when done by a jeweler, if only a little trouble is taken. They should be thoroughly cleaned in alcohol and then dried in boxwood sawdust. Pine sawdust is too oily for this purpose.

'Phones for the Farmers.

An Iowa electrician has been studying the telephone problem, and has figured out what may happen when the patents on the telephone run out. "Just suppose," said he,

that you could buy a telephone for about what it is worth—from \$2.50 to \$3. You live on a farm near Epworth. You set the 'phone prepared with a ground wire and then hitch the machine to the top wire of your barbed-wire fence running toward a wire already running through the country.

"If there are intervening farms they too can attach until the line is reached, when the connections are made, and with a code of signals the system is perfect. Of course some pains must be taken to see that the fence wire is not grounded, but that would be easy. In this manner on the farms the system might be extended all over the country at comparatively no cost." He continued: "Inside of five years the increase in the use of this useful instrument will be doubled a hundred times, and the simplicity of methods that will be used in bringing it about will be the most astonishing part."—Cedar Rapids Gazette.

Famous Suicides.

Aristarchus starved himself to death out of weariness of life.

Chatterton killed himself in despair at the failure of all his projects.

Chenier killed himself by thrusting a large brass key down his throat.

Lucretius, the great Latin poet, stabbed himself in a fit of disgust with life.

Cocceus Nerva, a wealthy Roman lawyer, killed himself in disgust at the state of the Roman Republic.

Cassius fell by his own dagger, after the battle of Philippi, the same dagger, it is said, with which he stabbed Caesar.

Fraulein Von Lassberg drowned herself in vexation and disgust at life after reading Goethe's "Sorrows of Werther."

Samson, the Judge of Israel, destroyed himself in the temple of the Philistines by pulling it down on himself and his enemies.

Rousseau tells of a friend who was a warm advocate of suicide, and at the age of eighty drowned himself in the lake of Geneva.

Homer, it is said, hanged himself in extreme old age because, after long trial, he could not solve the "Fisherman's Puzzle."

Demosthenes took poison which for years he had carried about with him in a pen. He was disgusted at the fickleness and folly of the Athenians.

A Difficult Feat.

Place six medium-sized potatoes on the floor at one side of the room, about a foot apart. Then one of the party (who has previously practiced and become perfect in performing the feat) takes up an ordinary teaspoon, lifts a potato from the floor with it and carries it across the room on a spoon, and puts it into a basket placed for the purpose. The potato must be touched only with the spoon—not with the hand. He must then repeat the operation on the remaining five potatoes, and must complete the task within a given time—for instance, five minutes. He then challenges any one in the room to do the same. "Oh! it is easy enough," cries some one, and he forthwith tries his skill, when he does not find it quite as easy as he imagines. That is when the fun begins. To get the potato into the spoon is difficult, and to balance it in the spoon while carrying it across the room is even more so. Naturally with each failure the merriment increases. The potatoes must be of a fair size, and not so formed as to afford an easy grip for the edge of the spoon.—Ex.

Mind the Little Things.

A young artist once called upon Mr. Audubon, the great student of birds, to show him some drawings and paintings. Mr. Audubon was much interested and, after examining the work of the artist, said: "I like it very much, but it is a little deficient in details. You have painted the legs of this bird nicely, except in one respect. The scales are exact in shape and color, but you have not arranged them correctly as to numbers." "I never thought of that," said the young artist. "Quite likely," said Audubon. "Now, upon this upper ridge of the partridge's leg, there are just so many scales. You have too many. Nature does her work perfectly. Examine the legs of a thousand partridges, and you will see that the scales are the same in number. All partridges are made alike." The lesson shows how Audubon became great—by patient study in small things.

Food for Your Plants.

Give your plants all the sunshine possible, most of them revel in it, writes Eben E. Rexford in the "Ladies' Home Journal." It is food for them and quite as necessary as a rich soil. Ferns, some of the begonias, and a few other plants, prefer to remain in the shade, but they like a good light, such as comes from diffused sunshine. Put your

fuchsias where they will get the sunshine of the forenoon, and give your heliotropes and geraniums a southern exposure. Plants like the Bermuda lily, azaleas and oleanders should be kept out of strong sunlight if you care to have the flowers last well. Be sure to give them fresh air daily.

Observations.

Bad luck is the only kind that comes to people who trust in luck.

Most people are willing to do away with vices—of other people.

The man who thinks the world owes him a living is always in a hurry to levy on the debt.

A load of sorrow doesn't wear one so much as a swarm of annoyances.

It has been said that a fool may ask a question that a wise man cannot answer; yet both may be better for the question.

An action may be so clothed as to change its proper effect on people. With most of us a sugar-coated vice seems preferable to a pepper-coated virtue.

Few persons understand the cause of their own failures. Judging other affairs as they do their own, they couldn't tell why a barrel is empty when it has a hole in the bottom.—Century.

Diplomatic Mrs. Morton

A pretty story is told of Mrs. Morton's tact and courtesy, quite equal to the tradition of Lady Washington's crushing a teacup on purpose to relieve the embarrassment of the guest who had inadvertently broken one of her egg-shell cups in his large and careless hand. Mrs. Morton has a set of exquisitely painted doilies from the atelier of a noted Paris artist. One of her political dinner guests, after dipping his fingers in the bowl, drew out the priceless filmy square and crushed it into a ball, trying to dry his hands as he talked learnedly with his hostess. Mrs. Morton smiled with a serenity for which it is hoped the recording angel will give her credit, and said: "Such flimsy doilies are useless—let me give you another—but you know its the fashion." And the grateful politician accepted the napkin, and never knew his mistake.

The Cunning Spider.

Everyone has noticed that when a spider's web is touched the insect will violently shake the web up and down, but few are probably aware of the reason for this curious action. The spider is well provided with eyes, but its sight is very limited; so much so, in fact that if a fly is caught in the web and lies perfectly still, the spider will often be unable to find it for a considerable time. When in doubt as to what quarter of the web the prey has lodged on, the spider always shakes the web and determines by the resistance the whereabouts of its game. It does so, too, with almost infallible accuracy, as any one who has the curiosity to make the experiment can determine, for in the majority of cases, after the spider has given its web a good shaking, it will start off in a run directly to the point where the intruder is lodged.

For Tired Feet.

How many times we hear housekeepers say: "I could stand the work well enough if my feet did not get so tired!" If people who are troubled with tired feet could know the relief that comes from the use of cushions placed in front of the table where they stand when dishes are washed or vegetables prepared, they would provide themselves with one or more of these pads at once. They may be made with several thicknesses of old cloth, bagging, carpet lining or horse blanket stitched together and covered with old carpet or drugget, the edges turned in and overhanded, and the whole then tacked like a comfortable. Hang it up by two loops when not in use, to keep the edges from curling up. In fact, to prevent this it is not a bad plan to have it oblong in shape.—Albany Cultivator.

A Postal Relic of Bygone Days.

At a banquet of California Pioneers, held in Boston on the 22d ult., a letter envelope was shown, which was sent from Mount Vernon, Iowa (in pioneer times), bearing this inscription:

Cornelius Sprowles, a Web-foot Scrub,
To whom this letter wants to go,
Is chopping Cord-wood for his Grub,
At Silver City, Idaho.

Danger In Cheap Thimbles.

Women and girls who earn their living by sewing often complain of soreness of the finger on which they wear the thimble, and sometimes serious swelling with inflammation is the result. This is very often caused by the constant use of a cheap thimble, for

these low-priced articles are composed of lead, or something equally injurious. Silver or plated thimbles are the best and safest, and, when these are too expensive, a good substitute can be found in a highly burnished steel stimble. For practical everyday use this latter kind is the most convenient; but pewter or lead should never be used, especially by people whose flesh is slow to heal after a cut.

Strange Diversions.

The Roman Emperor who used to divert himself by impaling flies on his stylus, or pen, has a modern imitator in an Australian judge. This eccentric jurist derives great pleasure from catching flies in the palm of his hand while hearing arguments on the bench. It is always instructive to consider the tastes and amusements of the truly great. One of Harvard's most celebrated professors, the author of works on botany with which every schoolboy is familiar, used to find keen delight in catching mice with his fingers. Another Harvard professor, whose erudition has made him famous in Europe as well as in America, says that the most delicious of all odors that please the nostrils of man is the incense that arises from a cook's frying-pan.—New York World.

Poe's Lost Love, Lenore.

The part played by a handkerchief in the life of the unfortunate Edgar Allan Poe is perhaps already familiar. During the brief period in which he was engaged to be married, he was discovered by her whom, despite his frailty, he held in such sacred tenderness, lying intoxicated in the street. Lest others should recognize him—so runs the story—she threw her handkerchief over his face. Futile effort to hide one of that multitude of sins which Charity's cloak alone can cover! When he was capable of realizing his situation he became a prey to that torture and despair that abound in "The Raven."

And my soul, from out the shadow
That lies floating on the floor, shall be lifted
Nevermore.

Eight Odd Kings.

Henry VII, of England, was a miser.
Friedrich the Great, of Prussia, was a musician.
Ivan the Terrible, of Russia, was cruel and tortured animals.
Henry IV, of France, was afraid of cats and trembled whenever he saw one.
Charles V, of France, was a bibliomaniac. He had 900 rare volumes in his library.
Louis XVI, of France, was an expert locksmith and often worked at that trade.
George III, of England, was so fond of music that a favorite air threw him into an ecstasy.
Henry III, of France, was passionately fond of spaniels. He carried several young dogs with him in a basket.

Advice to Young Gould.

George J. Gould, since the death of his father, is said to have received an average of four letters of advice daily. All of the cranks in the country, forgetful of the facts that young Mr. Gould was associated with his father in business for twelve years, and that he had almost entire control of affairs for the last two years, are eager to tell the young man how to manage the vast estate in his charge. A goodly proportion of these would-be-advisers are anxious to have a share of the Gould millions diverted into religious and charitable channels. One writer advises the Gould children to build the largest and finest church in the world as a memorial of their father.—New York Times.

A Laundress Apron.

A useful addition to the laundry belongings is a laundress apron, for the benefit first of the woman who takes the work from the lines and incidentally for the one who pays for the clothes-pins. This should be a strong garment of ticking or denim, with the front turned up more than half and stitched into a pocket. Into this pocket the pins may be dropped—and saved.

Envy Rebuked.

Wayside Bill—Some folks that's as good as the best of 'em I notice is always hard up. Things ain't divided as they ort to be in this world.

Rusty Rufus—Wot's eatin' you, pard? Ef everybody was rich, how could the overseers of the poor make a livin', I'd like to know?—Chicago Tribune.

A Possible Clew.

"Yes, sir," said Mabel, proudly, "when a young man kisses me I scream."
"Mabel," said Reginald, with a sudden coldness, "why is it you are so often hoarse when I call on you?"—Chicago News-Record.

YOUNG FOLKS' COLUMN.

When Dickie's a Man.

When little Dickie Swope's a man,
He's go' to be a Sailor;
An' little Hamey Tinner, he's
A-go' to be a Tailor;
Bud Mitchell he's a-go' to be
A stylish Carriage-Maker;
An' when I grow a grea' big man,
I'm go' to be a Baker!

An' Dick'll buy his sailor-suit
O' Hame; an' Hame'll take it
An' buy as fine a double rig
As ever Bud can make it;
A' nen all thres'll drive roun' for me,
An' we'll drive off togever,
A-singin' pie crust 'long the road
Ferever an' ferever!

—James Whitcomb Riley.

The Young Frog.

IN the field back of my house and up the hill are two nice springs. From one I draw water into my house through pipes, while the water from the other goes to my barn and my neighbor's house. The water runs very swiftly because it is running down hill. It is far easier to run down hill than it is to run up. The pipe enters this spring not at the top of the water, nor at the bottom either. If it were at the top the scum would get into the pipe, and a floating bug now and then. If it were at the bottom dregs and sediments would get in. So the pipe goes in about six inches below the top of the water. When we are drawing water at the barn for the horses, and my neighbor draws water at the same time for her washing-day, the pipe sucks at a great rate. But it draws nothing but pure water, if floating things keep at the top and all heavy things lie still at the bottom. Now for my story:

One day there was a gay young frog, about as big as half my thumb—too big for a tadpole, too small for a wise frog. He could go just where he pleased. He did not have to float with the bugs, for he knew how to dive. He did not have to stay at the bottom with the dregs, for he knew how to swim. So he kicked up his little hind legs and swam all around the spring, doing very much as he pleased. One day he saw the little, round, black hole of the pipe, where the water was running quite freely. He put his nose in and felt the water pull and was a little scared and backed out. But it was such a funny feeling to be sucked that way, it felt kind of good round his nose, and he swam up and looked in again. He went in as much as an inch, and then the water got behind him and he was drawn in.

"Here goes!" said he, "I shall see what I shall see."

And along he went with the water, till he came to where the pipe makes a bend for my barn—a sharp bend, straight up. As the water was quiet there, he gave a little kick and got up into a still, dark place, close to the barrel where the horse drinks.

"Well," said he, "it's a snug place but rather lonely and dark."

Now and then he thought of the spring and the light and the splendid room he used to have to swim in, and he tried to swim back against the stream. But the water was on him or running by him swiftly, and he had no room to kick in the pipe. So every time he started to go back to the spring he would work hard for a few minutes, and then get tired and slip back into the dark place by the barrel. By and by he grew contented there. The water brought him enough to eat. He shut his eyes and grew stupid; stopped exercising and grew fat; as he had not room to grow very big in the pipe, he had to grow all long and nothing broad. But he grew as big as he could till he stopped up the pipe.

Then I had to go and see what was the matter, for the horse had nothing to drink. I jerked away the barrel, pulled out the plug and put a ramrod down; felt a springy, leathery something and pushing, down it went, and out gushed the water. "What is that?" I thought. So I pulled out the big plug, and down went an iron ramrod and I churned it two or three times and then let the water run, and out came a long red and white and bleeding frog.

I couldn't put him together again. Anything that gets sucked into that pipe and grows up into those dark places has to come out dead and all in pieces. I wondered how such a big frog could ever have got into such a small pipe. Then a wise lady in my house told me: "Why, he went in when but little and foolish and grew up there."

I cannot get that poor frog out of my mind. He was so like some young folks I have seen. They frolicked up to the door

of a theater, or they stood and looked into a barroom, or they just wanted to go to one ball, or out behind the barn to smoke a pipe, or went off sleigh-riding with some gay young man without asking leave, or some way put their foolish noses into a dark hole that led they didn't know where. Pretty soon in they go. When they want to get back they can't, and they grow bigger and wickeder, and all out of shape in that dark place. If they come out at last they are all jammed up, knocked to pieces, sick, or dying, or dead. When I see them in their coffins I hear folks ask: "How came he to throw himself away so?" "What made him drink himself to death?" "How happened she to go off to infamy?" "How came he to be a gambler?"

Then I shall answer as the wise lady told me about the frog: "They went in when they were little and foolish, and grew up there." A bad habit hugs a man tighter, and jams him out of shape worse than my pipes did that poor frog.—Thomas K. Beecher, in Good Words.

DOMESTIC ECONOMY.

LADY-FINGERS.—Beat the yolks of three eggs light, add one-fourth of a pound of powdered sugar, and beat until they are light and frothy. Add one-eighth pound of flour and mix well, adding the whites of three eggs beaten to a stiff, dry froth. Bake in a moderate oven 15 minutes.

STEAMED HOMINY.—Soak one cup of hominy in three cups of water and salt to suit the taste—over night. In the morning turn it into a quart pail, then put the pail into a kettle of boiling water. Cover tightly and steam one hour. Add a teacupful of sweet milk and cook half an hour longer.

PANCAKES.—Two cups prepared flour, six eggs, one saltspoonful of salt, milk to make a thin batter. Beat the eggs light, add salt, two cups of milk, then the whites and flour alternately with milk until the batter is of the right consistency. Run a teaspoonful of lard over the bottom of a hot fryingpan, pour in a large ladleful of batter and fry quickly. Roll the pancake up like a sheet of paper, lay upon a hot dish, put in more lard and fry another pancake.

FRUIT CAKE.—Cream 1½ pounds of butter, add 1½ pounds of brown sugar and beat to a cream; add the yolks of 12 eggs, beaten light, and when well mixed add 1½ pounds of flour, mixed with half-ounce each of nutmeg, cinnamon, cloves and allspice. Add two pounds each of raisins and currants, seeded, chopped and floured. One-half pound each of citron and candied fruit, chopped and floured. Mix well; add the whites of the eggs beaten to a stiff, dry froth, and lastly one cup of wine and one of brandy. Steam the cake two hours, being very careful that the steam does not condense and drip from the lid of the steamer and drop in the cake; then bake slowly one hour.

The Purpose Clearly Set Forth.

Otoscleronecromy is designed "to express the surgical removal of part or all of the sclerosed and ankylosed conductors of sound in chronic catarrhal otitis media," and otonecromy "the excision and removal of the necrotic conductors of sound in chronic purulent otitis media."



A cream of tartar baking powder. Highest of all in leavening strength.—Latest U. S. Government Food Report.
ROYAL BAKING POWDER CO., 106 Wall St., N. Y.

AGRICULTURAL NOTES.

CALIFORNIA.

Alameda.

Haywards Journal: Judging from opinions expressed by some of our fruit men, the apricot crop will be rather light this year, as a result of the heavy rains and cold weather.

Butte.

Oroville Register: B. F. Allen of Chico set out this spring 60 acres of peaches, and will plant next winter 100 acres of the same fruit. He says the peaches, prunes and most other fruits look well in the upper part of the county, but the apricot crop will be light.

Oroville Register: Fruit men are still planting, though the season is late. H. J. Langdon has a force of men at work this week planting fruits of various kinds, and Hatch & Rock are still putting out almonds. Mr. Cummings, in the same locality, Rio Bonito, is also planting fruit.

Oroville Register: Mrs. F. A. Wilcox has one of the finest young orchards in this part of the county. It is planted on deep, fertile land, which will yield well without irrigation. She planted in 1891 2000 trees, in 1892 2075 trees, and this year 1050 trees, making in all 5125 trees. The whole orchard is planted to peaches, which in the long run are the most profitable of the deciduous fruits.

Colusa.

Sun: Theodore Gilroy and an army of assistants are shearing 8000 sheep belonging to C. C. Smith, on the latter's ranch near Merced.

Sun: Fruto is but a hamlet, still it has possibilities of considerable growth. It is in a fine fruit belt. The young fruit trees have attained a wonderful size. Grain land, natural pasture, and oak timber for fence posts and firewood are abundant and of the best quality. The chrome iron mines paid \$6000 in railroad freights the past year. W. W. Davis, one of California's most successful farmers on a large scale, has bought the Clark's Valley ranch and adjoining land to the extent of over 12,000 acres. His enterprise and tireless energy are just transforming the face of the country.

Humboldt.

Arcata Union: Secretary Littlehales, of the Arcata creamery, informs us that the creamery is now handling about 11,000 pounds of milk daily. On the 6th of April, last year, the creamery commenced work with 3600 pounds of milk daily. The increase in one year is a notable event in the history of our creamery.

Times: Fruitland is situated some ten miles from the mouth of the South Fork of Eel river, and includes the property formerly in the possession of the Dutch colony, the planting of which was attempted two or three years ago, but now owned by a company of Eureka capitalists. The ranch, of which D. L. Miller is superintendent, embraces some 960 acres, and upon it are set out 14,000 prune trees, besides an experimental orchard of 1000 other trees of various varieties. It is expected that the prune trees on the ranch will bear lightly during the coming season, but it will be but a year or two at most until the orchard will commence to yield heavily, and the work of gathering and curing the fruit on so many trees will make lively times at Fruitland.

Los Angeles.

Pomona Progress: Searchers for poppies and other wild flowers say that so much of the land in this valley has been put under cultivation in some form, that a person has to travel a long distance in any direction now to find fields where wild flowers grow in their native beauty and profusion.

The orange-washing machines invented by a resident of Pasadena are being used quite extensively both there and in Los Angeles, and one to run by water power is now nearly finished at the Blockburger machine shop on East Colorado street. It will do the work of four foot-power machines and will be set up in the brick warehouse in the southern part of town.

Covina Argus: Some peach orchards in this valley are affected with the disease known as the root knot. Wherever the disease appears the trees afflicted should be dug up and burned. Fire is the greatest eliminator of disease and impurities known, and in case of disease among trees should be used without stint. Some of our farmers have already dug up and burned such of their trees that were found to be diseased.

Kern.

E. M. Roberts has a force of 75 men employed in grading, checking and plowing land in the vicinity of Lerdo. The Land Co. purposes planting somewhere about 6000 acres in Egyptian corn, and Mr. Roberts is taking steps to that end.

Californian: Hunt Bros. report that as to the nursery business they have sold all the stock that they had on hand and all that they could procure in addition. Mr. Hunt advises those who wish trees to bear in mind that January is the best month for setting out. February is next best, while March and April are poorer and poorer. He who would have thriving trees should get them in the ground early, so that they will be well rooted before summer weather.

Californian: There is an experiment about to be undertaken near Lerdo that is a new departure in the line of irrigation. There is a patch of land about 400 acres in extent which lies above the Beardsley canal, but which is of exceedingly good quality. So the Kern County Land Co. purposes to put in a centrifugal pump and plant, and by that means lift water from the Beardsley canal upon the land. No doubt

in time this method will be extensively used and its trial this season will be watched with great interest.

Californian: At Greenfields, Dudley & Co. have just finished planting 120 acres of land with prune trees for Messrs. Cliff, Astell, Duke, Tweedy, Martin and Grant, who are recent purchasers. Along the avenues, between the different holdings, palms and a variety of ornamental trees and plants have been set out. From 20 to 30 varieties of fruit trees have also been set out. The claim of table grapes has not been overlooked, the Flaming Tokay, Corincho and Malaga being the chief varieties planted.

Californian: A. C. Tibbet owns a cow that in February gave birth to four calves. The first born was small, weighing not more than five pounds, and died immediately. The second was a stout, healthy bull calf, which was healthy enough until sold to the butchers. The third was a heifer calf and the largest of all, but it died. The fourth was a heifer calf and is still living and hearty. And the cow is now giving about six gallons of milk daily. She is seven-eighths Durham and one of the Jack Ellis stock.

Mendocino.

Willits News: Charles Hatton has taken up a 40-acre tract of land near the outlet, which he will convert into a vineyard as soon as possible. Mr. Hatton has faith to believe that grapes will do as well there as in any portion of Sonoma county. We believe they will, and his experiment may prove of much interest to other portions of Little Lake valley.

For some time past black bears have been ravaging sheep ranges in the vicinity of Ukiah. Several days ago a number of sheep were killed on the Howard ranch, about five miles from the city. Bill McFarland, an old bear hunter, took the trail on Monday of last week, and succeeded in bagging one of the largest bears ever seen in the county. The encounter, however, was nearly fatal, as a cartridge caught in McFarland's Winchester after he had fired the first shot, and he succeeded in ejecting the defective shell just in time to save himself from mutilation. The bear was within ten feet of the hunter when he fired the fatal shot. This is McFarland's ninth bear this year and his 57th all told.

Merced.

Modesto Herald: Dr. Wilhite has quite an extensive apiary in this city. One day this week he shipped from it 1000 pounds of very fine honey, which will net him at least 10 cents a pound.

Monterey.

Pajaronian: The market now shows home-raised peas, rhubarb, asparagus, celery, new potatoes, lettuce, etc. There is a variety to the vegetable productions of this garden spot of the universe, and they are all gilt edged.

Watsonville Rustler: N. C. Briggs and B. F. Gould have filed in the office of the Monterey County Recorder a claim to 50,000 inches of water to be taken from the Salinas river in the vicinity of the Soledad bridge and conducted down the valley a distance of about 40 miles to a point near Castroville, there to be used for the purpose of irrigation. The canal or ditch to convey the water is to be 30 feet wide at the top, 20 feet wide on the bottom and 8 feet deep.

Napa.

Napa Register: Copious rains that fell in this valley when apricot trees were in full bloom a few weeks ago destroyed, to a very great extent, the fruit germs, and consequently there will be a short crop of "cots" in this section this year; nor is this the only locality where this fruit was damaged in like manner. Advice from all portions of the State are of the same tenor, consequently good prices are sure to rule for this variety of fruit.

Register: Buds on grapevines are rapidly swelling. So long has plowing been deferred by reason of the wet weather the grass and weeds have attained a luxuriant growth in both orchard and vineyard. In some of the latter wild kale, or mustard, is very thick and from two four feet high. Vineyardists and orchardists will be busy early and late for several weeks.

Sacramento.

News: "The outlook for a good fruit crop is favorable," said Sol Runyon, the well-known Courtland orchardist. "That is, there are plenty of blossoms. Of course that does not always signify a heavy crop, but you cannot have fruit without blossoms. The prospect for pears and plums is especially encouraging, but peaches and apricots will not be so plentiful, though there may be an average crop."

Orange.

Anaheim Gazette: The Earl Fruit Company is making preparations to set out 100 acres in the peat lands to celery and cauliflower for the early Eastern markets.

Orange Post: A silver stand has been provided for the jar of jelly in the Orange county World's Fair exhibit, made by Mrs. Susan Winans, of Santa Ana, the first white child born in Chicago. On the stand is engraved the following: "Mrs. Susan Winans, a resident of Orange county, Cal. First white child born in Chicago. Born Feb. 18, 1812."—S. A. Cor. L. A. Times.

Santa Ana Blade: A large delegation of the farmers of the San Joaquin ranch were in Santa Ana on Saturday last to make arrangements for the purchase of agricultural implements with which to harvest their grain and also to contract for 300,000 grain sacks. A Blade reporter was informed by a member of the delegation that the prospects for a prolific yield could not be better. The area sown to barley in that locality ranges from 20,000 to 30,000 acres. The representative said: "I have

farmed in that locality for a number of years, but never before have I seen anything like the present growth either in extent and outlook. We expect to secure machinery on liberal terms and will have our grain sacks delivered in Santa Ana at 6½ cents a piece. A large area of land is also being prepared in that region for the planting of corn and potatoes, so, taking it altogether, we expect to surprise the oldest inhabitants in the amount raised on the San Joaquin ranch this season."

San Bernardino.

Rialto Orange Belt: W. P. Martin cut the first barley of the season last Monday, March 27th, on his ranch south of the Santa Fe railroad. The yield is about two tons to the acre, and much of it stood four feet high.

Santa Ana Blade: The Oxnards of the Chino sugar factory will take 100,000 tons of sugar beets this season from the Orange growers, paying them \$3.50 per ton for the beets of 12 percent saccharine and 40 cents per ton for each additional percent. The Southern Pacific has agreed, too, to haul the beets from Anaheim to Chino for 87½ cents per ton.

Ontario Observer: A \$1 per box a mature or 12-year-old grove of budded orange trees will safely net the owner \$250 per acre. As a 12-year-old orange tree, properly treated, should not bear less than five boxes of oranges, and as an acre of such trees should not bear less than 400 boxes, the above is seen to be a very conservative statement. An acre of orange trees that nets the owner \$250 annually, is by all rules of business worth \$2500. As there is every assurance that budded oranges will never sell on the trees for less than \$1 per box (overproduction at such a price being impossible), it is clear that orange groves here are being sold at less than their real value.

San Diego.

At a meeting of the San Diego Horticultural Society, held in San Diego recently, J. P. Jones exhibited lemons cured by wrapping in tin foil, which were of excellent color and flavor after four months' curing. Mr. Jones claimed that this process prevented shrinkage, and that the fruit retained its original color—a very important point.

Great improvements are in progress in the Escondido country, 35 miles north of San Diego. The Land and Town Company has just completed planting with eucalyptus and other shade trees 20 miles of streets running through the grant on the highest points overlooking the valley, in which stands the third town of the county; has also planted large groves. This work has started private planting to an unprecedented extent. The citizens are putting in many thousand shade trees.

Santa Barbara.

Santa Maria Times: Morris & Stewart shipped 30 butchered calves on Tuesday last. They have adopted a new plan for shipping, by placing the carcasses on racks to admit of free ventilation. They don't forget their friends when they butcher, but treat them to all the sweetbread, heart, liver, tongue, feet, tripe, tail, head—well, any and all the calf they want. The veal trade of this valley is increasing rapidly.

Solano.

Vacaville Reporter: The present outlook for the fruit farmer is cheering. In places the apricot crop will be short; that upon old trees will be very light, but the young trees promise a good crop at this writing. There is always a good crop of peaches in Vaca valley. It is probably the only spot on earth so sure of a peach crop. Again, the grower is fortunate in that the competition between the shippers is going to be lively. Already they are promised box lumber and other material at about cost and the loading of cars absolutely at cost.

Sutter.

Farmer: The steamer this week brought up to the Rideout ranch a lot of material for erecting trellis poles, etc., for the new hopyard recently started there. About 30 acres have been planted, and we understand that a large portion of that rich soil will be planted to hops in the future if this lot proves a success. The hopfields at Nicolaus have been a paying investment, and there is no reason why the same good results could not be realized on similar land on this side of the river.

Farmer: We are pleased to note that several of the large orchards of the county have been given names that designate them from others. The plan is followed out in other parts of the State and is very much favored, as it gives the orchard credit for its fruit abroad, and often the products from the same go under the special brand bearing the orchard name. E. W. Hixson, who has 25 acres of trees and 15 acres to vines about 4½ miles west of Yuba City, has adopted a name for his place, and it will hereafter be known as the "Ridgeland Orchard."

Sonoma.

East Santa Rosa Cor. to Republican: The prospect for a large crop of fruit in this locality was never better, yet it is not wise to "count the chickens before they are hatched." A cold wave may come later on, "when the mists have cleared away," and nip the young and tender fruit in the bud. Now is a good time to attend to grafting. The writer has just finished grafting a number of apple trees that proved to be of a worthless variety. Farmers on the south side of Santa Rosa creek are assured of a good crop of mustard, which is now waist high and in full bloom. We are happy to say that "distance lends enchantment to the view."

Sonoma Democrat: Charles F. Raymond of Healdsburg was in Santa Rosa on Wednesday. He says the American Must Condenser Company, formerly of Geyersville, is now moving to Healdsburg, where the plant will be ma-

terially enlarged. It employs during the season from 40 to 50 hands, and our Sotoyome neighbors are most pleased with the new industry. Mr. Raymond tells us that eight or ten new houses are building in Healdsburg, and business is as good as could be expected for the season. There are no vacant houses, and the canneries are clearing up for a heavy business this summer. Cattle, wool and corn have been dethroned in Russian River valley. Fruit is king.

Tulare.

Five hundred rabbits were captured at the drive on Chatten's ranch recently.

Springville Cor. to the Citizen: The roads are in a terrible condition with bog holes, rock slides and water without end, which makes traveling very bad; but we have no kick, for the grain and grass are simply immense; crops never looked better; cattle are getting fat, and will soon be ready for the market.

Yolo.

Mail: Among the Yolo farmers who are planting fruit trees this year are Elias Harley and J. T. Hadley. Mr. Harley is planting 420 French walnuts and 200 almonds, besides a quantity of grapes. Mr. Hadley is planting seven acres to almonds and Tragedy prunes.

Sacramento News: R. S. Carey says that the outlook for the farmers of Yolo county is not bright. The unprecedented weather of the past winter interfered with putting in crops and the acreage is light. What summer-fallow there is in looking well, and, should the weather continue favorable, plows will be going everywhere on the high lands next week. Summer-fallow can be kept up as long as the ground is in condition, which may extend almost to April 1st, or possibly beyond that date. Mr. Carey said that there are large quantities of grain in the warehouses, and that increased prices, subsequent to short crops, might, partially at least, make a stand-off for a poor season.

Woodland Democrat: Local dealers report a great scarcity of good beef cattle in this vicinity. Mossmayer & Co. are killing beeves shipped from Nevada; in fact, he has been using cattle shipped from that State, almost exclusively, for several weeks. Chalmers Bros. have not yet killed all of the large drove of Modoc beeves they purchased from George Geary last fall. Armstrong & Alge, notwithstanding the scarcity, have, so far, managed to secure all the cattle they want from Yolo county farmers, and they say that for quality, Yolo beef cannot be beaten in any market in the world. Woodland butchers supply the local shops in Blacks, Dunnigan, Arbuckle and College City, and they frequently ship beef as far north as Williams and Willows. They also supply an extensive trade in Capay Valley.

Yuba.

Marysville Appeal: D. B. Rath has just built a new house on his ranch in Brown's Valley, and is clearing a large field to plant alfalfa in next winter. Frank Wile is going to build a new house below the ditch next year and will set out a large orchard and vineyard. Good for Frank. He intends to have wine and fruit in abundance. P. L. Carmichael has planted 100 acres in alfalfa. He intends to make many improvements in the near future. R. F. McGinn is superintendent of the Carmichael ranch.

OREGON.

Salem Statesman: A cutting from a prune has been left with Mr. Savage to be added to the Oregon forestry exhibit at the World's Fair. This cutting is the growth of one year and is eight feet and two inches in height. It goes to show that prune trees can grow pretty rapidly in Oregon where they get a good start.

WASHINGTON.

The Farmers' Alliance of Washington has located in Tacoma its co-operative warehouse, from which its members will ship their grain, beginning this season. Tacoma citizens give the site and bear half the expense of erecting the warehouse, which will hold 1,000,000 bushels of sacked grain. The conditions are that 10,000,000 bushels of grain are to be shipped through it in not less than five nor more than ten years. When these conditions are complied with the Alliance will be given a deed to the entire property.

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We take pleasure in advising the readers of the PACIFIC RURAL PRESS that the UNION PACIFIC is the most direct and quickest line from San Francisco and all points in California to the WORLD'S FAIR. It is the ONLY LINE running Pullman's latest improved vestibuled Drawing-Room Sleepers and Dining Cars from San Francisco to Chicago without change, and only one change of cars to New York or Boston. Select Tourist Excursions via the UNION PACIFIC leave San Francisco every Thursday for Chicago, New York and Boston in charge of experienced managers, who give their personal attention to the comfort of lady and children traveling alone, from all points in Europe. Steamship Tickets to an "A" from all points east and for ticket to the World's Fair and all points east and for Sleeping-Car accommodations call on or address D. W. Hitchcock, General Agent Union Pacific System, No 1 Montgomery street, San Francisco.

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A New Electric Vapor Motor.

In the early part of last year we illustrated a gas or gasoline engine used for motive power (the invention of Daniel Best of San Leandro, California,) which has been used in hauling street cars from San Jose out towards Alum Rock, about eight miles, and which is still in use on that suburban road. We herewith give an engraving of one of the latest inventions of Mr. Best which has been named an electric vapor motor.

This motor was built to run on a street railway line between Yuba City and Marysville, California, a distance of four miles. After its completion a number of newspaper reporters visited San Leandro to witness its work on a short line of railway built for experimental work. An hour of severe trial under the exacting conditions proved its capacity and adaptability for street railway service. This motor will gain a high rate of speed within a very short distance and can be checked within a few feet. The motor is enclosed in a car and when the doors of the car are closed little or no noise can be heard ten feet away. An admirable feature of this motor is the system by which it can be thrown in and out of gear without causing a jerk or jar. The expense of this motor in running is small. In comparison with horse power, electricity, cable or steam power it is claimed by the inventor that it does not on an average cost one-third as much as the cheapest of these. It is easily handled by one person and its simplicity of construction makes it inexpensive to keep in repair.

The mechanical features, which are shown in the engraving, are covered by several patents. The connecting rods from the pistons are attached to cranks on the main engine shaft and this shaft connects direct with the forward car-wheel axle by an endless steel roller-chain, passing around sprocket wheels on the shaft and axle. Another chain passes around a sprocket upon the rear axle and a sprocket upon a counter-shaft, driven by an intermediate gear from the main engine shaft, and by means of a clutch mechanism, one set of wheels may be driven directly from the engine shaft to propel the car in one direction, while the others are disengaged from the shaft and run free. By changing the clutch the first set is thrown out of gear, and the others are engaged so that the car will be driven in the opposite direction. The number of revolutions of the engine per minute is 200, and of the

car-wheels (diameter 30 inches) is 100; this giving a speed of eight miles per hour. This speed can be changed by the operator from 75 to 250 revolutions per minute.

The speed of the engine is controlled by a simple ball governor that governs the amount of gas required, as well

exhaust from the engine may discharge beneath the car, or, preferably, through pipes above the top of the car, so that no odor is discernible by the passengers. The inlet and exhaust valves are separately actuated, the exhaust being controlled by the governor, which acts directly upon that instead of the inlet valve.

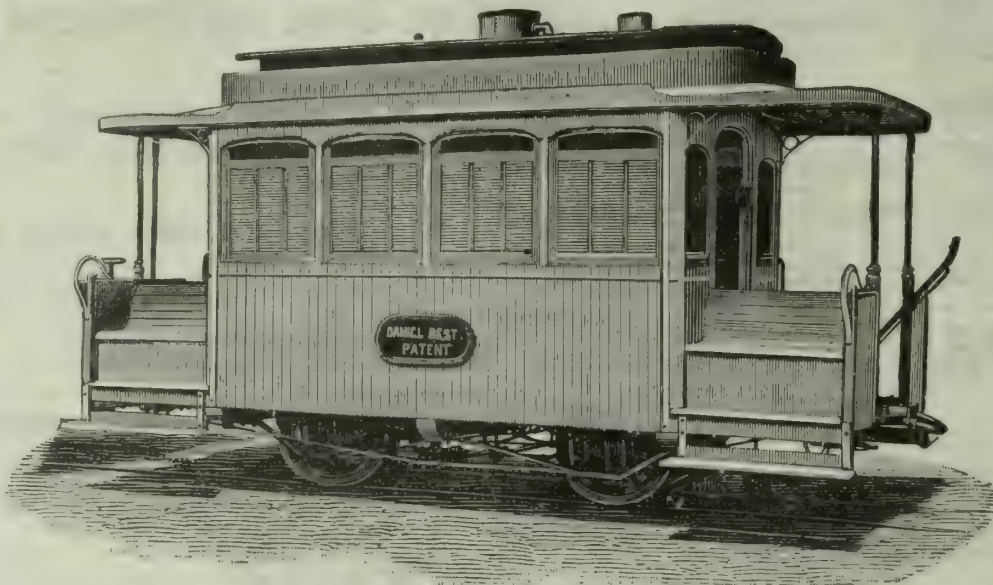
Last week this motor was shipped to Marysville, where its capacity and adaptability was fully tested. Its advent was hailed with joy, and the local papers have long, commendatory articles on its efficiency in pulling a large trailer loaded with passengers, on short curves and heavy grades, without diminution of speed. The local endorsement was universal as to its excellence and capability, and several more motors will be immediately built for this road.

The question of rapid transit on street or suburban roads is a very important one, which is attracting the attention of inventors. High rates of speed on this class of roads must, however, be coupled with the element of safety to passengers, and the cars must be under control as to quick starting and sudden stopping. This is a feature to which Mr. Best has given special attention, and in which he has been successful. Cheap and efficient motors for outside street, suburban and country railroads will make a decided change in existing conditions. The crowded portions of cities will be relieved, since accommodations can be given further from the centers and yet there will be convenience of access. In the country regions speed may be attained and the roads be built and operated at less cost than by steam or electricity, in which systems expensive plants are required. These electric vapor motors are specially adapted for suburban roads, owing to their economy and efficiency.

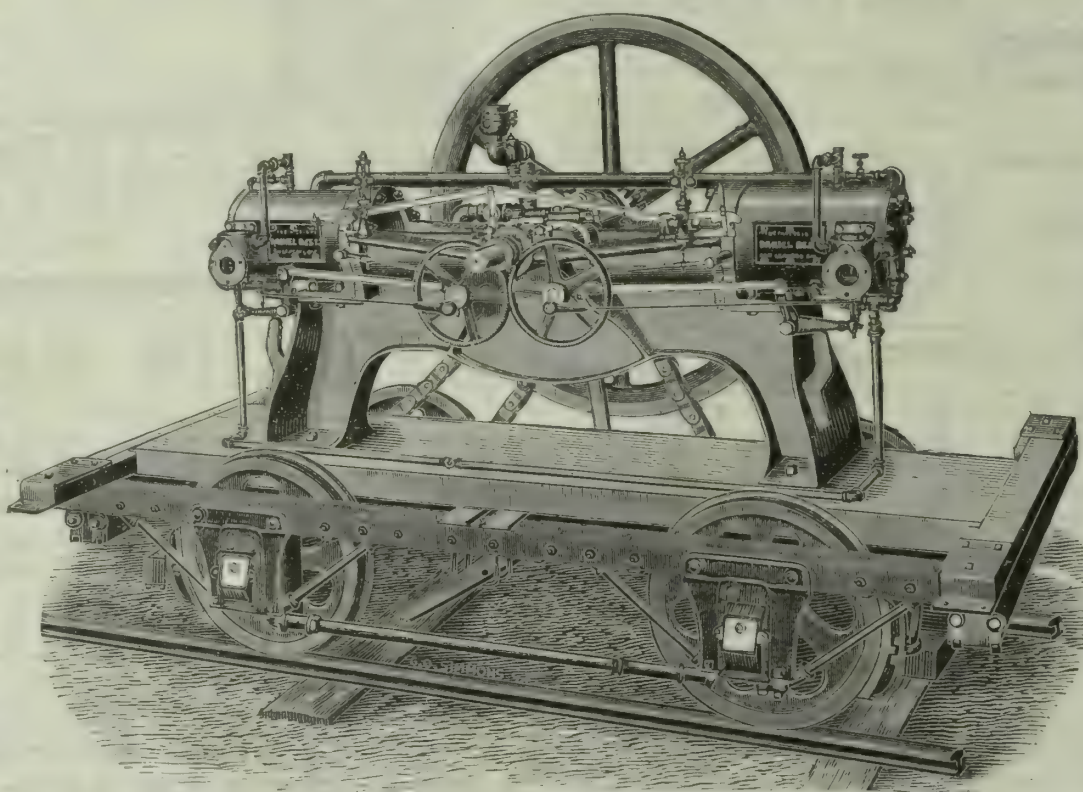
THE Government Commission to take action under the Caminetti law has been appointed. The U. S. Engineers selected are Col. Mendell, Lieut.-Col. Benyard and Major Heuer, all residents of San Francisco, and familiar with

this subject. Major Heuer and Col. Benyard were both members of the Debris Commission which reported to Congress on hydraulic mining in California, and it was on the basis of that report that the Miners' Association was organized and the Caminetti law enacted.

THE high water destroyed \$4000 worth of salt for Shaefer Bros.' works at the north of San Diego bay, where the Otay and Tia Juana rivers empty on each side.



BEST'S MOTOR AND CAR.



BEST'S ELECTRIC VAPOR MOTOR.

as governing the igniting device. This motor is operated from either end, it not being necessary to turn to run in an opposite direction. It can back or forward, stop or start, at the will of the operator. Either set of driving wheels can be brought into action by a simple movement of the reverse lever. The engine is double, as shown by the engraving. The gasoline is carried in a tank concealed in the roof of the car and brought down by pipes to the generator, and from thence to the engines as needed. The

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It cleans floors, kills roaches and bugs of all kinds, cleans milk vessels, tin or wood; keeps farming implements bright and free from rust; is a perfect disinfectant; softens water, washes dishes and clothes; and can be put to a thousand uses in place of soap or other preparations.

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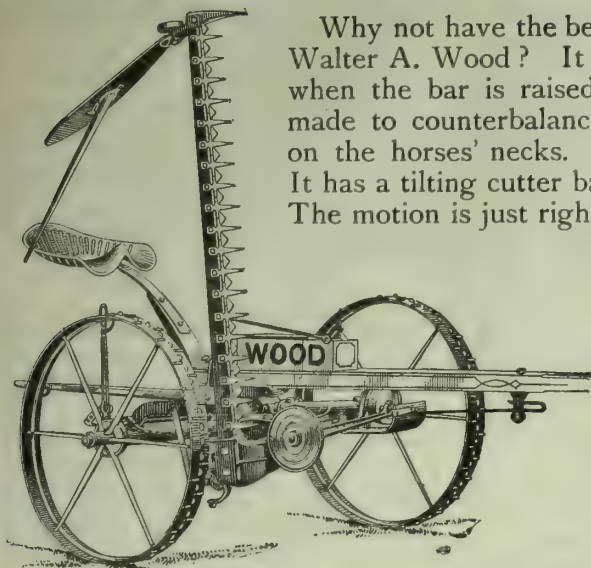
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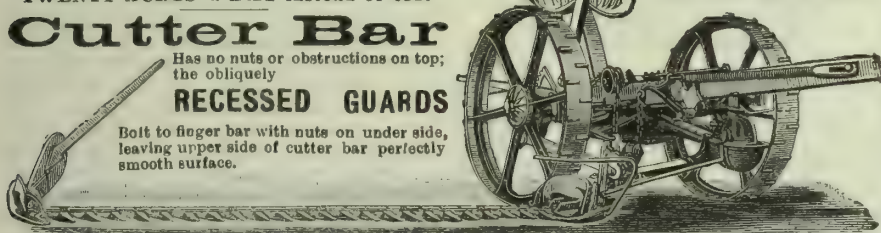
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Cutter Bar

Has no nuts or obstructions on top; the obliquely

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Bolt to finger bar with nuts on under side, leaving upper side of cutter bar perfectly smooth surface.



NO SIDE DRAFT
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7-FOOT mower will do as much with one team as two 4-foot machines, SAVING half the corners.

MAIN WHEELS made interchangeable—one wheel fits either side of mower. THE FOOT LIFT raises cutter bar with perfect ease without the aid of hand lever, the first ever made. EASILY TILTED. THE STANDARD MOWER can be entirely taken apart and put together again by the farmer with a common wrench. SEND FOR SPECIAL CIRCULAR.

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Ball Bearings
make light draft and don't wear out.



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adjust each gang, independently. The best for hillside or level.



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square hole discs square hole spools one piece, square hole washers. No loosening or turning on the shaft.



Scrapers
adjusted by drivers foot and rigid or not as you wish.

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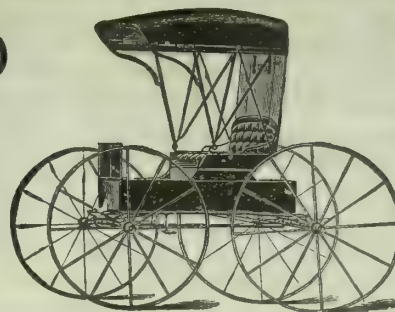


Pulverizes fall plowing, spring plowing, stubble, breaking. Useful spring, summer, fall. Often saves all plowing. Turns under manure, grain broadcasted, etc. Made 4-6-7-8 feet wide. Send for free book "THE REASON WHY."

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\$50⁰⁰

SAVED.



\$50⁰⁰

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DESCRIPTION — End or Brewster spring; piano body; Farven patent wheels; leather quarter top; leather trimmings; body 51x24x8 1/2 inches; one-inch double collar steel axle. Wheels made of best selected stock.

The above described jobs we offer you at \$75 each. They retail everywhere for \$125. Order direct from us and save \$50. Leather top, \$5 extra.

We also offer you a two-seated, three-spring, roomy FARMER'S carriage with either canopy or extension top for \$135.

Send us \$60 and we will ship you a nobby little two-seated open road wagon; gear finished in "London Smoke," the latest fad. Write for Catalogue.

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Cheapest
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Fencing
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90 lbs. to
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PROTECT YOUR TREES

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GILMAN'S TULE TREE PROTECTOR.

Cheapest, Best and Only One to Protect Trees and Vines from Frost, Sunburn, Rabbits, Squirrels, Borers and Other Tree Pests.

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THE PACIFIC TREE PROTECTOR

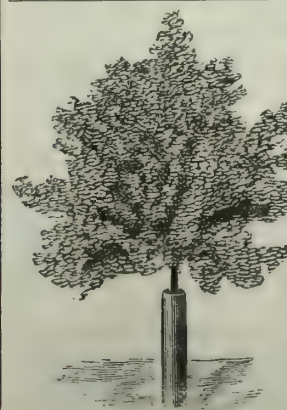
HAS PROVED FOR FIVE YEARS AN ABSOLUTE PROTECTION FROM SUNBURN, RABBITS, SQUIRRELS AND OTHER TREE PESTS. DO NOT INJURE YOUR YOUNG TREES BY PUTTING AROUND THEM TARBED FRET OR OTHER BLACK MATERIAL.

WRITE FOR SAMPLES, PRICES AND TESTIMONIALS.

PACIFIC ROLL PAPER CO.,

SOLE MANUFACTURERS.

80 & 82 FIRST STREET, SAN FRANCISCO, CAL.



PATRONS OF HUSBANDRY.

From Worthy Master Davis.

Don't allow any branches or twigs cut off by the pruner to remain in the orchard or vineyard. Better burn them as soon as possible.

Now is the time for your gardening. The ground is getting warm. Plant right soon!

It is said that wood-ashes, as a top-dressing, will help the onion crop.

Better have a small garden, or truck patch well planted and tended, than too much ground "horribly botched over."

Plant your cabbage this year on last year's "potato patch," and the beets where the beans have been.

You may expect strawberries very soon, as the vines are filled with blossoms and it seems but a day or two from blossom to berry.

A few currant bushes, a small lot of blackberries, a bed of strawberries and two or three gooseberry bushes will furnish you splendid food almost ready for the table.

Isn't it about time to hear that our State Grange officers were going to the field in the interests of the Order? Won't the W. O., the W. S., the W. Chaplain, the W. A. S., the W. Sec'y, the W. T., the W. G. K., the goddesses Pomona, Flora and Ceres, assist the L. A. S., and all join with the P. M.'s and members of the Executive Committee and of the Order, in organizing and reviving Granges? The Worthy Lecturer is in the field and is going to gather many sheaves. I hope each officer will feel in duty bound to scatter some Grange seed in fertile soil. Now is the accepted time.

What is the matter with those pens at Elk Grove, Florin, American River, Sacramento and Enterprise?

The legislature has adjourned, but that body left a big bill for the people to settle during the next two years. Fellow taxpayer, have you thought of the amount of money that was appropriated, of which you must find your share? The sum is immense, remember that!

San Jose Grange had a fine meeting April 1, 1893. The attendance was remarkably large, and the culinary, literary, social, musical and educational program was all that could have been desired.

Vaca Valley Grange has inaugurated a series of "socials," which seems to be just what the farmers of that vicinity needed.

How much easier it is to complain of another's work than it is to construct for yourself and others. Better be more careful, Patrons! There is glass in every well-lighted and well-ventilated house, and those who continually throw cobbles will, some day, find glass in their own house broken. It is a very peculiar eye that cannot see, and an awfully dull ear that does not hear, now and then, something good in the "other fellow." "Judge not (too harshly) lest ye be not judged."

There are many ways of getting Patrons to visit your Grange, who may belong to some other subordinate. A good program and a Harvest Feast are two winning cards; but don't you know that, after all, a royal, hearty reception will do more than the Feast? If there is anything the stranger enjoys, it is to be made "welcome" at a strange place. As soon as the stranger enters your Grange, let the Assistant and Lady Assistant make themselves known to the visitor. Then, if the Grange is not in session, see that the stranger is introduced to everybody present. The Worthy Master should not forget, under "Good of the Order," to call for a few suggestions from the visiting Patrons. You will most always be profited by these words of your visitor. Try the plan! Be on the alert to make it socially and fraternally pleasant for all persons who visit your Grange. Courtesy costs but little, but it never wears out; is appropriate to all the walks and seasons of life, and makes all who come in contact with it happy and contented. Study to entertain, and you will find many opportunities to make yourself and others happy.

Will some one of the many readers of the RURAL please tell, through the PRESS for the benefit of the Order in California and elsewhere, "what is the greatest need of each subordinate Grange?" What remedy would you offer as a cure for that peculiar condition which seems to animate so many farmers, viz., a feeling of suspicion or of "don't care." Just as soon as a farmer finds himself interested in his fellow-men, and is willing to become more and more progressive, that very moment you find him ready to join the Grange or some kindred farmers' organization, and he makes one of the most

aggressive and progressive members of the fraternity and of his neighborhood. It is perfectly remarkable how soon he brightens under a little friction. He is so thoroughly aroused that he finds abundant time to attend to all of his work and every one of the Grange meetings. What we most need is to get the farmers aroused. They are too pacific. They have long ago endured too much. The live Grange is their salvation. Let the farmers be aroused, and that right soon!

Harvest Feast at San Jose.

The Harvest Feast of San Jose Grange, last Saturday fully justified the high expectation with which it had long been looked forward to by members and friends of the Grange. It was an occasion conspicuous for large attendance, general sociability, fine dinner and excellent musical and literary programme, to say nothing of the presence of State Master E. W. Davis and other visitors from a distance. The Harvest Feast marks the entrance into the Order of a class of candidates, and the large number of new applicants for initiation to the San Jose Grange made the event even more important and significant than usual.

The regular business of the Grange was first disposed of. Addresses were made by Master Davis, State Secretary Dewey and Alfred Holman, manager of the RURAL PRESS. These gentlemen expressed their appreciation of the excellent work San Jose Grange is doing, and were enthusiastic as to the future of the Order.

On adjournment of the business session all were invited to retire to the adjoining room and partake of the Harvest Feast. Everything had been prepared by the ladies of the Grange and none of the delicacies that are enjoyed at the tables of a farmer's house were wanting. The tables were beautifully decorated with the choicest flowers of the season, but still more to the enjoyment of those who partook of the delicious feast was the universal spirit of sociability and good will. An hour was occupied at table, after which the Grange was called to order for an open session and nearly every seat was occupied. First on the program was a well-rendered piano solo by Miss Nellie Jeffers.

State Master Davis then gave a thoughtful address upon the general work of the Grange. After speaking at length upon the objects of the organization and its influence upon legislation he said in part:

"There is a proposition in favor of which all Grangers should stand in unison. It is to get such legislation as will provide for free rural mail delivery. Cities are entitled to it and it is but justice that the rural population should have the same privilege. I am also of the opinion that the General Government should own the telegraph and railroads carrying the United States mail. The State Grange of California has been urging a mutual insurance law since 1874 and I am pleased to know that they have at last succeeded. We have had to fight the aggregated millions of the fire insurance men of San Francisco, yet the law has passed. I would, nevertheless, caution you not to be hasty in organizing your companies."

He also spoke in the highest terms of the re-assessment measure, not because of its being a costly measure for railroad companies, but because it was just to the people.

"There are two kind of Granges," he continued. "San Jose Grange is one of the live kind. You can always tell the live Grange just as you distinguish the live tree or plant. The live Grange is found where there are church-bells, school-houses, libraries, good public buildings. Their school-houses are painted and well furnished. The members seem to know that they must always be moving. In the sleepy Grange the members are indifferent, dues not paid; the frames are never draped in mourning, though several members may have passed away. Around the private homes everything is out of repair; the gate to the school-house is broken off and fences are down. There are Granges not far removed from here, and I would suggest that you appoint a committee, composed of some of your most enthusiastic members, to visit them, for I know that you can do them good."

"I was going to say something about the State capital. I did not bring it with me, but I did bring a vote for having it removed to San Jose at the earliest opportunity. I would urge that, if it comes, the moral influence of this city be so powerful against evil that legislators, who come here as respectable citizens, will not return to their homes any the worse for their visit."

A vocal solo was very satisfactorily rendered by Miss Lulu Tenny, after which Amos Adams delivered an address on currency, and explained the purpose of the land loan measure and sub-treasury proposition. The following numbers concluded a very

excellent program: Vocal duet, Mrs. Foote and Miss Wells; poem, W. C. Kingsbury; original poem, Mrs. E. L. Watson. Mrs. Watson also made a few appropriate remarks in favor of woman suffrage.

Merry Grangers.

TO THE EDITOR:—If the Order of Patrons of Husbandry was instituted to cause a greater love for agricultural and rural pursuits, it has been a marked success in these quarters. Yesterday (Saturday) the weather was perfect, and there was a large attendance at our regular monthly meeting; but the attendance has been good at all meetings, although rain seemed as regular as the days of our meetings. The annual spring picnic was the leading feature of the session, and committees were appointed to take charge of the entire affair. Thursday, May 11th, was selected as the day, the place to be named hereafter. These gatherings are a leading social event of northern California and are participated in by the public generally, and to accommodate the greatest number, particularly families, they are located at the most accessible points. From the known ability of the committees a more than average attractive program will be prepared.

The question selected at a previous meeting for discussion, "What should be the maximum rate of State Taxation in California" was taken up and discussed, and, while no rate was arrived at by the speakers, it was held that it should be less than the amounts appropriated by recent legislative bodies in this State. One speaker likened it to confiscation and ascribed this lavishness to the non-taxpaying majority that usually appear as legislators. The carelessness of the people, and especially the agricultural classes, in making selections for office was referred to and regretted. It was universally agreed that State taxation should be the lowest possible compatible with the support of the Government economically administered.

Twenty applications were read and acted on, two by card from other Granges and eighteen by initiation, and it is said there are still more coming. The next degree meeting will take place May 6th, when the First and Second Degrees will be conferred. The Grange will convene again on the 15th of April, the session to be devoted to literary exercises and sociability. Fraternally,

GEORGE OHLEYER.

Yuba City April 2d, 1893.

The Secretary's Column.

By A. T. DREW, Secretary State Grange of California.

STATE GRANGE FINANCIAL STATEMENT. Receipts during March, of General Fund, \$113.70; disbursements, \$75.50; balance on hand and in the treasury, \$576.18. Receipts of Lecturers' Fund, \$43.95; balance, \$2024.98. Total balance in both funds, \$2601.16.

GRANGES SOUTH.—Lecturer Huffman and Past Secretary Adams have been an-

nounced to speak at Hollister, Tuesday, April 4th; Watsonville, Wednesday, 5th; San Lucas, Friday, 7th; and San Antonio, Saturday, 8th. Good reports from their work are anticipated.

CONTRA COSTA GRANGE will hold a picnic at the fair grounds Saturday, May 13.

IN MEMORIAM.—At its last meeting, South Sutter Grange (No. 207) adopted a series of resolutions in memory of late Susan E. Boyd expressing in feeling terms the sense of bereavement felt at the loss of a beloved sister and friend. The resolutions were drawn by Lucy E. Purinton, M. J. Fifield and Bessie Alger.

SUBJECTS FOR DISCUSSION.

"Now that the legislature has passed an enabling act for county and other mutual fire insurance companies, it would seem well that each Grange in the State should discuss the best ways and means of utilizing the advantages to be derived thereby. We presume that there are more than 100 mutual Grange insurance companies in other States, and, so far as we are informed, every one in existence during the last 10 years have proved successful in saving a very large amount of money to patrons and farmers in the same. If the safe plans which have been tested in other States should be adopted in California, there need be no fear of failure. It can hardly be possible that in any other State in the Union, farmers have been obliged to pay such large premiums on theirs, the safest of all classes of insurable property. Which Grange will be the first to lead this work in a reliable and safe form?"

The proportional voting system, adopted by the Mechanics' Institute of San Francisco, is another subject worthy of investigation. Also the Australian system of legalizing transfers of real estate through certificates thus doing away with the making and recording of deeds, searching of titles, making of expensive abstracts, etc., in connection with the sale of property, should be better known by patrons and other citizens.

GRANGE MEETING AND DISCUSSION.

Temescal Grange, April 1st, met in the evening. Bro. Gilbert from New Hampshire, now residing in Berkeley, Bro. and Sister Cross, of Roseville Grange, presented interesting remarks. A larger proportion of the Granges in New Hampshire now meet in the evenings than formerly. The system of annual programs for meetings during different months is there carried on with good success. With proper effort, we believe the adoption of such a plan in California, in many of our Granges at least, would prove exceedingly beneficial. Bro. and Sister Cross are among the few remaining charter members of Roseville Grange. Sister Cross urged regular and prompt attendance as most profitable to individual Patrons, as well as helpful to the Order. Those who attend regularly find the most real interest. There are but few who do so but what feel that the Grange pays. Roseville usually has a program announced in advance. By request, Mr. Gilbert, who is employed at the

(Continued on page 317.)

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SPRAINS.

Mt. Pleasant, Texas,
June 20, 1888.

Suffered 8 months with strain of back; could not walk straight; used two bottles of

St. Jacobs Oil,
was cured. No pain in 18 months.

M. J. WALLACE.



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St. Jacobs Oil
and was cured in four days.

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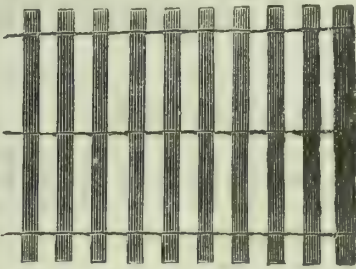
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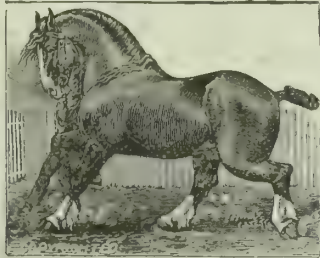
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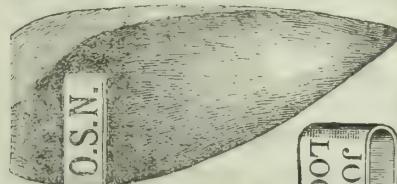
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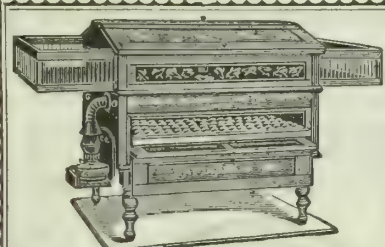
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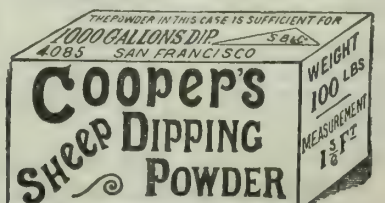
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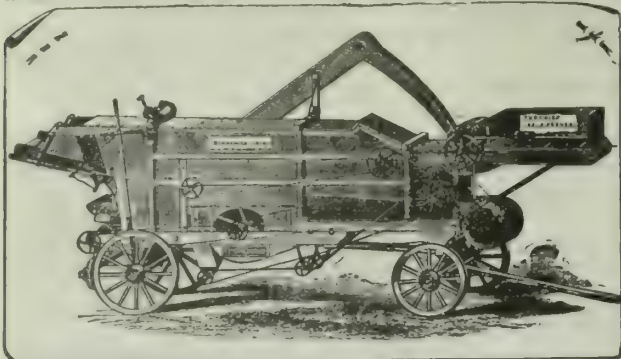
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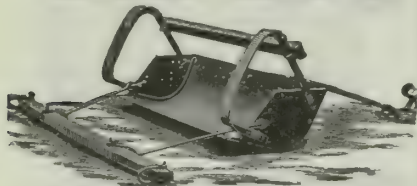
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S. F. MARKET REPORT

Market Review.

SAN FRANCISCO, April 5, 1893.

Dealings in wheat have been much interrupted during the week by the Easter holidays. No business was done abroad Friday, Saturday or Monday, and in the United States exchanges were cleared on the two first-named days. An election occurred in Chicago Tuesday, so that we have no reports for that market on that day. But Chicago, notwithstanding later inactivity, presented the only feature of interest in the market during the week. As we have before pointed out, prices on the Board of Trade there had been comparatively higher than elsewhere, and the market has presented more activity, due largely to a corner in May wheat. John and Michael Cudahy the well-known pork packers were at the head of a gigantic bull clique, which managed to secure control of about 11,000,000 bushels of contract wheat. Chicago warehouses were full to overflowing, and it was necessary to charter vessels in order to make room for wheat. The Board of Trade, at a secret session declared that a storage emergency existed, and extra emergency-houses would be created as applications were made.

The fact was not known until about noon Wednesday. Meantime in the early trading, with Kansas and the whole West clear, according to the weather map, and no prospect of rain, the shorts were excited and pushed prices up until the clique began to sell, realizing heavily. The early advance was aided by statements that Secretary Mohler of Kansas, had said the good rain reports throughout the State were bogus and private reports from the State were bad. When the clique began to sell, however, and the action of the board became known there was a great rush to buy and prices went up in jumps, but they tumbled within a few minutes from 82½ cents to 75½ cents. But at the bottom the shorts who sold on the way down began to take profits and there was quite a rapid recovery to 79 cents. Later the market weakened again and closed at 78½ cents. The clique had been selling for two or three days, and it was supposed had got rid of over 3,000,000 bushels. Business was almost paralyzed for a time, and rumors were current of large private settlements by the clique. In the excitement of the break much wheat was thrown on the market on stoploss orders.

The whole movement was speculative, and not the result of genuine crop or market conditions. The market has meantime fairly recovered from its demoralization, and matters are in much the same shape at Chicago as before the break.

Business in San Francisco has been limited. The ruling price for export wheat is \$1.23½, though in some cases \$1.25 is realized. But sales at any figure are not general. Neither buyers nor sellers are anxious. The declining tendency and lowering of figures, which have been the main characteristics of the market for two or three weeks, have been absent during the week past, and quotations from day to day—so far as they have been given at all—have been about the same.

The continued wet weather is causing uneasiness among farmers. There are renewed predictions of a short crop in California, but we expect it to be about average. In some localities the damage has been material; and in others the acreage has been much smaller than usual, but in the San Joaquin an unusually heavy yield is anticipated, and also in Southern California. It looks now as though the excess and deficit in the several localities will about balance. Of course it cannot be foretold what new conditions will arise between now and harvest.

The total wheat shipments from San Francisco during the month of March were 783,674 cents, valued at \$986,915. Since January 1st the shipments were 3,360,298 cents, valued at \$4,335,010, against 3,183,432 cents for the first three months of 1892, valued at \$5,383,285. In March, 1892, the exports were 598,308 cents, valued at \$966,509. There were 14 vessels cleared with wheat in the past month. Only one vessel in March had a cargo of wheat, valued at about \$100,000, the Simla. The clearances comprised 7 vessels for Queenstown, 2 for Hull, 3 for Liverpool, 1 for Grimsby, and 1 for Plymouth. Two of the vessels clearing in the past month were loaded on owners' account, against 7 in February and 12 in January.

The wheat crop of India dates from April 1st, so that the cereal year of 1892-93 is now practically at an end. The crop for the year just closed was practically the same as in 1889-90, and the smallest, with that exception, in eight years. The crop is given at 26,790,000 quarters, or 214,320,000 bushels. Estimating the last eight weeks of the year, the exports from the last crop have been 3,600,000 quarters, or a little over one-eighth of the total yield. It is only within the past decade that India has become a wheat exporter. For the year ending March 31, 1880, its exports were reported at only 200,000 quarters. In the following year the quantity was given at 510,000 quarters, and in the year following that 1,712,000 quarters. How much wheat was raised in India those years, we do not know, nor for the following three years, when the exports were 4,860,000, 3,253,000 and 4,920,000 quarters respectively. Since then the yield and exports have been as follows:

Year ending	Crop, Quarters.	Exports, Quarters.
March 31.		
1886	35,900,000	4,046,000
1887	36,100,000	4,900,000
1888	29,800,000	3,160,000
1889	33,100,000	4,100,000
1890	26,700,000	3,230,000
1891	28,200,000	3,260,000
1892	34,400,000	7,052,000
1893	26,790,000	3,600,000
Totals	250,990,000	33,348,000
Yearly average	31,373,750	4,168,500

As a rule, 13½ percent of the crop is available for export. That is what the average for the eight years shows. For the year ending March 31, 1892, the exports were exceptionally heavy, being over 20 percent of the crop for that year. How that happened is not clear, as the other years show a very even trade. In the United States the wheat

crop is more than double that of India, and the quantity available for export is at least 40 percent of the crop, but India has about four times the population of the United States, and if her people were as great bread-eaters as those in this country, she would have no wheat for export, but would have to import foreign wheat or greatly increase her native product.

Visible Supply of Wheat in March.

During each week of March the visible supply of wheat in this country east of the Rocky mountains was reported as follows:

Week ending—	Bushels.
4th.....	79,241,000
11th.....	79,104,000
18th.....	79,021,000
25th.....	78,211,000

The last weekly report showed a decrease of 1,030,000 bushels for the month. On the 1st inst, the visible supply was reported at 77,655,000 bushels.

Visible Grain Supply.

NEW YORK, April 3.—The following is the visible grain supply: Wheat, 77,655,000 bushels, a decrease of 556,000; corn, 15,317,000 bushels, an increase of 216,000; oats, 4,533,000 bushels, a decrease of 21,000; rye, 895,000 bushels, a decrease of 59,000; barley, 1,116,000 bushels, a decrease of 57,000.

Food Supply of the World.

The recent very elaborate report of the Department of Agriculture covers the population of every part of the habitable globe, even including islands in the Atlantic and Pacific and the small foreign dependencies of the European countries. It also covers the product of the different crops at each and all of the centers of population, the figures being tabulated in detail. In order to arrive at some idea of the aggregated supplies of staple crops in each section of the globe, the *American Agriculturist* condensed the whole of the Department's immense mass of statistics into one table, giving separately the population of Europe, Asia, Africa, America and Australasia, together with the average per annual production over a period of 10 years, 1880-90, of wheat, corn, oats, rye, barley, potatoes, tobacco, cotton and wool, and also separately the average supply per head of each product in each continent. The result of this condensed tabulation is as follows:

Europe—Population.....	349,166,000	Bushels. P. Head.
Wheat.....	1,264,600,000	3.6
Corn.....	366,016,000	1.0
Oats.....	1,626,164,000	4.7
Rye.....	1,267,980,000	3.6
Barley.....	642,836,000	1.9
Potatoes.....	2,668,505,000	7.6
Tobacco, a.....	442,411,000	1.3
Cotton, b.....	12.0	0
Wool, a.....	762,589,000	2.2
Asia—Population.....	677,249,000	Bushels. P. Head.
Wheat.....	341,285,000	.6
Corn.....	824,000	.....
Oats.....	22,411,000	.....
Rye.....	32,027,000	.....
Barley.....	1,762,000	.....
Potatoes.....	94,391,000	.1
Tobacco, a.....	3,350,000	2.0a
Cotton, b.....	193,525,000	.3
Wool, a.....	193,525,000	.3
Africa—Population.....	9,620,000	Bushels. P. Head.
Wheat.....	34,830,000	3.4
Corn.....	15,525,000	1.7
Oats.....	.....	.....
Rye.....	.....	.....
Barley.....	44,578,000	4.6
Potatoes.....	165,000	.....
Tobacco, a.....	264,000	.....
Cotton, b.....	1,027,000	40.0a
Wool, a.....	131,482,000	13.0
America—Population.....	88,860,000	Bushels. P. Head.
Wheat.....	479,671,000	5.4
Corn.....	1,706,964,000	19.2
Oats.....	594,961,000	6.7
Rye.....	27,340,000	.3
Barley.....	79,679,000	.9
Potatoes.....	169,864,000	1.9
Tobacco, a.....	499,095,000	5.6
Cotton, b.....	11,156,000	50.0a
Wool, a.....	746,375,000	8.4
Australasia—Population.....	3,997,000	Bushels. P. Head.
Wheat.....	36,295,000	9.0
Corn.....	6,328,000	1.7
Oats.....	17,045,000	4.2
Rye.....	73,000	.....
Barley.....	2,675,000	.....
Potatoes.....	15,879,000	3.9
Tobacco, a.....	3,713,000	.9
Cotton, b.....	2,000	.....
Wool, a.....	550,000,000	137.0

a Pounds. b Bales. c United States and Guadeloupe only.

This table shows that Australasia produces the largest proportion of wheat, nine bushels per head of its population, which is less than 4,000,000 people, while America, including Canada and South America as well as the United States, comes next with an average production of 5.4 bushels of wheat per head of its population, Europe producing 3.6 bushels per head, Africa 3.4 and Asia only ½ bushel. In both corn and oats America leads, its production of corn being 19.2 bushels per head and of oats 6.7 bushels. While there is but little corn grown in other continents Europe grows more oats than does America, although its average per head of population is two bushels less. Europe furnishes almost all the rye and barley, although in per capita production Africa leads with 4½ bushels of barley, mostly grown in Algeria and Egypt and some at the Cape of Good Hope. The average yield of potatoes in Europe, 7.6 bushels, appears somewhat heavy as compared with less than two bushels per head of population in America, Australasia having almost four bushels per head. In tobacco, of course, America leads with an average production of 5.6 pounds per head of population, Europe coming next with 1.3 pounds; and in cotton also America leads with an average of 50 pounds per head, Africa ranking next with 40 pounds. In wool, as might be expected, Australasia is prominent with an average yield of 137 pounds of raw wool per head of population, a though the largest aggregate quantity annually produced is in Europe, with America next and Australasia ranking only third.

Other Cereals.

There is a slightly weaker feeling in feed barley, but it has not materially affected the market.

Holders of choice barley have confidence in the future, and are not anxious to sell; so, while the demand is not active, the general tone is fair, and prices are sustained. The demand for brewing is very good, and trade is of respectable volume for first qualities.

Oats on jobbing account sell fairly well, and the feeling is steady. The demand, however, is not particularly strong, and buyers have rather the better of the situation. Parcels especially choice sell readily at full figures.

Corn is slow and inactive. The market is in plentiful supply.

Rye is dull.

Oranges.

The Eastern orange market shows no signs of improvement, and it now seems altogether probable that materially higher prices cannot be realized before the close of the season. A meeting of southern California orange-growers was held yesterday in Los Angeles to take steps toward organization for next season. It is realized that nothing can be done for this year's crop, and matters must take their course. Indiscriminate consignments and auction sales are blamed for this result.

Less than half the orange crop has gone forward from California, and it is even feared that part of the remainder may become unmarketable. Yesterday, in Chicago, Riverside Seedlings brought \$2.25, and Navels sold on an average at about \$2.75. Growers will lose no money at these prices, but they think they ought to have more. In fact, only choice qualities secure these prices. On March 22d, there was an auction sale in Philadelphia, when California Navels went at an average of \$1.75, which leaves the grower only about 25 cents a box, net. In New York, it is reported that California Navels are in rather better demand, at from \$3 to \$3.25. This fruit is not yet well known in New York, but it is expected that, by next season, there will be a good demand for Navels there. Two carloads of oranges shipped to England have done well—particularly the second—but a third from Riverside fared badly. It missed a steamer and was 26 days on the road, arriving in bad condition. Prices realized were about \$1.45 (f. o. b. in California), leaving a small margin of profit.

The troubles that seem to confront California oranges on the Atlantic coast are mainly disadvantageous competition with the Florida product, freights from that State being cheaper; and the fact that the California orange is comparatively unknown there. These are in part reasons why such poor prices have been realized in the extreme East. In the middle West, however, California oranges do better. The world's fair demand ought to help the California fruit out yet.

Locally, the situation remains unchanged. Prices are comparatively low, and we may expect no material changes during the season.

Apples of choice quality are very scarce and high. Most coming in are of poor quality. Some from Siskiyou are choice, and sell readily.

Mexican limes are lower.

Dried Fruits.

The trade in dried fruits is exceedingly light; stocks having been pretty well cleaned up both here and in the East. The healthy tone will no doubt prevail until the new crop, and the opening for this year's products will undoubtedly be at good prices. What the condition will be later cannot now be surmised. A local authority says:

"April and May are usually the months when there is the best demand for dried products, owing to small quantities of fresh fruits other than oranges in market, and it is confidently expected that this season will be no exception to the rule.

"The new crop will probably be later than usual, owing to the backward spring, which is an additional reason for expecting a demand that will speedily exhaust remaining stocks. Reports from most of the fruit-producing sections of the State indicate an abundant crop of everything except apricots, which are conceded by most growers to be extremely light.

"Danger from late frost is not yet over, but barring any injury to the fruit from this cause present prospects are for one of the largest crops of peaches and prunes ever produced in this State."

Provisions.

The cut of two cents in Eastern hams that has occurred in San Francisco has not been merited by conditions, but is partly due to a local war among dealers. Lard is cheaper, but bacon has been well sustained. Supplies in all lines of pork products continue to be exceedingly light everywhere; but non-consumption has interfered with further advance in prices, and has aided the combination of packers in forcing down prices. Of a recent down turn in Chicago, the *Breeders' Gazette* says: "One looks in vain for a sufficient cause for the shrinkage of 20¢ @ 25¢ per 100 lbs, that prices have been subjected to. The supply was no larger than for the previous six days, and there was no falling off in the Eastern demand. Buyers profess to believe that April will show a very material increase in the supply, pointing to the improving quality of the arrivals as an argument in support. They are 'bearing' the market on the strength of that possibility, but that they will succeed in forcing prices much below their present level is, to say the least, doubtful. For March the receipts will show a decrease from last March of about 228,000, while in comparison with March, 1891, there is a loss of over 450,000." So it will be seen that the shortage has been by no means supplied; nor does it seem likely to be soon.

Poultry and Eggs.

Favorable conditions continue in poultry, though prices are somewhat less than last week. But the reduction has not been material, nor does it indicate a permanent declining tendency in the whole situation. Ducks are scarce, and prices very firm. Turkeys sell readily at 20¢ @ 21¢.

Eggs are very plentiful, and the recent improvement in tone has been checked. It is believed, however, that a few days more will see an advance in present low prices.

Butter and Cheese.

The bottom is thought to have been reached in butter, and conditions are slightly improved. Shipping orders have been large, and have been of material aid in disposing of surplus stocks. Much fresh butter has been packed and stored away, while about twenty carloads altogether have been sent

East. Extra choice is sold at fair prices, but the market is still wholly in favor of buyers.

No change in cheese quotations has occurred during the week. The market is dull.

Vegetables.

Potatoes are very firm and notable advances have occurred in several varieties. Receipts are light and stocks small. Sellers have no trouble at all in finding buyers at advantageous rates. Choice onions are firm. The general tendency in new vegetables is downward as the season advances, and most prices are lower. Asparagus is now quoted by the box instead of pound. New potatoes are reduced. Rhubarb holds its own, receipts being moderate. Green peas come in freely. Cucumbers are lower. Bayo and pink beans have both advanced.

Wool.

No reliable quotations can yet be given on wool. Some sales have taken place, but on private terms. Thomas Denigan, Son & Co., say:

"Wool is coming forward liberally, chiefly year's fleece. The wools of six to eight months growth will commence to arrive from now on, and early clips, with condition, will find ready sale, as the shippers are prepared to operate freely on good wool. So far, only one or two clips of long wool have been placed, but more active movement may be expected very soon. Quotations are the asking prices, and both buyers and sellers will soon come together." One hundred thousand pounds are said to have changed hands.

Miscellaneous.

Following Lent, the demand for beef is better, and the market is firm. Hogs are easy and lower. Mut-

ton is a little cheaper. Lamb has a declining tendency.

Honey prices are firm, stocks being small. Walnuts and soft shell almonds are scarce. Other varieties are in good supply.

The market for hay is flat, though prime wheat hay sells at full figures.

Hops are dull here and in the East. Bran has advanced \$1 per ton and middlings are firm.

The strawberry season is at hand, and several consignments of early choice product are in, coming from Mountain View.

Grain Futures.

Liverpool.

The following are the closing prices paid for wheat options per cwt. for the past week:

	April.	May.	June.	July.	Aug.	Sept.
Thursday.....	5s05½d	5s06½d	5s06½d	5s07½d	5s08d	5s08½d
Friday.....	.....	.....	.....	.....	.....	.....
Saturday.....	.....	.....	.....	.....	.....	.....
Monday.....	.....	.....	.....	.....	.....	.....
Tuesday.....	5s06d	5s07d	5s07½d	5s08½d	5s09½d	5s09½d

The following are the prices for California cargoes for off coast, nearly due and prompt shipments for the past week:

	O. C.	P. S.	N. D.	Market for P. S.
Thursday.....	28s6d	29s6d	28s6d	Very Quiet
Friday.....	.....	.....	.....	.....
Saturday.....	.....	.....	.....	.....
Monday.....	.....	.....	.....	.....
Tuesday.....	28s6d	29s6d	28s6d	Quiet

To-day's cablegram is as follows:
LIVERPOOL, April 5.—Wheat—Firm at the advance. California spot lots, 5s1d; off coast, 28s6d; just shipped, 28s6d; nearly due, 28s6d; cargoes off coast, steadily held; on passage, higher prices asked, but no advance established; Mark Lane wheat, quiet.

Eastern Markets.

The following shows the closing prices per bushel of wheat for the past week at

New York.

Day.	April.	June.	Aug.
Thursday.....	74½	77½	...
Friday.....	.....	.....	.....
Saturday.....	.....	.....	.....
Monday.....	74½	76½	77½
Tuesday.....	74½	77½	78½

The following is to-day's telegram—per bushel:
New York, April 5.—Wheat—77½¢ for May; 79½¢ for July and 80½¢ for September.

Chicago.

Day.	March.	May.	July.
Thursday.....	75½	78½	73½
Friday.....	.....	.....	.....
Saturday.....	.....	.....	.....
Monday.....	77½	79½	75½
Tuesday.....	.....	81½	75½

The following is to-day's telegram—per bushel:
Chicago, April 5.—Wheat—79½¢ for May; 75½¢ for July and 75½¢ for September.

WHEAT.

	March.	May.
Thursday, highest.....	\$1 30	\$1 25½
" lowest.....	11 26½	1 25½
Friday, highest.....	.....	.....
" lowest.....	.....	.....
Saturday, highest.....	.....	.....
" lowest.....	.....	.....
Monday, highest.....	11 30	1 25½
" lowest.....	11 26½	1 25½
Tuesday, highest.....	11 30	1 26½
" lowest.....	11 26½	1 25½

†Milling.
The following are to-day's recorded sales on Call:
Wheat—Morning—Informal Session—May, 300 tons, \$1 26½; 20, \$1 26½; 20, \$1 26½; 60, \$1 25½. December—100 tons, \$1 32½; 100, \$1 32½; 200, \$1 31½; 300, \$1 31½. Regular Session—May, 500 tons, \$1 26½; 600, \$1 26½; 2400, \$1 26½. December, 300 tons, \$1 32½. Afternoon—May, 200 tons, \$1 2½; 100, \$1 2½; 1000, \$1 26½. December, 300 tons, \$1 32½; 300, \$1 32½. cti.

BARLEY.

	March.	May.
Thursday, highest.....	\$1 05	87½
" lowest.....	92½	87½
Friday, highest.....	.....	.....
" lowest.....	.....	.....
Saturday, highest.....	.....	.....
" lowest.....	.....	.....
Monday, highest.....	91 05	87½
" lowest.....	92½	87½
Tuesday, highest.....	91 02½	87½
" lowest.....	92½	87½

*Brewing.
The following are to-day's recorded sales on Call:
Barley—Reg-lar—December, 100 tons, 89c. May, 100 tons, 87½c. Seller 1893, new, 200 tons, 81c. cti. Afternoon—Seller 1893, new, 100 tons, 85½c; 300, 85½c. December, 200 tons, 89c. cti.

Markets by Telegraph.

California Products and Prices.

NEW YORK, April 2.—There is a general slow opening of spring trade, and Pacific produce has to share in the inactivity. But as Lent has terminated, and local trade may be improved thereby and better roads may shortly favor replenishment of country wants, dealers are less despondent than they have been for some weeks past. It is reorted here that some misleading reports have been sent to the Coast which underestimate the offering of California canned and dried fruits in the Eastern markets.
The leading dealers in such goods desire to state that there is an unquestionable pressure upon the

The English Language.

Professor Vambéry has been lecturing on the "Fashions of Language" before the Buda-Pesth English Club. English, he said, may now be called the most fashionable language in all the five parts of the world. It began to spread in the first decades of the century through English literature, and in Asia by means of accelerated communication. Steamers were the wings of the English language in the far East, and its spreading from India and the Straits settlements to China and Japan is simply miraculous.

There is no exaggeration in saying that the number of English-speaking Asiatics amount to-day to 3,000,000; that of Europeans to more than 1,000,000, and these, added to the 126,000,000 Anglo-Saxons, give a total of English-speaking men and women of 130,000,000. Should the increase continue in the same proportion, the middle of next century will have 200,000,000 English-speaking persons and the English will have no rival in the world beside the Chinese.

Phonetically English is unsuitable for the foreigner, and the lecturer declares he always suffered acute pain in the jaws when speaking publicly in England and trying to imitate genuine English. The phonetic difficulties are, however, amply rewarded through the expressiveness, the rare precision, vigor and exactness in which English surpasses all other European tongues. London News.

LEMON TREES!

5000

Well-Grown, Bright, Clean Trees

LISBON,

OF THE "HOLMES RIVERSIDE" TYPE.

Five to six feet on four-year-old roots.

At 35c F. O. B. in 500 or 1000 Lots.

Well packed. If balled and sacked, 2½c extra.

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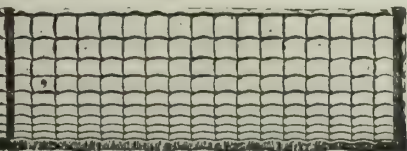
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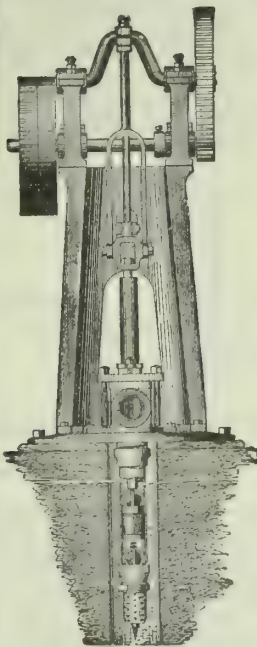
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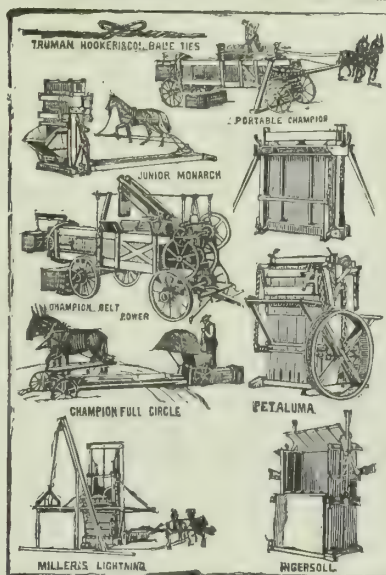
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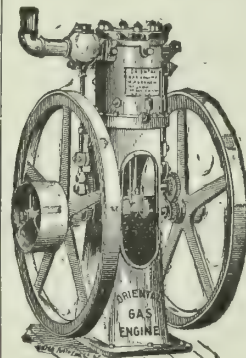
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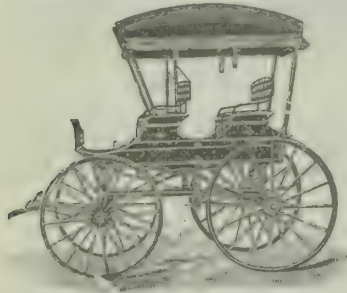
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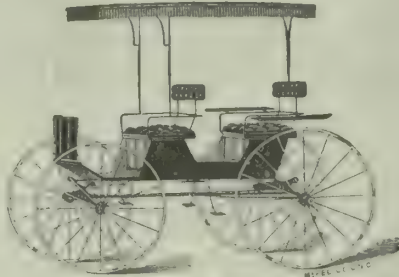
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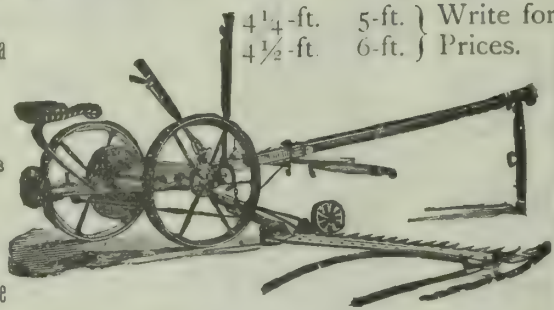
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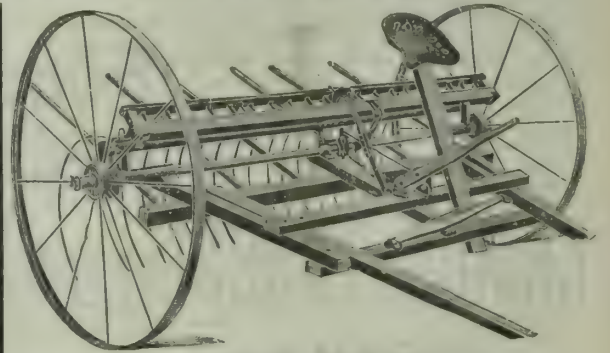
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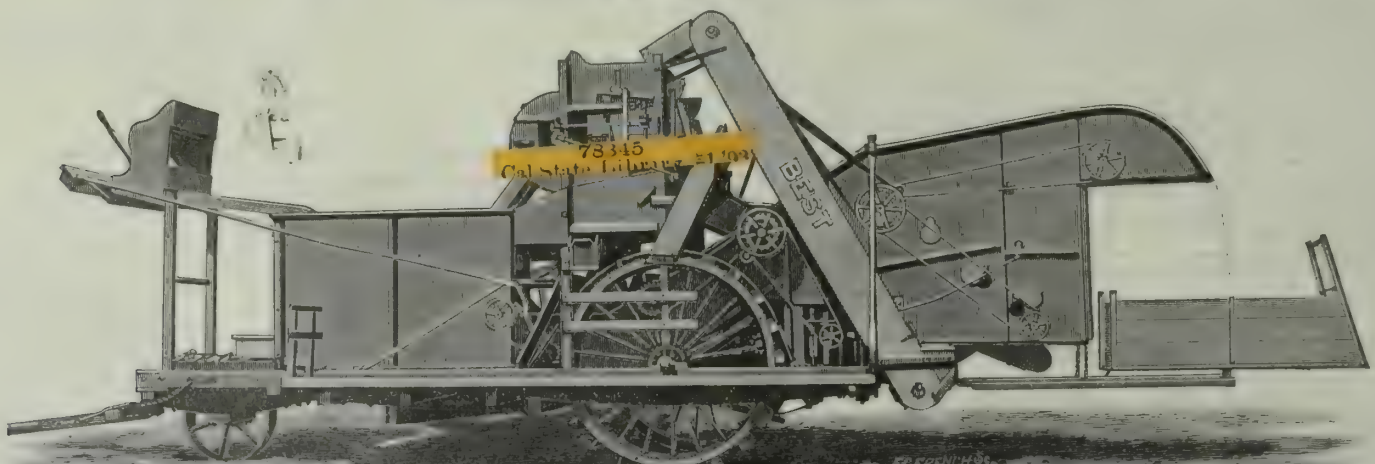
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SAN LEANDRO, CAL.



Vol. XLV. No. 15.

SAN FRANCISCO, SATURDAY, APRIL 15, 1893.

THE DEWEY PUBLISHING CO
Office, 220 Market St.**Electricity in Agriculture.**

No doubt some of our readers think it is time that electricity should do something for agriculture. Ever since the subtle fluid ran down Franklin's kite-string to the key which unlocked some of the secrets of its being, the relations between electricity and agriculture have been somewhat strained. For a century the farmer has fled the lightning stroke to fall upon the lightning-rod, and the

burden and a means of ordinary locomotion to companionship of man's leisure and the attendant of his highest earthly aspirations. We cannot imagine anything usurping the place of the noble, sympathetic horse on lovely days in June, in quiet lanes densely canopied with leafy branches, nor on resplendent moonlight nights when, as seen from slowly-moving vehicle, the landscape is clothed with paradisaic beauty. In such transcendent situations the electric motor has no place; the spark of love can

will be depicted and described are not merely hypothetical, but that the articles portray scenes on a real farm in which a good beginning has been made in the use of electric motors. The subject strikes us as one of great interest, and, in some sense, an exponent of the progressive agriculture of the day.

THE general game law passed by the late legislature is being pretty freely criticized throughout the State, and it



SOME OF THE POSSIBILITIES OF THE ELECTRIC MOTOR IN THE HOUSEHOLD.

glittering darts which went upward have proved vastly more distressing than the darts which fell. Fortunately, however, this issue has never faced the California farmer; he can walk forth beneath boltless skies without fear of being broken upon the brazen cheek of the rod-vender. But even in California, as elsewhere, there has recently arisen a conflict with lightning in a new form, which bids fair to modify farm policies and methods and work some hardship during the transition period. Even the cable roads wrought injury to the horse and the horse-feed markets, but this was but the shadow cast forward by the coming event of the electric motor as a substitute for horse-power. The electric railway promises to displace more horses and to render more horse-feed useless than the cable roads could ever effect. It seems not impossible that within a century the horse may rise from a beast of

tolerate no rival spark; itself from heaven, it brooks no association with the offspring of terrestrial clouds.

But though for the moment our agriculture seems to suffer from the encroachment of motive power, which is unpedigreed and has no appetite for aught save the products of the mine, there seems to be on the part of the coming force a desire to recompense the farmer for the temporary hardship which it causes him. In many lines of farm work, electricity can supply motive power more satisfactory in every way than any other now available. It is our intention to present to our readers interesting facts in this connection. The first of a series of articles on these subjects appears in this issue, and the engraving on this page represents an interior in which several important farm operations are being pursued by electricity. We are assured that the applications of electricity which

appears to be satisfactory neither to sportsmen nor farmers. A way to cure its defects has been discovered, and Sacramento county has been the first to take advantage of it. Under the county government act, the various counties are vested with power to regulate such matters within their limits, and the Sacramento Board of Supervisors has already passed an amendatory ordinance. Its example will doubtless be followed by others.

COMMISSION MEN who sold the recent shipments of California oranges in Liverpool at public auction are much surprised that the fruit brought such high prices, and say the "enthusiasm of bidders ran away with their judgment." Is it indeed such a great shock to the promoters of public fruit auctions when they find that oranges bring good prices? Is the experience so unusual?

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ANY subscriber sending an inquiry on any subject to the RURAL PRESS, with a postage stamp, will receive a reply, either through the columns of the paper or by personal letter. The answer will be given as promptly as practicable.

ALFRED HOLMAN.....General Manager

San Francisco, April 15, 1893.

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See Advertising Columns.

The Week.

The great floral carnival at Santa Barbara is at its height as we write on Wednesday. Telegrams bring accounts of its great success in all lines contemplated. The flower display is excellent, the scenic effects surprisingly good, the attendance well up to the capacities of the city for entertainment and the weather favorable. In a future issue we shall attempt some account of the affair. Such undertakings do much to spread the fame of California and are worthy of all encouragement.

The weather generally has been true to the standard of this somewhat peculiar year. Alternate rain and cool winds do not make good growing weather, and the season continues backward. As shown elsewhere, however, the conditions are not unfavorable and the outlook is seldom as good as it is for the products of 1893.

The Interior Waterways.

A dream of the California of the future would certainly represent such a fleet of small craft upon the Bay of San Francisco as has never been seen before. There would be a bustle, too, along over wharves in marked contrast to the decorous quiet which now prevails. As one followed the courses of the small craft from wharves to destinations they would be seen to seek all the points of the compass and enter all the sloughs leading from the bay to the productive fields of the bay district. The great mass of the little vessels would, however, pass into the upper bay, through Carquinez straits, and separating just beyond into nearly equal parts, would proceed northward and southward into the Sacramento and San Joaquin rivers, pursuing their respective courses until reaching landings here and there in the great interior valley, the extreme points being nearly 500 miles apart. This vast movement of small craft would signify a traffic which, at this day cannot well be appreciated, and a traffic which would pertain to a vast population of producers occupying small holdings within

easy reach of the rivers, which by their windings and their tributaries render a vast area of land attainable. This achievement of the future would also bespeak the greatest prosperity in this vast population, because unrestricted and cheap transportation is an essential to prosperous production.

Now is this dream of the future development of the great interior valleys possible of realization? It most assuredly is, if proper efforts are put out for it. It cannot be secured by a word, nor in a year, but it is surely attainable by the adoption of a liberal policy on the part of the Government and an enterprising spirit among capitalists and landowners. Fortunately, there seems now a strong movement arising toward the stimulation of such action. It is unquestionably an important feature of the great transportation problems which our people seem now disposed to attack with much vigor. The opening of new lines of ocean traffic, the sundering of the rocky ties which bind us to South America and the mingling of the waters of the Atlantic and Pacific in Nicaragua, will never attain their greatest usefulness to California unless our interior waterways are made to carry the great weight of our produce to tide water points.

The first great step toward the realization of free water traffic in our great valley will be the improvement of the Sacramento and San Joaquin rivers. It is this for which Congressman Caminetti is making every effort to secure from Congress. There is to be held in Ogden on April 24th a great Western convention, which is to be called the Trans-Mississippi Congress. Delegates have been appointed on the part of the State and our greatest municipalities. They propose to urge upon this representative Western body the needs of our rivers and their reclamation from mining debris injury. Appeals from this State alone have not yet accomplished much at the National capital. If the whole West espouses our cause, it is fair to expect fuller success. It is a matter of supreme importance. We look for its advancement.

April Conditions and Prospects.

April prospects are that the wheat yield in California during 1893 will be average, that a material shortage will occur in the United States, and that Europe will have a full crop.

The Associated Press has compiled reports from the principal grain and fruit-growing regions of the State, and the result is on the whole fairly satisfactory to the grower, the merchant and consumer. In two important respects, however, the report shows a condition of things not altogether auspicious, viz: the yield of apricots will everywhere be light, and winter grain has been seriously damaged in northern California. But the wheat yield of the San Joaquin valley and the extreme south bids fair to be enormous, so that the total for 1893 will probably equal the average of former years. In the former section abundant rains during the latter part of the winter season washed out much of the grain already sown, created destructive floods on islands and along river bottoms, and prevented re-seeding, as well as original seeding of much acreage. Altogether they were of a character that rendered the farmer helpless and without resource. For the uplands, and in the San Joaquin and southern California, however, the rains were of continuous and prodigious benefit, and the yield will very likely be more bountiful than for many years. The aggregate California grain crop in 1892, was 39,000,000 bushels; in 1891, 36,500,000 bushels. The excess in southern California is expected to counterbalance the deficit in northern California for 1893, making the total output, at an estimate, and if conditions continue favorable, from 37,000,000 to 38,000,000 bushels.

The April report of the Department of Agriculture confirms previous expectation of a falling off in the total wheat output for the United States, caused by persistent drought and early cold weather. In specific terms the department estimates that the average condition of winter wheat is 77.4 against 81.2 the previous year. These figures are somewhat cabalistic, but they mean to express in figures a certain per cent. of a full crop, which is 100. In the six principal wheat-producing States the percentage is still less, being 74.2 against 77 in 1892. These are official estimates based on official advices; but other reports indicate even worse conditions. The statistician of the Chicago Produce Exchange announces as his estimate that the yield in the United States will be 150,000,000 bushels short—unquestionably a bullish prediction—a falling off of about 30 per cent. Even partial realization of such expectation of course means a sharp and permanent advance in values. The Chicago market has already gone up in consequence of information as to the crop. Markets elsewhere have shown no substantial improvement in price, but they certainly have in feeling and tendencies. We have had no reliable advices from Europe since the February crop report, when indications were excellent for a full yield.

The condition of other crops in California can be sum-

marized briefly. Barley promises well, particularly in southern California. Fruits are in very flourishing condition, except apricots, and peaches in some places. Prunes promise to yield enormously. The acreage planted to fruits of all kinds is unprecedented. The acreage of hops has probably been slightly increased. Wool will show an excellent clip. Hay is in fine condition. Small fruits are all right, so far as can be told at this early time.

As a whole, the cultivators of California have excellent reason to be sanguine of the future. The market conditions of wheat are improving, and the local yield will for the most part be good. Growers are learning how to sell their fruit, and they will doubtless be able to do it to the best advantage, so far as 1893 is concerned. Barley sells better than for some time. Vegetables are in good condition, and in good demand, especially in some lines, like potatoes. Cattle, sheep and hogs find ready sale, particularly the two latter. Poultry is high, eggs will be higher. Butter is low, but not without profit when economically made and marketed. Hops are low, but we can reasonably hope for better things. Vineyard products are in much more active demand than for years. Just now dried fruits are firm and advancing, and we can expect a more satisfactory solution to raisin troubles than found in 1892. There is no reason to complain.

A SORT OF APPLE EPIDEMIC is spreading throughout the State, and the RURAL PRESS very cheerfully shoulders the responsibility of starting it. An article on "A Neglected Fruit," published in these columns some weeks since, has been very widely quoted and commented on, and orchardists everywhere begin to recall a few profitable and instructive facts in connection with this staple fruit. Good winter apples almost invariably sell at a maximum of two to three cents per pound, and seldom go below the point of profit. At this season, of course, apples are very scarce; but those who, like Mr. Berwick of Monterey, have consistently refused to abandon the common apple for the more alluring culture of citrus fruits, who have raised A 1 apples, and have studied and learned the best methods of storing them, have some difficulty making room in ordinary-sized purses for the profits accruing from their sale. A commission firm in this city bought up all of the apples in the Watsonville packing houses for \$1.20 to \$1.60 per box, and are now reaping the profits of their shrewdness. The growers made money, too, but he might have made more. Still, he has no ground for complaint.

A MOST PHILANTHROPIC PERSON is "Mrs. Mary Hall, of Omaha, Neb." Mrs. Hall has taken upon herself the immense task of writing to the entire rural and agricultural press of the country, telling in guileless language how "she was convinced of the great merits of black pepsin by seeing the success of a neighbor woman in using it. This neighbor got 4 pounds 7 ounces of butter from two gallons of cream the first time. She then churned more slowly and got 9 pounds 13 ounces from two gallons of cream!" Mrs. Hall has succeeded in having her innocent communications printed in a large number of papers, and her benevolent heart throbs with joy in the thought that her great expenditure of labor, stamps, ink and paper have not been in vain. It may as well be said first as last that Mary Hall seems to be inspired by motives a little different from pure philanthropy. If stripped of her skirts, it would doubtless be found that this Mary Hall and the merry haul the black pepsin promoters hope to make by such methods are one and the same.

SECRETARY MORTON has already begun to realize that there are some vexations attending seed distribution assigned by law to the Department of Agriculture. The seedsmen are anxious to know what will be the policy of the department in regard to the purchase of seeds for distribution. In regard to inquiries addressed to him on the subject, Secretary Morton has said that his policy would be to purchase seeds grown in the United States in open market, quality and price being the only questions he would consider. This is a wise step. In some previous years, perhaps more than a decade ago, the Department of Agriculture was loaded up with the vilest seed trash at high special-contract prices. No wonder Government seeds fell into disrepute.

THE Butte County Horticultural Society is considering the establishment of a local fruit exchange, and has instructed its executive committee to look into the matter. The leaven of success in the Santa Clara exchange is working. The exchange will doubtless be started sooner or later, as the Butte Horticultural Society is a most active and intelligent organization and will not hesitate long in adopting the best methods of marketing fruit. Recent acquisitions to its membership consist of Gen. John Bidwell, C. C. Royce, V. David, S. L. Walker, Peter Jones, Wm. Carl, James Wrame, Henry Lackmahl, Peter Kundson and J. F. Euter.

From an Independent Standpoint.

A general strike of mechanics employed on the Exposition buildings at Chicago and its utter and complete collapse have been the chief incidents of the current week. In this strike the trades-unions came for the first time into direct opposition to the general Government, and were knocked out in a single round. Before the work of building at Chicago began a conference was held between the Fair managers and the trades unions to arrange and define the terms upon which the labor should be performed. The unions presented four demands, namely: (1) that eight hours should be a day's work; (2) that minimum rates of wages should be fixed; (3) that all differences should be settled by arbitration; and (4) that only union men should be employed. Of these four demands the Fair managers acceded to but two, namely, the eight-hour day and the arbitration of differences. They declared their purpose to pay full ruling wages at all times, but declined to enter into any engagement as to rates, and declined to discriminate between union and non-union men. After some parley these terms were accepted, the understanding being that the compact was to govern during the whole of the construction period; and under this arrangement the work has in fact gone on until Monday of the current week.

Although prodigious things have been accomplished at Chicago during the past year, there is still much to be done, and it has for some days been a question if, in the short time before May 1st, the buildings can be put in shape for the formal opening which the law says shall occur on that date. The trades-unionists saw in this situation a chance for which they have long been watching, to exact from the Government a definite, official recognition. In disregard of the original compact with the Fair managers, they made a demand on Saturday last that no non-union men should be taken on the work, and when this demand was refused they applied under the terms of the compact that the matter should be settled by arbitration. The Fair managers flatly refused, holding that the agreement to arbitrate related to disputes arising under the compact but not to a proposition to alter the terms of the compact. The soundness of this view cannot be disputed. If a "difference" related to wages, hours of labor or to matters of discipline had arisen, then the managers would, under their compact, have been bound to arbitrate; but when the "difference" was a proposition to change the compact itself, it became a very different matter.

The unions insisted upon their demands and on Monday, in obedience to orders from "walking delegates," between four and seven thousand carpenters and painters, not one of whom had a personal grievance of any sort, left their work. It was imagined by their leaders that the necessity of having the buildings in order by May 1st would force the fair managers to make concessions but they soon found that no concessions would be made. It was announced that the vacant places were open to all comers and some hundreds of non-union men soon appeared and were set to work. Arrangements were also made to bring in workmen from Joliet and other near-by cities to fill the places of the strikers. The trades-union men stationed committees at several gates leading to the fair grounds and sent other committees to meet the trainloads of incoming mechanics, and persuasive efforts were made to keep them from going to work, but it was without effect, and before night it became evident that the strike was a failure. Furthermore, the leaders began to realize that in offending against the fair managers they were antagonizing the United States Government, and the people of the United States as well; that the work upon which they had been engaged was a matter of national concern, and that it would be no slight thing to assume the responsibility of preventing its completion. It was realized that the unions would, by delaying the fair buildings, create more enmity than could be overcome by ten years of legitimate proceeding. Haste was made to confer with the fair managers and to withdraw the demands that had been made and on Tuesday morning the whole force went to work as usual, as if nothing had happened.

The real motive of this strike was to compel the Government to "recognize" the trades-unions, and the real significance of its failure is the firm opposing stand taken by the agents of the Government. By this incident the line is definitely drawn on the part of the Government against the proposition to concede to private organizations the power to make the industrial laws of the country. The impudent demand of the unions that the Government of the United States shall, in the employment of labor, discriminate in favor of one class of its citizens as against another class—and this is just what the protest against non-union workmen at Chicago meant—has been answered by flat denial. The sound ground has been taken that to make such concession would be a shameful sur-

render of responsibilities which the Government owes to its citizens. The Government owes to every man protection in his right to labor upon such terms as he may choose to make, and the action of the authorities at Chicago was in line with this just principle. To have accepted the terms proposed by the unions would, practically, have been abdication of a duty as sacred as any in the whole range of governmental responsibility.

The arrogant assumption of the unions of the right to fix the conditions upon which men may or may not labor would, if allowed, establish the enactments of the unions as superior to the enactments of Congress itself; and it would be a form of tyranny as oppressive and infamous as any which ruled in the dark ages of universal despotism.

Application of these principles to local and personal affairs will assist in their just comprehension. Is there a farmer in California who would not resent an authoritative dictation on the part of his hired men as to whom he should or should not employ? Is there a farmer who would tolerate the interference of a committee of farm hands who sought to make him discharge a man who was willing to work upon agreed terms, and whose work was satisfactory? Is there a farmer or fruit-grower who would not feel that he were badly used if his help should quit work in the crisis of harvest-time because he employed other laborers who were not of their particular set? Is there a farmer who would allow a "walking delegate" to impudently "nose" about his fields, barns and dwelling for the purpose of hunting out and aggravating subjects of dispute between himself and his men? On the other hand, is there among the thousands of ambitious young men who, as "hands" on California farms, are laying the foundation for future independence, one who would give over to a "committee" or a "walking delegate" the authority to regulate his conduct in all his relations to his employer? We hope not. The system of the trades-unions, which makes a few "leaders" impudent tyrants and makes the vast body of workmen scarcely better than slaves, finds little favor, we are glad to say, in the pure air of rural California. It is in the cities, and only in the cities where the beer hall and its associated dens have wrought degradation upon character, that men are found willing to surrender their self-control and self-respect and to become the mere puppets of professional agitators and bulldozers.

Suppose the Grange or the Alliance in California were to assume the right to dictate the terms of rural employment in this State; suppose they were to fix the rates for different classes of work and then demand that nobody but members of their Order should have the privilege of working at any price or upon any terms; suppose they were to appoint inspectors to go from farm to farm to see that their rules were exactly enforced, that no non-Grange or non-Alliance hands were employed; suppose they should take advantage of the busy planting or harvest time to order general strikes; suppose they should appeal to the Government to give them control of all rural labor with the power to legislate on all relations between employer and employed! What would the farmers of California say to such a series of demands? We will leave our readers to answer!

We do not deny, but, on the contrary, distinctly assert, the right of workmen to organize. The right to organize is, in fact, as sacred as the right to labor. What we do deny is the right of those who do organize to limit the rights of those who do not. If the workmen at Chicago choose for any reason, singly or in a body, to quit work, they have (provided they have entered into no contract obligations) an undoubted right to do it; but they have no right to demand that others may not take up the work which they leave, upon such terms as they may choose to accept.

The legitimate purposes of organization on the part of workmen are many, and they include, among other things, the regulation of wages, the regulation of hours of labor, and the regulation of industrial discipline in all its forms. There can be no reasonable protest against concerted action to secure desired results, so long as no interference is made with those who may choose to go their own way. But when the organizers undertake, either by force or by any other means, to deny to the non-organizers the right to labor upon such terms as they may be willing to make, they are upon revolutionary and criminal ground.

We assert that the right to organize is as sacred as the right to labor—but not more sacred. The workman who should be required by the laws or under the political administration of his country (as the trades-unionists demand) to join some particular society and subject himself to the rules and discipline of that society before he should have the privilege of doing a day's work, would have the right to feel that his lines were cast in hard places; and it would not be surprising if he should ask what had become of American Liberty. The right of the non-union man—of

the man who for good reason or for no reason prefers to make his own contracts disposing of his labor without consulting "committees" or "walking delegates"—is utterly ignored by the trades-unionists. That the rights of this man are just as sacred as their own they seem to overlook or disregard. But no Government based like our own upon liberty and equality can allow the rights of its humblest citizen to be overridden without sowing the seed of anarchy and revolution. It is bound to protect the non-union man in his right to labor just as it is bound to protect the union man in his right to organize. Thus in nearly every great strike we find the power of the Government arrayed in support of the non-unionists because it is the vice of the unionists to seek to over-ride the rights of others in the effort to promote what they conceive to be their own private interests. If Government were to decline or neglect to so protect its non-unionist citizens it would be partial, inefficient and infamous; and it would die, for no Government is worth maintaining, or would long be maintained, which would not or could not protect its humblest citizen in his primary rights. And among these primary rights there is none more natural or necessary than the right to labor.

In naming the representatives of the United States to England and France, President Cleveland has made a departure from custom which we believe plain people generally will not approve. Heretofore our diplomats have been named as *ministers*. Mr. Cleveland now nominates them *ambassadors*. The motive for this euphonic change is that according to European etiquette an ambassador is a bird of finer feather than a minister; and on court and social occasions the plain minister sits down near the foot of the table, while the aristocratic ambassador gets a seat higher up—closer to the dealer, so to speak. Now, to some of our representatives abroad—and especially to their wives and daughters—this social discrimination has been galling; and for some years strenuous efforts have been made by persons who trouble themselves much about small matters to have our ministers at the more "swell" foreign courts evolved into ambassadors—for social purposes only. Mr. Cleveland, who might have been supposed to care nothing about such trifles, has yielded to persuasion—hence we have Ambassador Bayard at London to succeed Minister Lincoln, and Ambassador Eustis at Paris, where formerly we had plain Minister Thomas Jefferson Coolidge.

There is a world of nonsense about this whole business of "diplomacy." There was a time, before the steam engine and the telegraph made the several courts of the earth near neighbors, when diplomatic representatives had something to do; but in this day and generation a diplomat is the useless fifth wheel of a long-disused political coach. No foreign representative, be he ambassador, minister or what-not, ever does anything except by specific order from the national capital. His name and dignity are mere survivals of times and conditions long past, for he is simply a messenger whose function it is to deliver communications supplied to him ready-made from the State Department at Washington by telegraph. So far as practical service is concerned, Ambassador Bayard can do nothing at the court of St. James during the next four years that could not be done equally well by a civil colored porter who would wait around the London telegraph office and promptly carry Mr. Gresham's dispatches up to Mr. Gladstone's front door.

The less sail our foreign agents carry the better they will be in harmony with American ideas. So far as we are able to see, it can make small difference whether Mr. Bayard or Mr. Eustis sits near the head or near the foot of the royal table; and wherever they sit the fewer the flummies they put on the better they will please their sixty four million fellow-sovereigns on the west side of the Atlantic. Benjamin Franklin, John Adams, Thomas Jefferson and other highly-esteemed diplomatic agents in times past sat without complaint wherever the royal head-waiter was pleased to put them, and so far as we are able to learn they never failed to get a fair share of the pie.

THE State Board of Horticulture has received several complaints from orchardists that the cottony-cushion scale is becoming alarmingly prevalent in many parts of the State. To do battle with the pest the Horticultural Quarantine Officer has procured boughs and sprigs of fruit trees affected, and he is now using them as food for the lady-bird, the lively vedalia that has already saved California millions of dollars. Without the vedalia there would be no orange groves in southern California to-day. The insect propagates with remarkable fecundity, so that thousands of them can be hatched in glass jars at the Horticultural Bureau. These will soon be sent to various portions of the State and turned loose among the infested orchards. In a few months later they will have killed the scale and saved the trees, and, their mission ended, they fly away and disappear.

Questions Answered by Dr. Buzard.

Rubeola, or Measles in the Hog.

TO THE EDITOR:—I write to inquire what ails our hogs; many farmers complain of no small losses of pigs, shoats and many full-grown hogs with a disease unknown to us. First, hogs take a chill (in any kind of weather) which, after some 6 to 24 hours is followed by a spell of panting with high fever, skin red as flannel or purple and red spotted, which continues for four or five days, at which time the hog usually dies in nervous excitement. If it lives longer, blisters rise and boils on intestines slough off and pass out—the entire skin of back and sides and face turns dead, and dries hard as leather and makes a straight-jacket, as it were, for the poor beast cannot bend its body or neck. At this period the hog would die for want of skin action if the skin of the legs and belly were not in usual health. Many hogs do die at this period from the filth of corruption caused mostly by irritation of the leathery skin, for otherwise its usual health has returned. After a few weeks or months, as the case may be, the skin entire in places comes off, hair and all, leaving the flesh exposed; one in particular of mine lost its entire skin of back at one time and after four or five months healed up smooth without hair. Except loss of ears and tail, which dried and hung to the back skin, he seemed to be as good as ever, except loss of growth for the entire time of sickness, which continued for nearly five months; still, he recovered, was fattened and made a good weight.

I lost a number of shoats in all stages of the disease, some chilled to death, others died in fever, as most do. Some seem to lose entirely the power of assimilation for growth of bone and muscle, though will take on fat. My hogs are white, of the small Yorkshire breed; my neighbors are Poland China and Berkshire and some scrubs, but the disease is not a respecter of breeds nor feeding. Some feed corn mostly, others barley and milk and bran. I feed milk, barley, corn, middlings, potatoes, beets and alfalfa. I have hogs in pens under roof, and in pens in the sun, and see no difference in ravages of the disease. This is a disease I never saw before in Ohio, Iowa or places where overproduction of hogs leads to disaster. I know how the cholera takes them, and how malaria of foul, damp lands affects swine, but this is neither of them.

I enclose a piece of scarlet skin I took from the neck of one of mine which is recovering. She is a large hog for her age and when taken was due to farrow in ten days. She threw her pigs immediately, five in number, three of which died of the same fever; two recovered and are still living (she had no milk so the pigs were raised by hand). She is pink of skin and full of life now. The dead parts of skin are dropping off in flakes as large as my two hands. Who knows this disease? "Pigs are hogs now-a-days"—shall we sell or buy?

Please ask those who know and oblige us all. We thought, after 25 or 30 years experience, we knew all about hog diseases but give this up.

San Dimas, Los Angeles Co.

Answer:

The hogs are suffering from rubeola, or measles.

This disease is rather common in pigs, particularly in some countries. It has for its principal character red spots, which appear in different parts of the body, more especially in the eyes, ears and belly, and which are followed by a furfuraceous desquamation of the skin. Before the eruption of the disease, the animal is feverish, loses appetite, and its eyes are red and bleary. Sometimes there is vomiting. The length of incubation of this disease is from five to seven days. The eruption makes its appearance from the third to the fourth day. From its first appearance it gradually extends over the whole body, without much, if any, amelioration of the attending symptoms. Sometimes it appears upon the mouth and throat. We sometimes have complications set in, such as bronchitis, pneumonia, and laryngitis. Death rarely occurs during the eruptive stage of this disease. This disease is both contagious and infectious.

Treatment.—With respect to the treatment of any diseases of the pig, difficulties present themselves, because there are but few of these diseases which produce symptoms sufficiently marked to enable a person readily to appreciate them, unless he possess great experience. In the treatment of measles in the early stages, give sulphate of magnesia in the food. Isolation of diseased and suspected animals, and disinfection, are most useful prophylactic means. After the eruptive stage has taken place the administration of mineral tonics is indicated in combination with hyposulphite of soda. An animal after recovery should not be introduced into the pens with the healthy hogs before the lapse of two months.

REMOVING WARTS FROM COWS' TEATS.

TO THE EDITOR:—Thanks for the many replies to the question, How to prevent a cow from sucking herself? Can some of the readers tell me how to take warts from cows' teats? READER.

Compton, Los Angeles Co.

In addition to what has been printed about self-suckers, I would say: Place on the cows nose a nose-band, with spikes projecting upward.

Warts are primarily epidermic growths, but subsequently the true skin becomes involved and hypertrophied. When developed on the udder and teats they prove very unsatisfactory. These growths must be surgically removed either with the knife or actual cautery (hot iron), or by means of a ligature. Some prefer to destroy by caustic agents, but this is a slow process.

CHRONIC INDIGESTION IN MULES.

TO THE EDITOR:—I saw through the RURAL PRESS that you answer inquiries concerning diseases of stock. Last spring I had a mule taken sick and thinking it was his water gave him nitre. He kept getting worse so I called a kind of horse doctor. He treated the mule and cured him for the time being, but the mule never shed his hair till along in August and has been sick off and on ever since. When sick he wants to roll up on his back, then gets up and paws the ground, or else kicks up under his belly with his hind feet. He is a large mule and was as wild as a deer before he was sick, but now he has not got as much ambition as an old dray horse.

Blacks, Yolo Co.

D. J. GREEN.

The mule is suffering from chronic indigestion, which is generally caused by dietetic errors, though these are not always apparent. Sometimes the food, though of good quality, is too stimulating and dry; in other cases it is not sufficiently masticated, perhaps owing to irregularities in the teeth. Treatment.—Some purgative should be given in all cases, unless the bowels are freely open, and should be followed by the administration of vegetable tonics, as gentian, nuxvomica, with full doses of potassium bi-carbonate. The diet should be limited in amount, and it will be of advantage to change it. A. E. BUZARD, M. R. C. V. S. L., 405 Broderick St., S. F. Veterinary Surgeon.

The Board of Trade.

The regular meeting of the State Board of Trade was held Wednesday and the annual election of officers took place.

E. J. Gregory of Sacramento was elected president, N. P. Chipman, vice-president; J. S. Emery, second vice-president; the Grangers' Bank, treasurer; E. W. Maslin, secretary and general manager. L. C. McAfee, John Boggs, H. A. Messenger, J. A. Morrissey, W. H. Mills, Tyler Beach, John P. Irish and S. H. Cole were elected directors.

The desirability of printing a catalogue of California exhibits at the World's Fair was discussed at length. Mr. W. H. Mills and others urging the great value and importance of such a volume. Mr. Mills, N. P. Chipman and L. C. McAfee were appointed a committee, with power to act, and with instructions to present the matter before the World's Fair Commission.

A. T. Hatch, the well-known fruit-grower, addressed the board on the fruit industry. Mr. Hatch's remarks were very valuable and timely and will appear in the RURAL PRESS next week.

Importance of Pruning.

At a recent meeting at Chico the Butte County Horticultural Society adopted the following preamble and resolutions, offered by Mr. W. P. Hammond:

WHEREAS, Certain articles appearing in our horticultural journals throughout the State urging fruit-growers to abandon the pruning of trees; be it

Resolved, First, that the best experienced growers in California endorse careful and intelligent pruning. Second, that moderate and careful pruning promotes health and vigor to trees. Third, that without proper pruning we cannot expect successive crops of No. 1 fruit or long-lived trees.

Resolved, That it is the sense of this meeting that such articles are misleading; that proper, intelligent pruning of fruit trees is most important to fruit-growers and should not be abandoned.

These resolutions have special reference to the articles on non-pruning by Webster Treat and published in the RURAL PRESS.

Sale of Bulls.

Mr. Robert Ashburner has sold for export to Honolulu, the two young Shorthorn bulls, Lucerne Duke 2nd, and Nimrod, thirteen and twelve months old respectively. They are from some of the well-tried families of Shorthorns that have been bred at Baden for many years, and are in all respects liable to make an improvement in the class of cattle they are intended to be used upon, being wide, deep-bodied animals on short legs. Mr. Ashburner reports a good demand for bulls old enough for service, and almost seems to regret the fact that he has not a half a dozen or so of twenty-months-old bulls for sale, of his own breeding. He has this week sold the twelve-months-old bull, Baron Chilton, to W. T. Such of Berkeley, this being the fifth bull that he, or his father has bought of Mr. Ashburner in the last ten years, and all of them roans; not because of color but because they were what was wanted.

The Sunday Law.

Following is the day of rest law which passed the Assembly and Senate and has been approved by the Governor:

SECTION 1. Every person employed in any occupation of labor shall be entitled to one day's rest therefrom; and it shall be unlawful for any employer to cause his employees, or any of them, to work more than six days in seven.

SEC. 2. For the purpose of this Act, the term day's rest shall mean and apply to all cases, whether the employee is employed by the day, week, month or year; and whether the work performed is done in the day or night time.

SEC. 3. Any person violating the provisions of this Act shall be deemed guilty of a misdemeanor.

SEC. 4. This Act shall take effect and be in force thirty days from and after its passage.

They Must Be Registered.

The Secretary of the Treasury has notified Collectors of Customs that hereafter no animal which is brought into the United States from foreign countries for breeding purposes shall be admitted free of duty, unless the importer furnishes a certificate of the record and pedigree, showing that the animal is pure bred and admitted to full registry in a book of record established for that breed.

It must be also shown that its sire and dam, and the grandsires and granddams were all likewise recorded in a book of record established for the same breed, together with the affidavit of the owner or importer, that such animal is the identical animal described in the record and pedigree. Unless these requirements are complied with duty will be charged.

Changes in the School Law.

It may be of interest to school trustees and others to know that under the amended school law, census marshals must be appointed on or before April 1st instead of May 1st as heretofore; they must be citizens and not less than 21 years of age. Women may be appointed. The time for taking the census is changed from the last half of May to the last half of April. School trustees will be elected on the first Friday in June and not on Tuesday as under the old law. New school districts cannot be created later than April 5th of each year. The boundaries of districts cannot be changed except between January 1st and April 5th. There are changes also relative to the granting of teachers' certificates, and the High School law is materially changed.

SONOMA COUNTY is finding out, somewhat to its surprise, that its income from poultry and eggs is about as large as the revenue from its vineyards. Still there is room for more poultry.

Gleanings.

THERE are now fifty-seven counties in the State, or will be when the organization of Riverside, King and Madera is complete.

THE Pleasanton Hop Company has been organized with a capital stock of \$160,000 for the purpose of starting a hop farm near Pleasanton.

THE farmers around Fresno county, says the *Expositor*, look abroad as far as the eye can reach and smile upon "s" wheat fields arrayed in living green.

NEARLY 200,000 olive trees have been shipped out of Pomona already this season, and the olive nurserymen are still sending out large quantities of them.

THE fair of the Thirteenth District Agricultural Society will be held at Marysville, commencing Tuesday, August 19th, and continuing five days. The usual premiums will be given.

A YOUNG OREGON FARMER named Rhodes, with an eye to a smooth jaunt along the sometimes troubled highway of matrimony, has taken unto himself a wife named Good. May they never strike a chuck-hole!

EDITORS are, as a rule, a very thoughtful lot. An exchange tells of a subscriber who died and left a 14-year bill unpaid. The editor appeared as the lid was being screwed down for the last time and put in a linen duster, a thermometer, a palm-leaf fan and a recipe for making ice.

IT appears that one-half of the southern California orange crop is now marketed, and that a judicious handling of the balance ought consequently to insure good returns to the growers. A considerable proportion still in orchard are St. Michaels and Mediterranean Sweets, which can remain on the trees quite late.

A MAN in Oakland has just had to pay \$5000 because his dog bit a book-peddler. Since then, it is said, peddlers have been seen to enter front gates, whistle loudly, turn around and invitingly raise their coat-tails. Perhaps it would be cheaper in the long run to hire dogs capable of swallowing peddlers whole.

RICHARD GIRD has agreed to purchase from the Anaheim Co-operative Sugar Company all beets the company may not be able to work into sugar at the following rates: \$3.50 for all beets yielding 12 per cent of sugar and 40 cents for each per cent of sugar above 12 per cent, with no charge for unloading cars.

M. C. MEEKER, a wealthy lumber manufacturer of Sonoma county, and his brothers and sisters are said to be heirs to an immense estate in New York City worth \$8,000,000. Mr. Meeker was already reeking in wealth when this new fortune was thrust upon him. As the Good Book goes on to state, "Them as has, gets."

THE latest fad among the young girls, says the Paso Robles *Moon*, is to count the number of young men who tip their hats to them. The one hundredth one who tips his hat to a young girl, according to the rule of the fad, will marry her. The trouble is that after 50 young men tip the hat, the list of eligibles is exhausted.

MANY people, says the Red Bluff *Sentinel* hesitate to keep poultry in large numbers because they imagine the fowls will become diseased. Near Petaluma poultry ranches are numerous, and on some of these 1000 hens are kept. In one instance 5000 hens are kept by one man. Petaluma ships to San Francisco eggs and chickens to the value of \$1,000,000 a year.

THE discovery of a whistling well in Tehama county has excited a great deal of wonder thereabouts. The phenomenon is caused by currents of air rushing violently therefrom at certain seasons. Unlike the unspeakable public nuisance who puckers up his lips and emits unseemly sounds at the most inappropriate times, the Tehama county freak can whistle well.

MR. A. E. POWER, of Los Angeles county, makes the following offer, which shows in what esteem he holds a comparatively little known breed of poultry: "I am willing to put the record of any six or twelve hens from my flock of Black Minorcas against the record of any six or twelve Brown Leghorns in the State, confident as I am in the belief that mine will begin to lay at a younger age, lay earlier in the year, a greater number of eggs, and it will take a less number to make a pound."

THE State Board of Examiners has postponed action on all coyote scalp certificates for the quarter ending December 31, 1892 and also for the quarter ending March 31, 1893 until June. It is hoped by a policy of procrastination and postponement to discourage demands of coyote-killers upon the public treasury. By the way, the bounty is still \$5 per coyote. The bill to reduce to \$2.50 seems to have passed one house of the legislature, but did not get through the other.

SOME MEN are born rich, some achieve riches, and others have riches thrust upon them. Mr. Roseberry, of Chiles valley, Napa Co., belongs to the latter happy category. He set a trap and caught a female coyote, which, before being taken out of the trap, presented to the world a large, and to Mr. Roseberry in particular, eight infant coyotes. He gets the county and State bounties of \$5 from each, or \$40 in all. Mr. Roseberry naturally thinks his scheme a howling success.

THE new election law provides a new method of marking tickets for illiterate voters. The voter himself has no choice of assistance in marking a ticket. The inspector of election appoints two judges, of opposite political parties to assist the voter, and these judges must subscribe to an affidavit that they will not reveal to any person the contents of the voter's ballot. The illiterate voter must also swear to an affidavit concerning his illiteracy, which must be filed as a public record in the office of the county clerk.

THE Redding Fruit Growers' Association has been organized, and Dr. S. H. Miller was elected president, J. P. Euton secretary and R. S. McMurray treasurer. An executive committee consisting of the above officers with Wilder W. Fish and J. C. Franklin was elected to conduct the business of the association. The executive committee was instructed to execute a contract with Mr. H. P. Stice to ship the fruit of the association to Chicago, New York and Boston or elsewhere as agreed upon during the season of 1892. There are, it appears, some 50,000 fruit trees from which the association expects to ship this season. To complete the work it is hoped a cannery may be established in the near future.

ON the ostrich farm near Fullerton, Orange county, there are one hundred and four grown birds, some of the females setting and other eggs being hatched out by an incubator. In each wing of an ostrich twenty-six white plumes grow to maturity every eight months. Seventy-five short feathers, besides, are plucked for tips from each wing. Sixty-five of the tail feathers have commercial value. The female ostrich lays seventy eggs a year. The feathers are worth from \$35 to \$75 per lb. and are in good demand. But a few days ago a large shipment of feathers was made from this farm to London, showing that Orange county has established a reputation abroad for this industry, as well as in its numerous other products.

THE poultry men of Sonoma county are convinced of the benefits of co-operation, and have taken the preliminary steps for organization. Carefully compiled statistics show that their interests for 1892 represented at least \$750,000. They are, therefore, well worth protecting. A meeting was held at Petaluma last Saturday, committees appointed, and the general outline of the new organization thoroughly discussed. Adjournment was taken till the following Saturday (to-day), when an incorporation under the laws of California will be effected. Meanwhile, every poultry-raiser in Sonoma county is asked to consider the matter and to join the new association. It promises to be of much benefit.

Applications of Electricity to Agricultural Work.*

NUMBER 1.



THE fact that there seems to be opening up a vast field for the electric motor in the performance of agricultural work makes it of interest to examine in detail the character and extent of the various farming operations to which the electric motor is adapted. That a demonstration of the success of electric power when applied to the numerous farming operations now performed by the horse or the human laborer would bring about an unparalleled demand for electrical apparatus is certain, since it is well known that the enterprising farmers are always among the first to secure the best and most efficient appliances for carrying on their work. In no place are labor-saving appliances more numerous than on the farm, and there is no class of work in which apparatus designed to relieve the life of the farmer of some of the drudgery and unpleasantness so often reputed to be an inseparable part of his daily routine is so quickly appreciated and adapted to every-day use.

The poet sings melodiously and the novelist charms us with his stories about the beauty of the farmer's life and the elegance and luxury of his surroundings; but the sterner

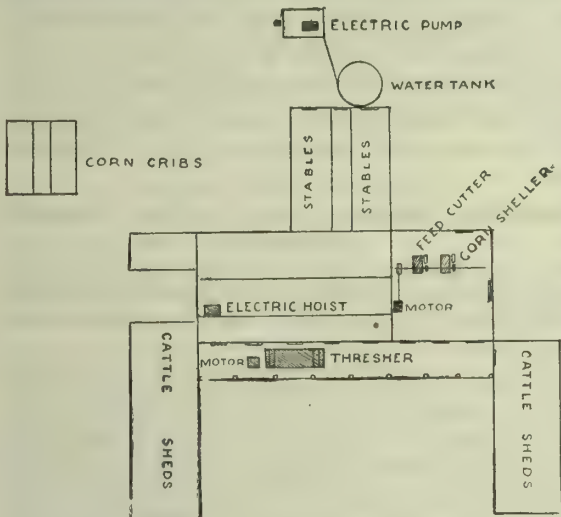


FIG. 1.—PLAN OF FARM BUILDINGS.

reality of his work-a-day toil is more often passed over in silence. Luckily, however, the inventor, leaving aside poetry and fiction, has brought to the farmer a relief that has far and away eclipsed the consolation afforded by the poet's verse, or the beguiling story of the humorist. To the husbandmen, who earn his daily bread by the sweat of his brow, the ingenious inventor has brought the plow that turns the sod in the fields of every land; the drills and the planters that so quietly but rapidly drop the seed into the earth; the reaper that harvests the grain and the thresher that prepares it for the granary or the market, to say nothing

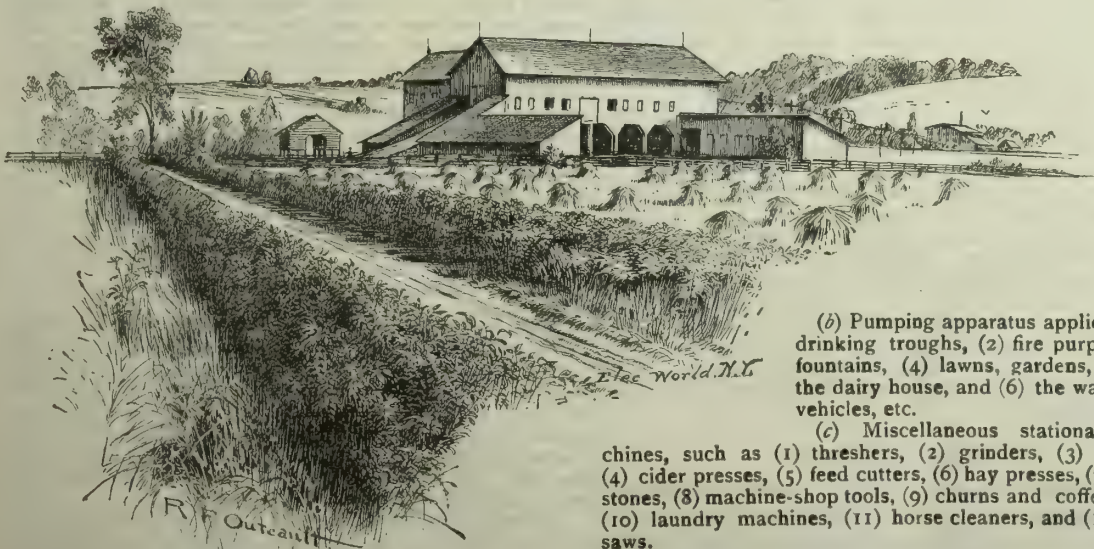


FIG. 2.—GENERAL VIEW OF FARM BUILDINGS.

ing of the hundreds of appliances used in his every-day work. All these have assisted in placing the farmer of today in the strong position which he undoubtedly occupies in the commercial and political world.

But it is not our purpose here to discuss in detail the benefits that have accrued to the farmer in return for his

ready appreciation of the value of labor-saving machinery. It is sufficient for the purpose merely to recall the fact that the reader may bear in mind the results that have been due to a half century's enterprising and intelligent use of the brain as a guide for the hand in compelling the forces of nature (too often, however, an over-worked beast) to become the servant of man, and to assist in gaining an idea of the nature of the field in which electric-power may before many years find an extended use.

It should be pointed out, however, that the agricultural industries of the country are far behind many others in the use they are able to make of nature's forces. This is undoubtedly due to the isolated character of the work and the necessity which very generally exists for conveying the power to the work instead of taking the work to be done to the most convenient place and where power is abundant and cheap. A point which must be borne in mind in the consideration of this question is the two-fold nature of the work to be done, namely, that requiring stationary machines and fixed power, and that in which the moving machines are employed, to which, if electric-power is to be used, current must be transmitted through flexible cable or by a moving contact, such as that used on the trolley system of electric railroads. This point will be taken up again and fully discussed, and it is sufficient at this place to merely call attention to it and its importance in the broad consideration of this subject.

A general discussion of the advantages, financial, educational, æsthetic and otherwise, which it is considered would result from the use of electricity for farm work and in country districts, it will not be necessary to carry on, but attention will be directed more especially to the practical use of electricity as adapted to the different classes of farm work. In considering a question of this character, where the application of electricity to a comparatively new variety of work is taken into account, there might be a tendency on the part of the advocates of electricity to over-estimate its possibilities, owing to the lack of familiarity with the character of the work. For this reason we have thought it best to consider the subject in connection with an individual farm as it actually exists to-day and upon which, as a matter of fact, electric motors are already in use for carrying on certain classes of work, and where their application on a much more extensive scale is already considered. This farm is located in one of the finest agricultural States of the West, and the work is planned and carried on so admirably that it furnishes an excellent example of the possibilities of such an application of electricity. The ground plan and general view of the barns and other buildings upon this farm are shown in Figs. 1 and 2.

There are four classes of farm work to which electricity is applicable, namely, (1), for power purposes; (2), for lighting; (3), for heating purposes, and (4), for the operation of telephones, signals, alarms, etc.

The subject of power may be considered under two distinct classes. First, that applied to the stationary machines, or where the motor itself may be stationary, and, second, that furnished to moving machines or vehicles. These different kinds of work might be classed as follows:

I. Power for stationary machines.

(a) Hoisting apparatus for (1) hay, (2) grain and feed, (3) horses, cattle, etc., (4) carriages, and (5) an ordinary elevator.

(b) Pumping apparatus applied to (1) drinking troughs, (2) fire purposes, (3) fountains, (4) lawns, gardens, etc., (5) the dairy house, and (6) the washing of vehicles, etc.

(c) Miscellaneous stationary machines, such as (1) threshers, (2) grinders, (3) shellers, (4) cider presses, (5) feed cutters, (6) hay presses, (7) grindstones, (8) machine-shop tools, (9) churns and coffee mills, (10) laundry machines, (11) horse cleaners, and (12) wood saws.

II. For moving machines and vehicles.

(a) Railroad lines on country roads.

(b) Tramways connecting farm buildings.

(c) Miscellaneous vehicles, such as carriages and field machines of all kinds to which electricity is applicable.

Taking up the first heading of hoisting apparatus, it may be said that work of this class in farm buildings is not different from similar work now carried on very extensively in other industries with electric motors as the source of power. There are, of course, differences in detail, but in general the character of the work is the same. Certain kinds of hoisting would not, however, be necessary except

at certain seasons of the year, while there are other classes that would be carried on continuously day after day. The hoisting of hay, for instance, in a barn would only be necessary at a certain season, and the same might be said of the hoisting of grain of various kinds, except in cases where these materials would have to be hoisted for grind-

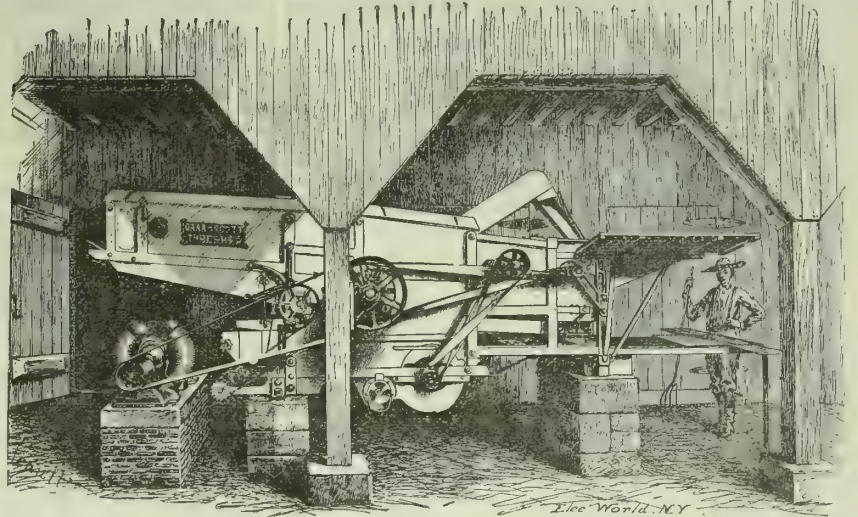


FIG. 3.—AN ELECTRIC MOTOR OPERATING A THRESHER.

ing or cutting into feed. In many barns already existing on large farms the stables and granaries are low down, either on the ground floor or on the first story, while the machines for hay and feed cutting may be placed in the second or third stories. The hoisting of horses and cattle and of carriages, or other vehicles, by means of suitably constructed elevators would, of course, only be necessary where the carriage loft or the stables are in the upper part of the barn. Work of this class, it need scarcely be pointed out, is already extensively carried on in city stables where the electric current is generally easily obtained from the street mains of different current stations; and given a suitable source of power, there is no reason whatever why similar work in large farm buildings cannot be carried on with the same success which has already attended similar installations in city stables. The ordinary elevator, either for passenger or freight service, would in large barns be found of great service and very convenient, and could well be operated by electricity in connection with other classes of hoisting.

HORTICULTURE.

Fruit Prospects in Napa Valley.

TO THE EDITOR:—A backward spring, such as has not been known here for many years, while it causes a decreased acreage of grain, and a prospective lessened crop, is greatly adding to the work of orchardist and vineyardist. Prolonged wet weather has caused weeds, especially the ubiquitous kale (*Brassica campestris*) to grow astonishingly fast in many vineyards and among fruit trees where the ground has been too moist to plow for some time. Trees are blossoming very full and the buds of vines are swelling fast. Of apricots there may be a fair one, half crop in some orchards. However, this point is not one of staple products of our orchards, in the lower portion of Napa valley, at least, other varieties predominating. Peaches, pears, plums, prunes and apples are blossoming freely and, barring frosts, a large crop of these varieties is anticipated. What damage these rains, that have for a few days past prevailed, will do the tender blossoms remains to be seen. Our fruit growers are looking forward to a busy season. There appears to be more concert of action and yet there is not as much as there should be. Preliminary steps have been taken to organize a co-operative fruit-drying association and definite means have been adopted to open the large cannery located at Napa, where from 10,000 to 15,000 cases will be put up this season if well laid plans do not miscarry.

Heretofore a large proportion of the fruit raised in this county has been sold to outside parties. It now looks as if local fruit growers would make an increased profit this year by retaining in their own pockets the money that, year by year, others have harvested. Napa fruit growers are slowly realizing the fact, long ago apparent to the orchardists of Santa Clara county, that there is benefit to be derived from co-operation.

Upland grain is now rapidly growing and promises a good harvest. Much of that on lowlands is spotted and dwarfed. Considerable land is being prepared for corn and planting machines of the latest pattern are being sold in numbers by our hardware dealers.

The poultry business cuts no small figure in the industries of this valley, though its volume is not to be compared with that of Sonoma county, yet the amount of eggs and live poultry sent to San Francisco from this valley is large. Comparatively few farmers raise the pure breeds, yet there are several who pay special attention of this branch of the business. In the fall of each year quite a large number of turkeys are sent to the local markets or to San Francisco from Berryessa valley, thirty miles to the northeast of Napa. Sometimes large flocks of these birds are driven along the highway to market from the valley above mentioned. Now and then farms are subdivided and thus sold to newcomers. In the aggregate there is a large amount of landed property sold in the county from month to month. There has been increased inquiry of late, some purchasers coming from distant localities to the north and east. Good land is held at low figures at present, especially where it is compared with real

* In a series of five articles reprinted from the *Electrical World*, New York.

estate in Santa Clara and some other valleys. Lake county still finds an outlet for considerable of her products through this valley and a large amount of freight is transported over the Napa valley railroad to the head of the valley, thence handled by eight horses to Lake county. What this section needs, what portions of our own county need, is railroad facilities. The resources of both counties are not one-half developed.

Quicksilver mines have been worked for a score or more of years in the northern portion of this county, and large quantities of this metal have been taken from our hills. Yet so rich are these mines that their value is increasing rather than diminishing, greatly to the satisfaction of the owners. Silver mining in the bowels of St. Helena mountain has been carried on to considerable extent, but not, as we understand, very successfully. There is an excellent mine of magnesia in or near Chiles valley, and there are indications of coal in our mountains. R.

Napa, April 7, 1893.

Earth-Blasting for Tree-Planting.

The use of explosives for loosening hardpan before planting trees or vines is not new in California; in fact, the value of the practice under certain conditions is well established. We have often published descriptions of the practice as followed in this State. The following article on the subject, by Elmer Stearns, in the *Irrigation Age* of Utah, reviews the subject in an interesting manner:

All trees send their roots after moisture, as we often see by examining a tree on the bank of a stream, where the roots will be seen running down to the water or to the moist land at the water's edge. Some trees will send roots upward of 100 feet to get moisture. We can thus see that, to give the tree a sufficient amount of moisture, we must use artificial means where there is not a water supply for the roots to reach.

By loosening the ground to a depth of eight or ten feet, this result has been obtained and a most wonderful growth has been made. This can be done by the use of dynamite. We have records where trees thus treated have made a growth of three and four times that of trees not treated. The dynamite will loosen the ground to a depth of eight or ten feet, thereby holding the moisture for a much longer period and loosening the soil so the roots will have a mellow soil to push through and get the material in the soil necessary for their growth. Nearly all the soil in the arid region forms a sort of hardpan in the dry season; this pan is so broken up by the dynamite as to offer no resistance to the tree-roots in their lateral growth.

In such trees as apples, almonds, pears, walnuts, pecans and olives a gain of two to five years in growth has been obtained in this manner, and the bearing of the trees made correspondingly earlier. So, thus it is possible to get trees that formerly did not bear for six and eight years to bear in four or five. The use of dynamite has passed the experimental period and is now used almost universally in some localities, with the best of results.

Dynamite can be handled with perfect safety, and the total expense to prepare an acre of ground for trees in this way is very small, in fact, not as much as it is in planting where the ground is otherwise pulverized. The kind to use is the 30 per cent grade, which is considered strong enough for nearly all land. Use one-half pound for each charge, unless your land be rocky, then use from one-half to two sticks for a charge.

In preparing the charge, take a fuse six feet long and on one end attach a fulminating cap. First make a hole in the end of the stick of dynamite with some small stick, or a pencil will do. In this hole place the cap, and, with a string, tie the fuse and cap firmly to the dynamite stick to hold the cap and fuse in place.

To prepare the ground for the charge, take a crowbar or two-inch augur with a seven-foot shank and make a hole in the ground six feet deep. Then place the dynamite stick with the fuse and cap attached in the bottom of the hole, and pour dry sand in the hole until full. If no sand can be had, any soil will do if tamped quite hard with a wooden stick. The charge will loosen the ground some distance below the bottom of the hole, and for many feet on all sides of the hole. There is little or no danger from the explosion, as the ground only heaves a little bit and no soil or rocks are thrown up. The ground will tremble for 15 or 20 feet away.

After the dynamite has exploded, take a shovel and dig a hole two feet square and of the same depth, filling in the excavation with surface mold and some fertilizer that will aid the tree growth and assist in holding the moisture about the roots. The water from the ditch will go as far down as the dynamite has loosened the soil, and will be retained there until it is used by the tree roots or evaporates. The evaporation can be held in check by a thorough and frequent pulverizing of the surface soil.

As the tree roots go down in this loose soil, they will always find sufficient moisture to make a vigorous growth, and the ground will not check their lateral and downward growth. Thus, in one season roots will make a growth of three times what they would in hard soil, where the water could not penetrate on account of hard pan or the dry, baked soil of the dry seasons.

The roots thus grown make it impossible for the wind to blow the trees down or out. The tap root will often go down several feet the first season. We have seen limbs on some trees make a growth of several feet in one season and it is just as possible for the root to make a similar growth if the conditions for its growth are same as the limbs. By having the soil loosened for a depth of eight or ten feet this growth can be made and at the same time a greater growth of limb made, as the limb growth depends wholly upon the root growth.

Those who have used the dynamite method of preparing the ground for trees say that the expense will not exceed 20 cents per tree and many have done the work at a cost of less than 15 cents per tree for dynamite. Where large tracts of ten or twenty acres are prepared it will reduce the

cost even below the figures given, so the plan is within the reach of every fruit grower.

The direct results outside of getting a greater growth in trees and an earlier period in bearing are: The fruit is of a better quality, more even in size and a larger yield per tree. This is easily accounted for by studying the philosophy of the loosened soil and water supply. The soil, being made porous, retains the moisture, which is given to the tree only as fast as needed, while by too much water coming in contact with the roots, as it does by surface irrigation the fruit grows more even and with such regularity that the flesh becomes more firm and the fruit will stand longer shipping and also keep longer. These are very important items with the fruit grower of the arid region who wants to have his fruit sold in the Eastern markets.

How to Sell Raisins Profitably.

A correspondent of a Fresno paper referring to the defects of the bill organizing the Raisin Growers' Association, vetoed by the Governor, in the course of a lengthy communication, objects to the admission of brokers and commission men to the board of directors, and goes on to say:

"Last year they encouraged immediate shipments, making each of us believe that we were going to get ahead of our dear neighbor, and when the stakes were all put up simultaneously broke the market and raked in the pot at their own price. Aided by the immense profits they have been enabled to bank, they are just now, no doubt, laying their pipes to catch us again. If they can't do it by wholesale, as they did last year, they will do it by retail, once they are represented on the board of directors. In fact, all they have to do is to get hold of our business and carefully manage it in their own interests instead of their employers."

"In all other civilized countries, I believe it is a custom for the commission merchant to make up account sales, giving name of each purchaser of your goods, date and price, so that all can be verified if wished, but here it appears to be considered as a want of confidence if one requires any particulars of the sale of his goods. You get account sales, sold for so much, commission on goods amount to so much, balance so much. Like it or lump it, no satisfaction and no redress, even when definite and positive orders have been disregarded."

"They can write you sweet letters of undying devotion, but if raisins are going up, they unfortunately sold the most of yours (they don't yet say how many) at the low price. If raisins are going down, none has been sold until hardpan is reached, when they all go. I would like to hear from the shipper that ever got anything above the lowest price that ruled in the market for his raisins during the time they were 'on sale' in brokers' hands."

"For doing all this so nicely the commission man will tax you 5 per cent for the sale and 1 per cent for paying you. This 6 per cent is upon the gross amount freight and all, so that in some cases, in the past season, the commissions came to 20 per cent on the price your raisins gave you in the sweat-box. So the broker can be honest and take most of the profits, or he can be dishonest, as they sometimes are, and take everything. In either case you have practically no redress."

"Last year demonstrated the wisdom of combined action on the part of the growers. It also demonstrated the danger of trusting one's business in the hands of a secret enemy. And any combination this year with a commission man in it would surely come to grief; therefore the governor's 'veto' has no doubt saved us from disaster."

"And now we are in prime condition to call a meeting and make things solid. How to dispose of our crop independent of the brokers is the question to be settled—not a difficult matter provided cheap money can be obtained so as to carry the crop until wanted."

"To have the banks and money-lenders recognize the value of raisins as a collateral will require something more than a hayseed directory."

"The amount involved is quite sufficient to warrant the employment of a Rockefeller, or some other fellow who has the brains, capacity and experience to talk millions to those who have millions for investment. In this way money at a low rate can be secured to carry the stock, even if we have to secure it by blanketing our vineyards."

"The salary of such a man would be very high, but the raisin business is a large one. The coming crop should sell for over \$3,000,000. The brokers' 5 per cent on this would come to nearly \$200,000. A tax to the grower of 1 per cent on all sold would give enough to pay a big salary, traveling expenses all over the country, and the little items of office expenses that were so hard to meet last year by voluntary contributions. This would give a better service than through middlemen, and a direct saving to the producers in commissions alone of at least \$150,000."

"But where to find this wonderful man of affairs is the question. We could not trust any of the brokers or commission men that have already had a whack at us. They are like the dog that has tasted sheep blood—they can never be trusted."

Mulching Strawberries.

Fruit-Grower, Orange Co., N. Y.: When strawberries are cultivated in hills or rows, some kind of mulching is necessary to keep the fruit clean, and it also assists greatly in keeping the soil moist. The best material for this purpose is salt meadow grass, but where this cannot be obtained bog hay from fresh water bogs and low ground is far preferable to straw of any kind, for the latter is very likely to contain some grain, which will soon sprout and the new growth become a nuisance in more ways than one. If sawdust is used it will, when dried in the sun, blow about and stick into the ripe berries, rendering them unfit for use. What is called coarse, strawy manure usually contains too many weed seeds and grain for this purpose, and is even more objectionable on this account than well-threshed wheat and oat straw. Old tan-bark will answer,

but contains little in the way of a fertilizer when it becomes mixed with the soil. Spent hops from the breweries is, perhaps, the best of all materials as a mulch for all kinds of plants, but, unfortunately, they cannot always be obtained.

Fungicides for Fruit Trees.

The Ohio Experiment Station issues the following suggestions concerning the use of fungicides on fruit trees:

For apple scab, various leaf diseases of fruit trees and grape rot the following are used:

Bordeaux mixture: Copper sulphate, 4 pounds; quick lime, 4 pounds; water, 50 gallons. Dissolve the copper sulphate and lime separately and mix when cool.

Copper carbonate solution is made by dissolving six ounces of copper carbonate in three pints of ammonia and diluting to 50 gallons with water.

The Bordeaux mixture is to be applied to fruit trees four times, twice before and twice after blooming, and four ounces of Paris green are added the third and fourth times to kill insects. Potatoes should be sprayed with the same mixture five or six times. Grapevines are treated the same, except that six applications are given and copper carbonate is substituted for the Bordeaux mixture for the fifth and sixth and no Paris green is used. These mixtures, properly used, save the fruit from rot, scab, curculio, apple worms and various other diseases and insects.

To apply these mixtures a good force pump is needed, and in it should be combined the following essentials: It should be made of brass or some material which the chemicals will not corrode, and if to be used for spraying trees should have force enough to throw two or three strong sprays. The pump may be mounted on a tank or barrel, which may be placed on a sled, cart or wagon. To keep the fluid agitated, so as to prevent the settling of the ingredient, a stream may be returned from the pump to the tank, or, better still, an agitator may be affixed to the pump. For convenience in spraying large trees about 25 feet of good rubber hose are needed, and to this is attached a galvanized iron pipe of one-fourth inch diameter and ten feet in length. To the outer end of the pipe the nozzle is attached. The nozzle should throw a fine spray, or mist, and should not clog easily. If the pump has sufficient force two or more attachments can be made, and several men kept busy at the same time. For vines and shrubs a knapsack or hand-sprayer will do very good work, but one of larger capacity and transported by a horse is better for trees.

Australian Everbearing, and the New Greenville Strawberry.

TO THE EDITOR:—Desiring to learn more of the Australian everbearing strawberry, I wrote to Mr. Wm. Y. Earle of Azusa, California, for a history of this remarkable strawberry. Following is his letter:

"DEAR SIR:—In your letter of January 30th, you ask for a history and description of the Australian strawberry. The plants, seven in number, were introduced in the Upper San Gabriel valley, from Australia, by E. J. Baldwin, about eight years ago. The berries are large, very firm, and of good quality; the color is crimson. In winter and early spring, they are not so well colored, the under side being white or pink. They are probably as near everbearing as any known; they are never without berries, but not plentiful in October and November; in shape, the berries resemble the Monarch of the West, but are much superior in quality and appearance. The plant is a vigorous grower; and a wonderfully prolific bearer. For shipping long distances it has no superior. I have tried many varieties before this, but have never found any that paid so well as this variety. There may be better varieties, and I am willing to try them. I have sold all my Australian plants, and have had many orders that I can not fill. There are no varieties grown here to amount to anything, except the Australian Crimson or Everbearing strawberry. The first season the Australian Crimson bears but two crops, the first crop the berries are not large, the second crop the berries are large, but have a coarse appearance, unlike the berries on older vines."

The Greenville strawberry is a new candidate for public favor; it has been very extensively tested before being offered for sale, by a great many strawberry growers in Ohio, and by various experiment stations. The general verdict is that it is a very superior variety. The berries equal the Sharpless in size, but ripen evenly all over; are very sweet, and of a splendid flavor; plants are very productive and medium to late in season. It is a pistillate variety and very free from rust. The New York Experiment Station reports thus:

"The Bederwoods, the most productive variety this season, is followed very closely by the Greenville, and as the Greenville has the advantage of being larger it would probably sell for more per quart than the Bederwoods."

S. L. WATKINS.

Grizzly Flats, Cal., March 20, 1893.

Action and Effect of Lime.

There is much misapprehension as to the action of lime in the soil and its effects upon the soil as well as upon the growth of crops. Everything that is found in plants that is mineral in its character must necessarily come from the soil, and as the largest proportion of the mineral parts of plants which is left as ash when the plant is burned is lime, this necessarily must be derived from the lime existing in the soil. And whatever is taken from the soil by plants is food. Then lime must be a food for plants.

All fertile soils contain lime to a greater or less extent. But it is mostly in an insoluble condition, and therefore, unavailable as food for crops. Consequently it is necessary to apply lime as a plant food or fertilizer when the soil happens to be deficient in it in a soluble and available condition. But it only acts as a nutriment for the crops as far as the soil is deficient in it. It is never a stimulant, that is, something that excites unusual and unnatural stimulus, and forces an unnatural growth. And this for this reason: All plants need several substances to make a healthful and natural growth, as potash, phosphoric acid and nitrogen, chiefly, with many other less important substances found in soils of all kinds; less important because they are not required to such a large extent, and are generally abundant,

as soda, magnesia, etc. And, if one of these more important substances is wanting, no possible surplus of any or all of the others can make up for the deficiency, but the crop will not make a satisfactory growth. Every element of growth must be present or the crops will not grow. Thus there can be no stimulants used for fertilizers, and the only way in which any one special element can be useful at all is when it is deficient, and must be supplied to make up the deficiency.

The effects of lime in the soil are then first to supply the demands of the crops. Second, it has the effect by a chemical action well known and understood, to dissolve other minerals in the soil existing in an insoluble condition, as potash and phosphoric acid; and thus make these available as plant food. Third, it exerts another effect on organic matter in the soil by decomposing it and developing the nitrogen in it and forming compounds with this element of plant food, and thus makes the inert organic matter available for the crops. Fourth, it has a mechanical effect in making the soil more open in texture when the land is clay and impervious to air and moisture; and more compact and less porous when it is sandy and too previous to moisture.

It is easy to perceive how all these effects are useful to the growth of crops, and how lime acts, not as a stimulant, but as a direct plant food on one hand, and as a supplier of plant food on the other. For these reasons lime is indispensable for the fertility of the soil, and that it may act in all these different ways it is necessary to supply it in much larger quantities than the plants actually need for their direct use as nutriment. To have the desired effect in fitting the land for the production of large crops, by changing its mechanical condition, and to decompose the large quantity of organic matters in the soil, and to dissolve other mineral compounds, it has been found necessary to use as much as twenty-five or thirty bushels of lime to an acre, while for the direct needs of a crop not more than one hundred pounds might be needed. This explains why the common practice is to use such a large quantity when only such a small quantity appears on the face of it to be needed. And it follows that the more unavailable organic or mineral matters that may be present in the land, the larger may be the quantity of lime required, and the more notable its effects. And thus it is good practice to apply lime even to land that is largely made up of limestone, because this is not lime, and wholly unable to act in the way that lime does, being wholly insoluble.—Henry Stewart in Los Angeles Times.

Mr. Fuller's Excellent Methods.

Mr. W. C. Fuller, of Colton, is owner of a 20-acre grove out on "the terrace," or mesa land west of town. He secured first money at the citrus fair for the best general display of budded and seedling oranges by any exhibitor. Mr. Fuller is one of the progressive fruit-growers of which California should have more. He grows oranges and markets them on a thoroughly business basis, and the result is that while many producers are growling about low prices, and gluts, and over-production, he is serenely selling oranges from his little grove at from \$4 to \$5 a box. To a *Bulletin* correspondent he outlined his policy thus:

"You see," began he, "before I came out here and started in orange-growing, I was in the drug business in Willimantic, Conn. Now, there isn't a business which compels more care than the drug business. If you don't keep good medicines people won't buy from you; if you do keep good stock your patrons will stay with you. People used to come into my store and order goods, but leave the selection entirely to my judgment, knowing they could rely on what I would give them."

"In orange-growing I've followed the same policy I did in the drug business. I don't send out poor fruit. If my oranges are frozen, as many oranges around here were last year, I don't send them out. I pack only the best. I don't put big ones on the top and small ones on the bottom—it don't pay. I tell the people I ship to East to guarantee every box. If buyers complain about the fruit my instructions are to give them another box and charge it up to me. Last year I got \$5 a box at Minneapolis for my best fruit. Anything with my name on I absolutely guarantee and my consignees know this."

"It's no secret that we had a terrible freeze all through Riverside and in this section last year. We're about as near the border line here for orange-growing climate as we can get. Oranges will stand 24 degrees, but if there's a drop below this, gone is your fruit. Last year the freeze fairly froze the oranges from the trees, so they were piled up in heaps. The growers picked these up and sold them, and it's my judgment that this year retribution for that sort of thing has come. It's common sense that if people buy a frozen orange once they will be suspicious of our oranges for years to come. I feel sure that this is one reason, if not the main reason, for the disastrously low prices ruling this season. Florida people have tried this same thing. I believe the growers have only themselves to blame."

"There were boxes of oranges sent out last year that only weighed 45 pounds, box and all, instead of 60 or 70 pounds. The oranges were frozen—blown oranges, the buyers call them. If you cut open one of these oranges, which may look all right, you will find no juice; all the weight has gone from them. I weighed every orange I packed last year, and those that were under weight I threw out. It seemed like loss to one, but it was not. Not one complaint of my fruit came back to me."

To Fight Cut Worms.

R. P. M., of Friendville, Pa., writes to the *Rural New Yorker*:

How can we exterminate the cut-worm? My farmer tells me it has been known to be in this soil 20 years.

Ans.—Prof. Weed gives three methods of destroying these pests, some of them, it seems to us, impracticable on a large scale. The first, designated as the poison method, consists in killing off the worms before the crops are planted

by strewing over the soil bunches of fresh clover or cabbage leaves which have been treated with Paris-green or London-purple, either by dipping into a solution or dusting it on dry. This method has been proved practical and successful by many gardeners. These leaves must not be scattered where poultry or other live stock will get them. Another method is to place boards around their haunts, under which worms will collect during the night and may be killed in the morning. Another method which some farmers contend is practicable on a large scale is simply to watch the crop closely for withered plants, and immediately dig them out and kill them. Boys may be employed to do this work. Kainit, salt or wood ashes, broadcasted and harrowed in before planting, have given good results in some cases.

The Walnut in Southern California.

Read by J. A. MONTGOMERY before Farmers' Institute.

The soft-shell is growing in favor with the growers. In size and shape it has the advantage over the hard-shell and commands a higher price. The trees are more regular bearers and will produce a paying crop from two to four years earlier than the hard-shell. It is a question whether the nut will keep as long or bear shipping as well as the hard-shell. The paper-shell is an excellent walnut, of medium and uniform size, and commands the highest price of any nut in the market. This walnut is a heavy and sure bearer, and more pounds can be produced from an acre than from either the hard or soft-shell, as the trees are quite small and many more can be planted on an acre. This nut, however, is not in favor with the growers, on account of the difficulty in gathering them. If the weather is unfavorable during ripening season, the hull adheres to the nut.

A very small proportion of this State is adapted to walnut-growing. The soil should be an alluvial one, and there should not be any strata of sand or gravel between the surface soil and the water beneath, which should be at a depth of 10 to 14 feet. The walnut should not be planted outside of the fog belt, as a moist atmosphere during the summer months is very necessary to the full development of the nut. Experience has demonstrated that the walnut cannot be successfully grown on mesa or foothill land where the surface moisture disappears during the summer months. Most of the walnuts of Europe are grown along the shores of the Mediterranean, where the climate and soil are similar to that which we have here. When the planting of the walnut began in this valley the planters were somewhat discouraged by the idea that had become prevalent that the walnut was not a sure bearer. This has since proved to be unfounded. The past ten years have shown the walnut to be a good bearer. It is true we have a heavy crop and then one not so heavy. The average has shown the walnut to be a profitable crop to the fortunate owner of a walnut grove.

GRACK AND HARM.

The Future of the Horse.

When the agricultural world was invaded by labor-saving machinery, very much of which was operated by the labor of horses or cattle, the cry arose that men were to be crowded out of employment. The same cry was raised in a multitude of manufacturing industries whose operatives declaimed against each new appearance of machinery perfected in the line of economy of human labor. But results have proved the groundlessness of such fears. The introduction of improved machinery simply enlarged production, enabling it to keep pace with a rapidly increasing demand, while men's labors were found to be as much in demand as before, but under somewhat different conditions. In like manner, when a few years ago the possibilities of electricity began to become apparent, and the equipment of horse-car lines with this new motive power was seen to be a coming event, the cry was raised that the breeding of horses was to receive a serious check. Later came the safety bicycle, and thousands, who before depended upon horses for locomotion, sold their teams and took to the less expensive silent steed. Here, then, was another evidence of the passing of the horse. Just how far these fears are likely to be realized cannot yet be fully known, for the application of electricity as a motive power has not yet become at all universal, nor has the bicycle attained the full measure of its popularity, distinctly and widely popular as it has already become; but this much is certain, the time is not far distant when tens of thousands of horses that now draw tram and street cars will be replaced by the trolley or storage battery system.

In the continuous discovery of electrical possibilities, it is impossible now to say whether electricity may not replace horses in other lines of work, such as teaming between points joined by electric railroads, on some of which even now freight, as well as passenger cars, are being run, the freight service being employed in the night when the track is clear. All these signs point to a gradual encroachment upon the work of light and heavy draft horses by the electric current, whose wonderful powers are being so rapidly demonstrated. One need not be an alarmist to foresee a lessened demand for work horses from that demand that would undeniably have existed had electricity not entered this field.

Draft horses will always be needed, but it is the part of wisdom to bear in mind a very possible curtailment of their usefulness, and, therefore, their value in the future. The wise man lays his plans for possible contingencies. If he breeds horses of a particular grade, and thinks he sees a lessening demand for his product in the future, he will straightway get himself in readiness to meet changed conditions. Will he give up breeding horses? Not necessarily. He will simply find out what class of horses is likely to be in demand—electricity or no electricity—and

will endeavor to meet the requirements of a changing market.

The person who looks carefully into the conditions that exist in society at the present time cannot fail to be impressed with the rapid accumulation of wealth on every hand, and the tendency to get as much comfort and pleasure out of it as possible. One marked result of this is an enormously increased demand for stylish and high-spirited driving horses, matched pairs and fast roadsters. The noted horse-breeding portions of the country are being constantly searched by the agents of wealthy men looking for horses that meet these conditions, and when they find what they want, the matter of price rarely stands in the way of a purchase. Nothing of an economic or industrial nature comes into this demand, and changing conditions of life are not at all likely to affect it.

There are many sections of our country excellently adapted to the raising of first-class horses, which have as yet not been developed. A substantial beginning in this direction need not necessarily involve the investment of a large amount of capital. The main outlay would be for a pure-bred sire of a strain desired to perpetuate. From this starting point, the character of the stud should be constantly improved by the infusion of better blood. I have never been an advocate of an attempt on the part of the average farmer to raise fast horses, nor do I now advocate it; but I think the time has come to look the matter squarely in the face. If farmers are to continue to breed horses, it is the part of wisdom to let such breeding run in lines where there is the greatest demand and the most money. The secret, or at least one of the secrets, of successful farming is to find out what the public wants and then to furnish the very best quality of the article desired. If the public wants a particular type of horse and is willing to pay liberally for good specimens of that type, and if farmers are to continue to breed horses, then it is certainly wise to supply the demand.—Webb Donnell in American Agriculturist.

THE FIELD.

Hop Roots Are Scarce.

While in many of the hopyards along the river in this valley the hop-growers have been unable yet to plant this season's growth on account of the overflow, in many other parts of the valley the vines are pushing out quite freely and men are at work in the yards starting the young vines to climb the strings which have been stretched for that purpose, says a writer on the *Sacramento News*. Those growers along the river who have been unable to plow or prune yet are not despairing, for if they are able to get that work done in two weeks from the present time, they may be sure of a fair crop.

Some time ago it was feared that where the yards were overflowed last season and the vines forced to the utmost to produce last season's crop, they would be weak and sickly this season. But those who have examined the yards in question say that the young shoots and runners are vigorous and strong, and had they not been covered with water at the time the pruning was being done in other yards, they would have been able, to a great extent, to keep the price of new roots down, as they would have been able to supply several thousand more than have been placed on the market. As it is, the pruning will come too late to put the roots on the market, so many of the growers who own these lands will plant new territory themselves.

Speaking of roots reminds the writer that they have rarely been in such demand as they are at present. The best of those offered were snapped up early in the season, and now there is a cry, not only from our own yards, but from far off Washington and Oregon, for Sonoma and Sacramento county roots. The Washington and Oregon growers want roots from this section because they are afraid to plant their own roots on account of the prevalence of the hop-lice, which are seen this early in the crowns of the hills that have been uncovered. In this section there has been an unprecedented call for new roots on account of the immense new area planted this year over any previous year. There are now no roots to be purchased, except, perhaps, a few small lots which may come into the market during the next five or six days. After that date it will be rather too late to risk planting out new yards, although a few may be used for replanting.

Raise Your Vegetables.

The amount of vegetables that can be raised in a garden plat would seem to depend more upon the care bestowed on its cultivation than upon the area devoted to it, says the *Marysville Democrat*. Vegetables can be raised with more or less success on different soils, but if the garden is upon naturally good land it will be greatly in its favor. Still, by yearly giving proper attention to the preparation of the soil, by underdraining where required and by mulching with a plentiful supply of manure, a productive garden can be made at no great cost on almost any spot of ground. The true value of the products, when used in the family, is rarely ever known; but were they bought instead, the cost, if an account were kept, would be surprising. The garden should contain a judicious selection of varieties, and special attention should be given to successive plantings, that there may be a generous supply as long as they are reasonable and desirable. In this a knowledge of the habits of plants, as influenced by changes of temperature, is important. As the season advances and the weather becomes warmer, all kinds of vegetables grow faster, or, as some one has expressed it, they seem to overtake one another. Thus, while peas planted quite early, at dates a week apart, will make about the same number of days' difference in the ripening of the two plantings, those made a month later, with the same interval between them, under a more favorable temperature, will ripen much closer together. This is often

well shown in the replanting of missing hills, where the latter, planted under the influence of better climatic conditions, make a rapid and vigorous growth that has no parallel in the hills of the previous planting.

THE STOCK YARD.

The Shorthorn Breeders' Association.

The annual report (Circular No. 7) of the American Shorthorn Breeders' Association has been issued to members. It contains a synopsis of the business transactions of the association for the year 1892, besides other matter of general interest to stock-breeders.

The prizes offered for Shorthorns at the World's Fair are given in classified form and are a very liberal addition to the exposition premium list, both in dairy, breeding and beef cattle classes.

In a note immediately following the premium list, Mr. Pickrell, the secretary, says: "It should be expressly understood that these prizes are paid by the association independent of the cash prizes and medals offered for Shorthorns by the Columbian Exposition, but awards will follow the decisions made by the jury selected by the Columbian Exposition."

In each of the four dairy classes five prizes of \$100, \$60, \$40, \$20 and \$10—for 1st, 2d, 3d, 4th and 5th, best cows respectively—are offered.

The date fixed for the exhibit of cattle is from Monday, August 21st, to Sept. 21st. Ages of cattle will be computed to Monday, Sept. 11, 1893.

The added premiums in the Shorthorn classes for breeding cattle amount to nearly \$3000, and the sweepstake additions for best herds of general-purpose cattle, if won by Shorthorns, are as much as \$1450, divided into four premiums each for old and young herd respectively.

There is also an offer of \$1750, divided into four premiums each for old and young herd in the competition for the grand sweepstakes.

For the association's dairy prizes of 1892 there was not so much competition as in the year 1891, when there were 12 State Fairs that accepted the conditions and the premiums awarded amounted to \$1500.

In 1892 the competition only extended to six States, including Toronto, Ont., the total amount paid in premiums being \$850. The premier butter-producer of 1891 is again to the fore and heads the list with 4.7 pounds for the two days. In 1891 it was 4.2 for same time. The two next best cows were tested at Toronto and made 4.401 pounds and 3.988 pounds respectively for the two days' trial. The fourth best cow is from Kansas, 3.521 pounds; the fifth, New York, 3.297 pounds—California ranking sixth and seventh with 3.013 pounds and 2.978 pounds respectively for first and second prize-cows.

In these trials 80 per cent of the butter-fat, as ascertained by the Babcock milk-tester, was counted as one pound of butter.

In a foot-note it is stated that "at the Indiana State Fair the conditions laid down by the American Shorthorn Breeders' Association were not complied with. Only the milk taken in the mornings of two days was tested. The result (2.82 pounds) was estimated by doubling the amount. The prize was awarded by resolution of the Board of Directors, in which the Indiana State Board of Agriculture was censured for the 'imperfect and careless manner in which it conducted the test.'"

That is just what was done at the California State Fair in 1891. The morning's milk only was tested and the result doubled, as above; yet we have no recollection of the California State Board being censured, as it deserved to be, for the "imperfect and careless manner in which it conducted the test." That was, in a sense, the second offense, for, in 1890, it accepted the conditions laid down by the Shorthorn Breeders' Association and afterwards neglected to appoint a committee to see to the milking of the cows entered for the premiums offered.

We have previously expressed the opinion, and still think that these trials would be more interesting and instructive to the public if more particulars were entered into, such as the quantity of milk given, the time since last calf, whether the cow is again in calf, and, if so, how long, giving date of last service, any and all of which has an influence on the quantity and quality of the milk.

The trials might also be of longer duration, so that some account might be given of the kind and quantity of the food consumed. A two days' trial on a fair ground is of little, if any, practical value, conducted, as it is, amidst a continual appearance of strange people, day after day, about the stalls, besides other exciting scenes frequently occurring that are well calculated to upset that placidity and contentment which are necessary to the well-doing of a milch cow.

However, it does not appear that the association offers any premiums through the agency of the State Fairs in the year 1893. The World's Fair is the all-absorbing event.

The milking trials will be on an extended, as well as extensive scale there, and there will be no cause to find fault with the length of time the cows are on trial for their merits in regard to dairy qualifications.

Breed Test No. 1, for cheese-making only, the test will be from May 11th to May 25th inclusive.

Breed Test No. 2, from May 31st to August 28th inclusive, for butter making, loss and gain of weight and cost of maintenance all considered.

Breed Test No. 3, from August 29th to September 27th inclusive, for butter production only.

Breed Test No. 4, from September 28th to October 4th inclusive, same conditions as No. 2.

This last test being of only seven days' duration, is in all probability too short to be of much real practical value; fourteen or twenty days would be a better test of comparative merits, seeing that loss or gain of weight and cost of maintenance are to be taken into consideration.

The committee of experts met on the 6th of February,

but we have seen no notice of any changes being made in the already published rules for governing the Dairy School at the Exposition.

How Mr. Watson Exterminates Coyotes.

G. Watson of Guerneville, writes to the Sonoma Democrat and gives his experience with the coyote:

"The coyotes in daytime go back in the high hills in the thick brush; at night they first come out on the high hills, walk along in the trails and get on some high place, look all over the valley, howl a few times to call up their companions before starting down in quest of supper.

"You now take a little square block of wood, say four to six inches wide and about to inches thick, bore a hole part of the way through the block, melt tallow and pour the hole full; set aside to cool. Then about sundown you kill a sheep, take the entrails and wrap a hay rope around them until they are in a hard ball. You then take this ball of fresh entrails, the liver of the sheep and blocks containing the cool tallow, and go back on those high ridges where the coyotes first come out, tie a rope to the ball of fresh entrails and drag it along in the trails; stop occasionally, lay down one of your blocks, cut off a single piece of the liver, split it and take out your strychnine bottle and put inside of this piece of liver as much as will lay on the point of a knife, fold it together and lay it on the block with the tallow. Go along and put down as many pieces as you like. When the coyote comes out, he smells this scent and follows it, coming to the block it attracts his attention, he instantly swallows the liver and then he starts in to lick out this tallow. Go out early next morning, take up all that is not eaten, and every coyote that struck that scent will be lying close by one of these blocks, toes and all.

"In 1868 I moved on a dairy ranch in Marin county. The coyotes were so bad they killed my fancy calves, came down and chased my dogs under the floor and caught my turkeys and other poultry. I adopted the above rule and the first night I caught two in the barn-yard.

I killed nine that I found in six months and probably many more. Continue using the ball of entrails until it is worn out, then use the carcass. Go to the slaughter-house and get more entrails either of beef or sheep. Both are good; but invariably use liver to put the strychnine in. Now if these sheep men will attend to this properly they will have fewer varmints and more sheep. At least I never had any trouble to rid myself of them. I write from personal experience and not hearsay."

A Mule-Breeder on Mules.

The editor of the Nebraska Farmer is a breeder of mules, and in his paper of recent date he speaks of that animal in the following complimentary manner:

It is a very significant fact that the best places to find expensive good mules are those celebrated for the production of good horses. In all probability, mule-breeding pays better than horse-breeding; the young mule requires less trouble to raise and brings a higher price. The mule is a beast of burden and nothing more. They are sure-footed and have strong limbs and hard hoofs, which do not, like those of a horse, dry up under the influence of heat, and a quick, solid step. Mules step longer than the horse, and have a remarkable power of going up or down steep places and of cleverly turning sharp corners, sure on the worst of roads, quiet, easy to please as regards food, tolerant of heat and thirst, requiring drink less often and in less amount than the horse, more intelligent than usually given credit for and susceptible of attachment and amenable to good treatment. He can be ridden, driven or used for pack purposes, gives but little trouble over shoeing and may be left unshod, behind especially, for a long time without detriment.

The mule is rather choice in his selection of water, and moist, cold weather is unsuited to him. Though he exhibits a notable freedom from disease, he suffers severely from specific affections. He inherits the sobriety, patience, endurance and sure-footedness of the jack, and the vigor, strength and courage of the horse. Making allowance for size, he carries one-third more weight than the horse, hence is essentially a pack animal.

Heavy Sow Smothering Pigs.

L. M. Chambers, Pembino Co., N. D., is discouraged in raising pigs, from the sows having lain upon them. Ten, out of a litter of eleven, were thus killed. A box stall or pen eight or ten feet square is best. The bedding should be as thin as possible. In warm weather no bedding is still safer. When a deep bedding is used pigs are always sacrificed. A sow just before her farrowing time should be fed slops, not too rich, as a feverish condition always produces restlessness. Quiet should be observed at the period of parturition. Nervous young sows are apt to lie upon their pigs, even after they are several days old. Roots and green food should be fed before and after pigging. Every pig pen should have some pieces of charcoal to correct acidity or indigestion.

Feed Wet or Cooked.

One of the largest feeders of swine gives his experience and judgment as follows: "I find that if I take ten bushels of meal and wet it in cold water and feed twenty-five hogs with it, they eat it well, but if I take the same quantity and cook it, it doubles the bulk and it will take the same number of hogs twice as long to eat it and I think they fatten twice as fast in the same length of time." Prof. Stewart in commenting on this says he took two lots of three pigs each from the same litter, weighing 225 pounds each lot. Lot one had corn meal soaked twelve hours in cold water. Lot two had corn meal cooked; each had all they would eat, and each had a cock of early cut clover every day. Lot one consumed 2,111 pounds of meal and gained 420 pounds or 140 pounds each. Lot two gained 600 pounds or 200 pounds each. Or figuring it another way, he got 11 pounds of pork for a bushel of meal soaked in cold water,

and 16.47 for a bushel when cooked, a gain of nearly 5½ pounds to the bushel, getting half as much again for his corn by cooking it. Prof. Stewart further says that "by good management the general feeder may reach with raw corn 8 pounds, with raw meal 10 pounds, with boiled corn 12 pounds, and with boiled meal 15 pounds of live pork per bushel.

Clydesdale Exhibitors at the Fair.

Clydesdale breeders who contemplate making an exhibit of stallions or mares at the World's Columbian Exposition in Chicago, are requested to send the names and numbers of the animals that will constitute their display, by early mail to Charles F. Mills, Springfield, Illinois, the Secretary of the American Clydesdale Association, who is now preparing the copy for the Columbian Clydesdale catalogue.

The prospects are very encouraging for a large and creditable exhibit of Clydesdale horses at the World's Columbian Exposition of animals bred in Scotland, Canada and the United States.

THE DAIRY.

Best Feeds for Dairy Cows.

Mr. A. M. Donald of Humboldt county, California, writes to *Hoard's Dairyman* an interesting letter from which we make the following extracts:

"We have built a creamery the past year, built by the farmers, and all winter have had 6000 pounds of milk a day and are now getting 8000. We will get close to 20,000 pounds a day the coming summer. It has been a blessing to this valley and will prove a land mark for the future. We adopted the Babcock test, the first used in this State.

I notice from time to time articles saying that the per cent of fat in milk cannot be changed by feed, though the quantity of milk may be increased. Here is a bit of experience to the contrary. I have helped to do the testing in this creamery ever since it started and have noticed the tests of those patrons where I knew what they were feeding. I will say that in every case where cows were fed green peas, where the pods had half-grown peas or more in them, the test raised from .3 to .9 of 1 per cent. Just as soon as the feed was changed to green clover or corn the per cent of fat went back to where it was before the peas were fed, or nearly so. With corn here we do not get the results you do in eastern States, for the reason, I suppose, of cooler weather in summer. I am feeding ground oats and bran with good results in test. When I dropped the oats and fed only bran, the per cent of fat would drop also. Have fed ground peas and barley with bran, but could not get the fat I could with oats and bran. By taking private tests of my cows, I find feed makes a decided change in fat with some cows and not in others. Hence, I believe the fat value of milk can be changed in some cows, by the feed, but not in all cows. I hope to hear from others, for I am much interested in the practical value of testing cows. I have already sold eight of my cows. For all that, my cows averaged \$80 apiece. I will send you an account of what I have done the past year. I send my milk to the creamery."

The Ideal Dairy Cow.

At a Canadian meeting Mr. Yuill gave a discourse on the points of a dairy cow, using as an illustration the cut of Mr. Stewart's Ayrshire cow, Annie Laurie, explaining that the points described would suit a model dairy cow of any breed. The face should be lengthy, but not too long; the eyes wide apart, prominent and bright; the face dished between the eyes, and curved between the horns, which should be medium strong, but not coarse. It was a matter of taste how they were set on; in Ayrshires the fashion was to have them up and out. The neck should be long and tapering, and a little lower than the back, and thin; shoulders, too, should be thin. The back should be straight with the ribs well sprung and no hollow behind the shoulders, and the three last ribs inclined back. The ribs and the joints on the backbone should be far apart. She should be long over the kidney and in the quarters, with the tail—which should be long and tapering—set rather high up on the back. The udder ought to be well forward and back, and cover as much of the body as possible (the four quarters being as evenly distributed as possible, and thick through), and when milked out should be quite small. The thigh should be thin, and the escutcheon well defined, the long-shaped one being the best. He preferred the front teats to be three inches and the hind ones to be two and one-half inches long, and cork-shaped. A fine and flat shank, and the flank well down, with the nerve line well developed, were prominent points; and the milk vein should be large and well defined, running to both sides of the udder, and covering as much of the body and as far forward as possible. Width of chest is required, but the brisket should be small; and there should be no dewlap. The shoulder ought to merge into the neck; the mouth and nostrils should be large; and the skin should be yellow and not too thin, with a soft covering of hair. A largish ear, but thin, is advisable, and the inside should be yellow.

Notes of the Dairy.

The dairy work is said to be especially the business of the woman of the house. If so, she should see that the man of the barn provides good, healthy cows of the right breeds, gives them plenty of good, wholesome feed and pure water, provides warm stables for them in winter and shady pastures in summer, and that he and his hired men are cleanly in their habits while milking. Then she ought to be able to make good butter, or ought to give up the business.

Some of the writers are wasting lots of ink in the assertion that the quantity of butter fat in milk cannot be changed by changing the character of the feed. But as there are

hundreds and perhaps thousands of our best farmers who have done just that thing, and do it almost every year, and who do not hesitate to buy cows that have poor or small butter records if they have the appearance of good cows, and feed them up until they make butter enough to pay for good keeping, it is not of much use to try to convince them that the good qualities of a cow are not "half in the breed and half in the feed," or, as an old farmer told us years ago, the cow that was "half Jersey and the other half corn meal" could be depended upon to make good butter and lots of it. The experiment stations may not make great changes in the quality of the milk in a three-weeks test, but a great change can be made in six months, and a greater in a year, while we think that a second year of liberal feeding would prove still more profitable in increasing the butter product or the cheese product either.

We have handled lots of cows, but the cow that is constitutionally mean, kicking the milker, quarreling with other cows, and always ready to attack smaller animals, we never found to be a profitable one. There were no Babcock testers in those days, but if a man has such a cow we should wager a big apple that she could not be made to produce seven pounds of butter in a week. We do not refer to the nervous, high-spirited one that does not like dogs and loud-voiced strangers around, but to the one that is "chock full of clear cussedness" at all times and with everybody.

When it is desired to use a cellar or basement room for the keeping of milk, it should be thoroughly cleansed of all other farm products, the floor disinfected with lime or land plaster, walls and ceilings thoroughly covered with strong whitewash, ample ventilation provided, and then a suitable room for keeping the milk should be built above ground, and the cellar devoted to storing fruit or vegetables. We never saw an underground room that was fit for a human being, a cow or a horse to live in, and they, if of mature age, would and do live in places not fit to keep milk in.

It is said that a mouse will easily pick out the best cheese in the storeroom, but most of people prefer to make their own selections, and have the mice kept away from them.—American Cultivator.

The Use of Bran in the Dairy.

As a plant makes all its substance from food, and it is necessary for the production of a crop to supply it with every element of its substance in due proportion, so, with animals, every element of the body and the expected product is to be supplied in excess of those needed to sustain life, says the *American Agriculturist*. Bran is a valuable food for certain purposes. It supplies the material for making bone, and this is needed by old animals as well as young, for it is known that the bones of an old animal are replaced to some extent during the whole of its existence. It is also an excellent flesh-producing food, and it provides the elements of milk, except the fat. Bran has all the needed elements of nutrition for the sustenance of life in the proportion required, but it is deficient in the fat needed for butter. Thus alone it is not a suitable food for the dairyman. To furnish the quantity of fat for a pound of butter a cow must eat 40 pounds of bran, allowing for the unavoidable waste. But 20 pounds of cornmeal would supply the needed fat if no other food were used. In practice it has been found that six pounds of bran and the same of cornmeal is a good ration for a cow that may be expected to give one pound of butter a day, in addition to good clover hay. But as bran is an excellent food for making bone and flesh, it is one of the best for growing animals or for sheep rearing a lamb or making a fleece. An excellent food for calves consists of cut hay, wetted and mixed with—for ten pounds of it—one pound of cornmeal and three pounds of bran. This, with as much good clover hay as will be eaten clean, is enough for two calves per day.

A Butter and Egg Farm.

Of all combinations, says M. K. Boyer in *Poultry Keeper*, I believe a butter and egg farm is the best, and to illustrate I will tell of a model farm, although I will not mention names. Six fine Jersey cows are kept and which produce a lot of excellent butter; 200 early hatched pullets give eggs in fall and winter; and 100 mated fowls replenish the stock of pullets each year, and besides give a generous supply of broilers. During the months of April and May, the best pullets are selected from the hatches, and all the surplus, besides all that are hatched in the other months are marketed as broilers. Each year, the one-year-old hens are fattened and shipped to market as roasting fowls. In this way a steady income is constantly coming in. The proprietor does not pay any attention to gardening, except a small patch for family use, but all the available ground (aside from what is used by the stock), is used for growing such articles as serve for food for the stock. I do not know what are the profits on this farm, but I believe the proprietor has an annual surplus greater than any bank clerk could expect. Such combinations pay. Some combine dairying with egg farming but as there is more labor attached to the latter than the former combination, I should for my part, choose a butter and egg farm. What more staple articles could be selected than butter and eggs, and if such a combination is rightly managed, and the markets met when they are at their best, I cannot see how it could be otherwise than a grand success.

Heifers Growing into Cows.

Very few people wish to buy a heifer with her first calf. She is only half a cow, as the old saying is, yet if of good blood and well cared for, such animals will grow in value faster than any other stock on the farm. The heifer's teats are apt to be small. But if she be handled right and carefully her teats may be enlarged, and remain of good size all her life. More than this, too, the man who has the milking of a cow the first year of her milk production determines her value as a milker ever after. It, therefore,

needs thorough, careful men to grow heifers into cows for market, and by the fact of the scarcity of such men the business is likely long to be a profitable one.

Sterilizing Milk.

The following is an excellent plan for sterilizing milk, which is recommended by an English authority: Place the milk in a flask, inserting a wad of cotton wool in the neck about one inch long and closely packed. Then dip the flask in some water in a saucepan, with the neck leaning against the side above the water, and boil for 20 minutes. If on the following day the milk is similarly heated for 20 minutes, it will be sterilized, and can be kept in the flask just as it is for weeks. He says he has long used this method and finds that the milk keeps sweet indefinitely.

The Well and the Dairy.

The dairyman should have a good well. A good well is one in which the water comes at a depth of 40 feet or more, says an exchange. If beneath the bedrock, at whatever depth, so much the better—the water is sure to be pure—and in dairying, as in drinking water for a family, purity is the essence of goodness. Hence, do not neglect to have deep, pure water. It will pay not only for your family and milking cows, but for the stock generally.—Ex.

POULTRY YARD.

Care of Spring Chickens.

April is the month of peepers. Everywhere the downy chick's voice is heard.

The newly-hatched chicken is a delight to a child, but a source of anxiety to the poultry raiser.

He knows, what the child does not, that these balls of down have many ills to contend with, and to enable them to successfully combat these ills he must provide the necessary care.

First of all, having made beforehand a coop for the hen, he waits until the chickens are twenty-four hours old. Up to that time they need and they get no food. They are digesting the remains of the absorbed yolk.

When the time has arrived he takes each tiny chick from the nest and greases the top of its head with a bit of unsalted butter or fresh lard about the size of a pea. This is a precaution against the large louse that infests the head and often kills the chickens.

He then removes the hen and her brood to the coop that he has previously prepared. On the wooden bottom, raised an inch or two from the ground, he has sprinkled a little air-slaked lime, over which he has placed a covering of dry earth to the depth of an inch or so. The lime and the earth help to keep the coop sweet.

Now he is ready to give the chickens their first feeding. This consists of wheat bread crumbled very fine, on which as much sweet milk has been poured as it will readily absorb. He may, too, have boiled one of the clear eggs removed from the nest, chopped very fine, shell and all, and stirred it in with the bread crumbs and milk.

Then he brings out a small fountain, filled with clean cool water, and sets it out of the sun, where the chickens can drink as they wish to, and where also the hen can obtain her supply of water at will. Five times each day, during the first week, the poultry raiser repeats this operation. In the morning, in the middle of the forenoon, at noon, in the middle of the afternoon and at night he attends to these duties. At each visit, the water fountain is cleaned and refilled, and the prepared food is provided. Just as much as the chickens will eat up clean, with nothing left over to waste and sour is given at each meal.

At the end of a week or ten days, he again greases the head of each chick, dusts each little body with insect powder, does the same for the hen, cleans the coop, puts in a new supply of lime and dry earth, and prepares to make a change in the diet. From the barrel of cracked corn he takes a quantity and runs it through a fine sieve. The coarse part is reserved for the hens, and the finer part for the chickens. To this very finely cracked corn, he adds an equal part of steam cooked dry oatmeal, and about one-half as much ground beef scraps as there is oatmeal. These are thoroughly mixed together, without the addition of any water. At noon the chickens have this mixture instead of their bread and milk. In a few days more, two meals of mixture are given, and, at the end of ten days after it is first begun, the bread and milk is wholly discontinued and this mixture forms the sole food.

But this mixture is soon to give way to another. Just as soon as the chickens will readily eat whole wheat, and this is by the time they are four to six weeks old, the following mixture is prepared: One part sound wheat, one part dry oatmeal, one part fine, cracked corn and one part of beef scraps, fed dry. This is given five times daily or, if not convenient to feed so often, is fed but three times daily, the feeding being a little more liberal in quantity. And this food is continued during the growth of the chickens, with the exception of using coarser cracked corn as they increase in size.

Grit in some form, as cracked bone, oyster shell, broken flint and the like, is kept constantly within reach of the chickens, and if the raiser be a very careful man, a box of charcoal is also provided. The chickens are kept where they can help themselves to green grass, or what is better, clover. When they cannot have a grass run, they are supplied with tender grass or some green substitute, cut fine at the start and fed in such quantities as may be needed.—American Agriculturist.

Purifying Poultry Yards.

Where permanent poultry houses and yards are erected, and the fowls are kept continuously therein, the ground after a time becomes so impure as to render it dangerous

to the health of the fowls. The yard needs purification. The best plan is to have two yards for each flock of fowls and keep one covered with a growth of oats, rye, corn, clover, or the like, shifting the fowls from one to the other when necessary. Digging over the yards once a fortnight will answer a few years. Sowing the yards with gypsum will help in their purification, as the gypsum absorbs and holds the foul odors. But where the digging and sowing with gypsum are employed, once in every two or three years the top soil should be removed, using it as a fertilizer, and new, fresh earth carted in to take its place. Mr. Rankin grows a crop of vegetables on his yards yearly, and thus keeps the soil in suitable condition for his immense flock of ducks and chickens. Some plan of purification is necessary, and that is the best, for any particular poultry-raiser, which will enable him to do the work the most economically and the most thoroughly.—American Agriculturist.

Fattening Geese.

Geese are altogether different to ordinary fowls or even ducks, in one respect, and a mistake is sometimes made in the final fattening off, by putting each bird in a separate compartment. Geese never thrive in this way, and instead of getting fatter actually pine away. They appear to be miserable without company, and each lot should be killed together, or the one left behind rapidly loses flesh. Some birds fatten quicker than others, and as they are seen to get into ripe condition, which can best be decided by the state of their appetites, they had better be killed off. As soon as they are as fat as they will get, the desire for food begins to slacken, and then it is that they should be despatched, or they will lose flesh instead of gaining it. We have known goslings feed up to 15 and 18 pounds in weight, but these have been exceptional, and a dozen pounds is nearer the mark, so that all must not be expected to turn out exactly the same. To go on feeding in the expectation of increasing the weight after the fowl has shown the symptoms already mentioned would be found a losing game.—English Fanciers' Gazette.

A Remedy for Scaly Legs.

I herewith hand you a remedy for scaly legs, that I have found to be cheap, simple, easily applied and effective. In a pail partly filled with water pour a little kerosene and a few drops of carbolic acid. Catch the hens and jab their legs into the mixture. The oil rises to the top, and in removing the bird the kerosene will adhere to the legs, thus covering the whole surface. Where one is too lazy to catch the hens, place a trough containing the ingredients in a doorway, and drive the flock through, having the doorway or opening just wide and high enough to oblige them to get their feet and legs wet in passing. A few applications will cure the most obstinate case. If the doorway method of application is used, remove the liquid out of reach of the fowls after treatment, as it is not intended as a beverage.—W. W. Cole, Leroy, N. Y.

Chickens Feathering or Moulting.

It very often happens that chickens when they are in what is known as the "ragged" state begin to show signs of drooping, especially at the time when the feathers are growing on the head. At such a time, unless proper attention is given to them, the death-roll will be materially increased. Change of diet, plenty of exercise and shelter from variations of the weather must all be taken into account. A little sulphur given in the soft morning meal will be found beneficial, and a most useful change of food will be found in millet seed or hemp seed, either or both of which may be given in moderate quantity. If kept in town, see that the chicks have access to plenty of green food, particularly watercress, which we have previously advocated as a most desirable food, and also, if obtainable, dandelion leaves.—Feathered World.

Goslings and Water.

When a gosling is just hatched it is really naked, as the down is no protection, and it is easily chilled. No doubt it may occasion surprise to claim that goslings are liable to perish in the water, but it is true. When the weather opens and the water is warm, it does no harm if they go on a pond, but the case is different if the water is cold. They will thrive better on dry land until they are feathered, after which they will be able to endure as many hardships as their parents.—Farm and Fireside.

Wasting Eggs.

Many eggs are wasted in incubation simply because no attention is given their selection. The use of small eggs from pullets and of eggs of all sizes and shapes is a daily occurrence, for hens cannot bring out chicks from eggs that are unfit for the purpose. If you wish to secure strong chicks, select a few of the best hens, mate them with an active male and use eggs from them only, instead of going to the egg-basket and taking the first to be seen.—Farm and Fireside.

Rye in Spring.

Those who have rye will find it excellent for supplying early green food for hens. Do not allow the hens on the rye but an hour at first, as the green rye is very laxative and will do more harm than confer benefit, if the hens are not turned on with judgment. Give a mess of scalded cornmeal to the hens at night, seasoned with salt, and should bowel diseases appear, keep the hens off the rye until the difficulty disappears.—Farm and Fireside.

When it is desired to have a majority of the brood pullets bred from old birds and have them as near the same age as possible as young cockerels, pullets generally produce a greater proportion of males.

THE HOME CIRCLE.

Ma and Me.

I may be partial; perhaps I be;
But there ain't no wife in this town I see
That is anything near my Hepsy Ann.
She never changes and never can.
She's beatin' the old brick oven now,
While I'm goin' on at the tail of the plow.
There's gingerbreads, apples and pies to bake,
And a loaf of brown bread and a pan o' cake,
And beans, that for thirty long years and nine,
We've had every Saturday, rain or shine.

I may be partial; perhaps I be;
But never a daughter like mine I see,
With the rose in her cheek and the laugh in her eye,
Both jolly and modest, both merry and shy,
With lips full of kisses—but stop right thar!
Them kisses is only for me and ma!
She'll wash an' iron an' laugh an' sing,
An' milk our Daisy, and—everything!
I tell you our Kitty is good to see,
And a real treasure to ma and me!

I may be partial; perhaps I am;
But there ain't no boy that is just like Sam.
Sam's goin' to Congress some fater day;
A risin' man, so the papers say;
A lawyer, an' lucky as he can be—
Sends money often to ma and me.
He ain't ashamed of his origin,
Like some o' those monkeyish city men;
He stands right up for the crowds that toil,
An' he calls himself a son o' the soil.

I may be partial as most things go,
But there ain't no fruit like the fruit I grow;
The branches groan with them yeller pears,
And the red-cheeked apples they put on airs,
'Cause they're of a kind that is scarce an' high,
An' my trees never gin out an' die.
Perhaps I'm old-fashioned; there be a few
Who think that trees, and that cattle, too,
Needs jest as much tendin' as humans do.
I guess I'm partial; I know I be;
But a happier household you wouldn't see
Than Sam an' Kitty and ma and me.

—Mary A. Denison, in N. Y. Ledger.

For a Season.

Written for the RURAL PRESS by M. B. DAVIS.

SUNSHINE, and country air,
and quiet of the hills—oh!
how refreshing sound the
very words in ears grown
weary of the rumble of cars,
the beat of iron-shod boots,
the grinding of wheels; and, through the
smoke and dust, walled in between thick
and frowning fronts of wood and brick, a
vision of sunny slopes spangled with flowers,
of contented cattle, and winding creeks ar-
bored with greenery, appears with all the
alluring charm of some lotus-eater's dream.
To the heart grown sick with pain and loss,
with struggle and endurance, there is the
balm of healing to be found among the hills.

"Yes, I am off to the country to-morrow,"
said a careworn business man, casting aside
his pen with careless emphasis, and tipping
back his office chair. He went on humor-
ously, "I there hunt game and an appetite,
and strike up an acquaintance with myself."

Vaguely he voiced what I have often felt
as an imperative need after months of hurry
and effort, called out by the demands of ne-
cessity and the crush of personal influences.
I long to get away and be myself for a little
while. There, sheltered in some quiet, lonely
dwelling, character has a chance to assert
itself, and conscience an opportunity to voice
its admonitions. The moods of nature at
every season have a soothing influence. Her
spirit ever whispers of calm and steady
growth, of timely efforts, of glad fruition,
and of peaceful rest. Indeed, country quiet
and contact with simple and homely things—
all the influences of the countryside—are as
necessary to the full development of char-
acter as are the stimulating frictions and ex-
amples, and displays of wealth, refinement
and art, which are potent factors in molding
the tastes and ambitions, and are only to be
found in cities. On the free hills, one feels
the mastery which man has gained over
nature, and yet he is subdued by her majesty
and calm, unavoidable progress which sweeps
him along tranquilly as a leaf on a stream.
In the city, he is but one among ten thou-
sand, and there among the forces of human
conflict he must stand like a soldier in battle,
or be trodden into the dust by those who are
pushing on, according as his strength and
acumen serve him.

Oh! then, sturdy soldiers, you who love
mastery and have strength for the conflict,
away to the hills now and then, that you
may retain your individualities, and that you
may be strong.

Pet Economies.

Did you ever think of your pet economy?
Nearly every one has one. For instance,
there is the man, the very reverse of nig-
gardly, who will race from library to hall
and from hall to drawing-room, to get the
full value of a sulphur match. A singed
finger, or a smut on the carpet, is a minor
matter compared to the major economy of

one match to three burners. Then we all
know a woman caught in a shower will ruin
ten dollars worth of feathers rather than in-
dulge in a 50-cent cab. It is these little
pin-prick economies which contrast so oddly
with lavish expenditures.—Boston Traveler.

Correcting Children Before Company.

There are parents who will, unhesi-
tatingly, correct their children for their mis-
demaneors in the presence of company.
They argue that if a child wilfully mis-
behaves before strangers it is but justice
that he should be punished before them.
I think this is a very grave mistake.
Children should, undoubtedly, receive cor-
rection for their bad behavior, but it should
certainly be inflicted in private. Owing to
a child's tender years and lack of sense,
much charity should be allowed for his
shortcomings and too great severity should
be avoided in his discipline. At all hazards,
a pride of character should be stimulated
and preserved in children, and the humili-
ation of having strangers witness their pun-
ishment is destructive to such pride. The
schoolboy, after receiving his first whipping
in school, never has the same pride as
before. He assumes a reckless, I-don't-care
air to hide his humiliation, but his pride re-
ceives a blow from which it never recovers.
Again, all family friction and "scenes"
should be sacredly guarded from the eye
and tongue of outsiders. To preserve the
family dignity and respect should be the
aim of every member of the home. And
then, too, no refined person wants to be
made the spectator of other people's domes-
tic squabbles.

In company with a friend I once called at
the home of a lady acquaintance. In the
home was a little girl of five years, to whom
my companion presented a little gift. The
child accepted it, forgetting to return thanks.
The mother, in a quick tone, said: "Why,
Carrie, have you forgotten your manners?"
The timid child, not understanding her
mother's reproof, became confused and made
no reply. Again the mother expostulated,
with more severity. The child was so em-
barrassed that she was unable to speak.
"You naughty girl," said the mother,
sternly. "I shall punish you for such
behavior." Taking the little one by the
arm she led her to a closet and shut her in
it. How slight was the child's breach of
etiquette compared with the mother's im-
politeness in having such a scene before
visitors, not to speak of her most unwise
mode of correction. The pleasure of our
call was marred, and for the sake of the
humiliated little child in the dark closet we
made a very short stay.

On another occasion, while dining with
a friend, her six-year-old boy acted very
impolitely at the table. The mother quietly
told him to behave, but taking advantage of
the presence of company to "show off," he
continued his pert actions. The mother ex-
cused herself from the table, and in a very
quiet tone told the boy to follow her. They
were absent from the room several minutes,
but when that young man again took his
seat at the table he was as orderly as a
deacon, and there had not been so much
as one unpleasant word from the mother.
If you would preserve your child's pride of
character and avoid an unsavory reputation
for yourself, let your governing be done in
strict privacy.—Nellie Burns in American
Agriculturist.

Worth Remembering.

Lemons will keep fresh for weeks if cov-
ered with water.

Nasturtium leaves are beautiful for gar-
nishing fish and meat.

For taking blood stains from white goods
nothing equals kerosene.

Never put left-over food in tin vessels.

Vegetable, scrubbing and other brushes
should be kept with the bristles down.

Dip fish in boiling water for a minute and
the scales will come off more easily.

Sadirons will not scorch if they are first
wiped on a cloth saturated with kerosene.

Rub soft, not melted, lard over the top of
bread before baking, and wrap in a damp
cloth with a large dry one over after baking,
and there will be no hard crusts. Keep
bread in a covered box.

The Influence of a Pleasant Voice.

Perhaps our own voice is not always as
pleasant as it ought to be, but we realize it
the moment we hear one that is soft and
low and evenly modulated, and instinctively
we alter ours to correspond with it. Noth-
ing so quickly checks rising anger, or quick
retort, as a gentle voice. Well has the wise
man said: "A soft answer turneth away
wrath, but grievous words stir up anger."

Few of us can remember our mothers,
now, perhaps, passed away, as having had
other than pleasant voices. Harsh words

were strangers to those lips. The children
when they had done wrong were corrected, but
the voice that chided their misdoings was a
gentle one. Let our children have like re-
membrances of us. Children are quick to
imitate. If the mother or father speaks
crossly or in a loud, commanding tone, the
child soon learns to speak so also, and
among his younger companions he will
assume the same tone that he has heard
from older lips.

Although a pleasant voice is not given to
everybody, culture can accomplish wonders
in this as well as in everything else. Let
any one strive to acquire a pleasant voice,
persevering time after time when in a
moment of forgetfulness the old harsh notes
escape the lips, and after a time the voice
will become changed to one at least soft and
well modulated, if not musical.—Ella Rock-
wood.

Fighting the Moths.

Nowhere does the ounce of prevention
theory come in play better than in this mat-
ter of moths. You do not want to wait un-
til the heat of summer before you begin to
take precautions against this small and in-
sidious thief. You may fold your fur and
cloth garments ever so carefully in sheets of
tar paper, and pack them away in cedar and
camphor trunks; you may place among the
folds pounds of camphor or camphorated
tar, or carboline, or any of the vile-smelling
moth preventives, from which enterprising
salesmen reap so rich a harvest, but if you
have left within the folds the hundred or so
of moth eggs which a few energetic and fes-
tive moths may have had time to lay there,
and which are too small to be seen, these
will hatch hundreds of grubs, which these
odors will not kill. Even the parent moth,
should she be boxed up with these drugs,
would not thereby be turned from her origi-
nal purpose of laying eggs, and the grubs
themselves, being born to the aromatic at-
mosphere, work as cheerfully as if there
were no balmier airs; as indeed for them,
never having known anything better, there
are not.

If you can be on hand during the moths'
picnic season, which is April and May, and
can air and beat your garments once a week,
meantime hanging them in a closet in which
an open saucer of turpentine is allowed to
stand, you may be reasonably sure that you
will escape their depredations. After the
season for laying of eggs is over, put each
article in a pasteboard box, and paste over
the cover and cracks strips of brown paper.
Do this thoroughly, and you are as safe as if
you had used pounds of carboline also.
Large garments should be put in unlaun-
dered, unbleached muslin. If you have a
spacious closet let these bags be sufficiently
large for each coat to hang on a coat hook,
to keep the shoulders in shape. Sew this
hook firmly to the bag at the proper height,
then sew the bag shut, and hang it by loops
of strong tape, one from each corner and
one in the middle. If the bag were merely
tied shut, a thoroughly business-like moth
would find an entrance. If you can do this
before the season when moths begin to lay
their eggs, it is of course just as safe.

The closet in which the garments are to
be hung deserves your first consideration.
Thoroughly clean it. Moths love dust, dirt
and darkness. Give them as little of either
as possible. Walls, ceiling and floor are
best painted, and the latter should be bare;
then wash all with strong ammonia and wa-
ter, and if you have any reason to suspect
their presence, spray the cracks with naph-
tha or gasoline. If there are any dirty spots
in the garments to be hung away, clean
them with soap and water and turpentine.
With such simple precautions as these, you
need not sigh for a cedar trunk or closet, for
you are safer than if you had the trunk or
closet and omitted the precautions.—Ameri-
can Agriculturist.

Crinoline Days of Yore.

Despite its enemies, or perhaps because
of them, crinoline soon reigned absolute
mistress; many women, after having fulmi-
nated against it, accepted at last, as a com-
promise, starched skirts or heavy petticoats
with ruffles, more graceful, perhaps, than
horsehair but still very clumsy. The essen-
tial thing was to add to the idea of corpu-
lence, to take away slenderness, and, above
all, to follow the current of received ideas.
Some really elegant women invented a skirt
held out with whalebones, which looked
somewhat like a bee-hive, all the fullness
spreading itself over the hips and the rest
falling straight; others preferred hoops ar-
ranged like those of a barrel; the most
modest lined their hems with bands of crin-
oline and smothered themselves under five
or six stiffly-starched petticoats of checked
or corded muslin. What a weight to carry!
As for the circles of steel which soon ap-

peared, they were not only ungraceful but
they tilted to right and to left. Sometimes,
as the skirt was short, it slipped inside the
lowest steel, and as they passed women
could see men smile slightly, which im-
politeness, however, did not seem to annoy
them.—Octave Uzanne, in April Scribner.

What Is In a Name?

The tuberose is no rose, but a species of
the amaryllis family of fragrant flowers.

Dogwood is a small tree, and was not
named for any of the canine family. It is
common to all parts of the United States,
and is sometimes called boxwood. Its
botanical name is *Cornus florida*.

Pompey's pillar has no historical connec-
tion with Pompey, the celebrated Roman.

Spanish bayonet does not grow in Spain,
but is a native of the South Atlantic and
Gulf coasts. It is a beautiful flowering
shrub, eight to ten feet high, and its botani-
cal name is *Yucca aloefolia*.

Cleopatra's needle was not erected by the
Egyptian queen of that name, nor in her
honor.

Whalebone is not bone at all, neither does
it possess a single property of bone. It is
the horny laminated plate in the mouth of
of the right whale.

Sandalwood is not used for making either
sandals or slippers. The East India sandal-
wood is a tree 20 to 30 feet high, but most
of the sandalwood known in the American
market is made from an oxogenous aromatic
shrub that grows in the Hawaiian and Fiji
islands.

Ironwood has no more iron in its compo-
sition than other wood. It is a tree about
30 feet in height, and is sometimes called
hornbeam.

Turkish baths are unknown in Turkey,
and are not baths, but heated air-chambers.

Reforming a Parrot.

A Pittsburger who spent a part of last
summer in England tells an incident which
sadly disturbed the religious peace of a
parish in Penzance.

A maiden lady of that town owned a par-
rot, which somehow acquired the disagree-
able habit of observing, at frequent intervals:
"I wish the old lady would die."

This annoyed the bird's owner, who spoke
to her curate about it.

"I think we can rectify the matter," replied
the good man. "I have also a parrot, and
he is a righteous bird, having been brought
up in the way he should go. I will lend
you my parrot, and I trust his influence will
reform that depraved bird of yours."

The curate's parrot was placed in the same
room with the wicked one, and as soon as
the two had become accustomed to each
other, the bad bird remarked:

"I wish the old lady would die."

Whereupon the clergyman's bird rolled
up his eyes, and in solemn accent, added:

"We beseech thee to hear us, good Lord!"

The story got out in the parish, and for
several Sundays it was necessary to omit
the Litany at the church services.—Boston
Gazette.

The Farmer's Wife.

Where in all the world is there a woman
like the farmer's wife? You can find her
in your house that works for her living.
She is the corner-stone of domestic econ-
omy.

There is nothing very es-
sential in the corner-stone, and there is a good
deal of weight on it besides.

What kind of a farmer's wife do you know?
Is she a dear, good woman?
Does she have a heart?
Does she have a head?
Who will be up first in the
even a reproach to the sur-
she prove that old orb a v-
Is she always cheery at b-
when city women are not
are amiable or not? Do
complainingly? When she
call you to have a drink of
you miss her occasionally
find her in the garden pic-
Farm and Home.

What Old Ma

A recent writer thus
maiden ladies: "The unc-
at the express office. The
intended for somebody; b-
whom they were address-
peared, or else they had t-
or the address somehow
Often very valuable par-
have given great joy if th-
ered to the proper consign-

How to Make a F

Don't write unless di-
necessary. Don't get dov-
or indulge in silly romanti-

has sense about it as well as sentiment. Meet the lady of your choice face to face, explain to her your worldly prospects, ask her to share your fortunes, and if she says yes, well and good; but if her answer is a negative, don't blow your brains out, get drunk or become a misanthrope.

Clearing the House of Fleas.

General John Bidwell relates how a house was cleared of fleas at a time when the insects were very numerous in California.

"I had been sent for by Mr. Livermore, after whom Livermore valley is named, to do some surveying, but at the close of the second day I said to Mrs. Livermore, who was a Mexican lady, 'I must go away, the fleas are so bad that I cannot stay here. Come,' said I, 'and look at my blanket,' which I had spread over a low fence near the house. It was covered with many fleas.

"Oh, that is nothing," said she. "Look at the blankets of my little girls." I did so, and they were almost black with the insect, while her baby had been bitten till its whole body was covered with red spots.

"I went away, but returned about a month later. There was not a flea in the house. 'How did you get rid of them?' I asked Mr. Livermore.

"It was very simple," was his answer. "We moved everything out doors and slept under the trees for a few nights. Then I built a fence around the house and turned into the corral my band of a thousand sheep. Each morning the sheep were driven back over the hills for a mile or two and at night they were placed in the corral and in the house. At the end of a week there was not a flea on the place."

Care of Table Linen.

Quite an outlay of time and strength is necessary to "do up" a table-cloth. With a little care and trouble the best table-cloth (or any other, for that matter) may be made to look well for some time. A carving-cloth for the host's end of the table, and a tea-cloth for the hostess, are essential to the welfare of the table-cloth, for, when soiled, they are much easier laundered than the whole cloth. In spite of these precautions, stains and "slop-overs" will occur. If, after each meal, the one in charge of the table will take the trouble to remove these stains, she will gain much. The following treatment is recommended: Remove everything from the table excepting the cloth, and brush it neatly; then take a cup level full of boiling water, place it under the stain to be removed; then, with a silver spoon (it will not turn anything black), rub the spot, being careful that the dampened surface does not spread. Place a napkin or towel under and above the wet spot, and place a slight weight on it. Then treat the next soiled place in a like manner. In an hour or less your table-cloth will show no trace of the treatment. Sometimes a little salt, in addition to the hot water, is necessary to remove an obstinate stain.

Value of a Couch.

A room without a couch of some sort is only half furnished. Life is full of ups and downs, and all that saves the sanity of the mentally jaded and physically exhausted fortune-fighter is the periodical good cry and momentary loss of consciousness on the upstairs lounge, or the old sofa in the sitting-room. There are times when so many of the things that distract us could be straightened out and the way made clear, if one only had a long, comfortable couch on whose soft bosom he could throw himself, boots and brains, stretch his weary frame, unmindful of tidies and tapestry, close his tired eyes, relax the tension of his muscles, and give his harassed mind a chance. Ten minutes of this soothing narcotic, when the head throbs, the soul yearns for endless, dreamless, eternal rest, would make the vision clear, the nerves steady, the heart light and the star of hope shine again.—Hall's Journal of Health.

For Cleaning Marble.

Common dry salt is said to be one of the best agents for cleaning marble, such as washbasins, sink fixtures and the like. It requires no preparation, and may be rubbed directly upon the tarnished surface, removing any incrustations or deposits at once, leaving the marble shining and clean. This is well worthy of remembrance, as it is often found to be provokingly hard to clean the marble thoroughly without injuring the surface.

Watch the Children's Ears.

The hideous, outflapping ears which we often see can be so easily prevented in childhood that it is a wonder mothers do not give more thought to the matter. Children should be carefully watched, and never al-

lowed to sleep without having the ears closely pressed to the head. Babies should always wear caps—sheerest lawn or lace will do—then it will be impossible for their ears to assume such alarming and unbecoming shapes as frequently shock us. A little care and attention will remedy this disfigurement with children, or even grown persons. The worst deformities will yield to persistent effort. Before retiring, rub the back of the ears thoroughly with some soft, penetrating oil or glycerine; then tie a bit of lace or thin muslin around the head to keep the ears flat. In very bad cases, keep the bandage on during the day, when possible.

A Use for Celery Tops.

All good housekeepers are troubled more or less in the dressing of celery, as they realize that only about half of it is available for the table. The green portions with many of the leaves are so fresh and delicate-looking that it seems a pity to throw them away, and except in soups or salads there is but little use for them. An excellent way of utilizing this heretofore waste material is to wash it thoroughly, cut it in pieces about three-fourths of an inch long and put it in a saucepan with a little water to boil, letting it simmer for an hour and a-half or two hours, adding a pinch of salt. Let the water boil nearly out, then add a little cream, a small piece of butter, and a little flour or corn-starch wet with water. The corn-starch is much more delicate, although some people seem to prefer flour. When done this should be like a thick batter. Slices of toast may be prepared and the hot celery put upon them, a large spoonful to a slice. A tiny bit of butter and the least possible dash of pepper may be added, then send to the table and serve immediately.

A Legend About Cholera.

Here is an Eastern legend that is timely. One day the Angel of Death visited a country in Asia. The King of the country asked him what plague he brought under his sable wings.

"The cholera," answered the messenger. "And how many victims will the plague claim?"

"Six thousand."

Cholera raged throughout the King's domains. Twenty five thousand people died. Some time after, the King saw the Angel of Death again.

"You did not keep your word," he said; "you promised me the cholera would take but six thousand of my subjects. I have lost twenty-five thousand."

"I did keep my word," answered the somber enemy. "Cholera killed but six thousand in your kingdom."

"And the other nineteen thousand, of what did they die?"

"Of fear."—New York World.

Danger of Procrastination.

Landlady.—I 'spose you noticed that long-whiskered old gentleman who sat opposite to you at dinner to-day? That is Professor Driebones, and you can have his room, as he is going West on a scientific exploration—strangest thing you ever heard.

New Boarder.—What is it?

Landlady.—The object of his tour. He has been told that a prehistoric cave has been discovered out West and in it sat ten skeletons around a petrified table.

New Boarder.—Well! Well! Why didn't the fools change their boarding-house sooner?—Up to Date.

In a Fifth Avenue Mansion.

"I wish, sis, you would shine my shoes for me," said a rich, matter-of-fact young man to his sister.

"I'll do nothing of the sort," she replied, indignantly.

"Well you ought to."

"Why ought I to do menial work?"

"Because you encourage that Italian count to come here and you flirt with him. If you are going to marry him you can't begin too soon to learn to do menial work. You should fit yourself at once to become a foreign countess."—Texas Siftings.

A Disagreeable Subject.

"How did you get on at school to-day, Tom?" asked the fond parent at the supper table.

"Papa, our physiology says that conversation at meals should be of a pleasant character," replied Tommy. "Let's talk about the football match."

A Queer Epitaph.

Some years ago in Vermont a widower who lost a little girl had the following epitaph placed on her tombstone: "Go sleep with ma, Alminy B. Soon pa will come and sleep with thee." Since then, however, he has buried three wives and is healthy yet.

YOUNG HOLKS' COLUMN.

The Ant as an Engineer.

The pastry was delicious and I wanted it myself, So I put it in the pantry on the very lowest shelf; And to keep it from the insects, those ants so red and small,

I made a river round it of molasses, best of all.

But the enemy approached it, all as hungry as could be,

And the captain, with his aide-de-camp, just skirmished round to see

Whether they could ford the river, or should try some other plan,

And together with his comrades be around the liquid ran.

To his joy and satisfaction, after traveling around, The place where the molasses was the narrowest he found;

Then again he reconnoitered, rushing forward and then back,

Till he spied some loosened plaster in the wall around a tack.

He divided then his forces, with a foreman for each squad,

And he marshaled the whole army and before him each ant trod.

His directions all were given; to his chiefs he gave a call;

While he headed the procession as they marched off up the wall.

Every ant then seized his plaster, just a speck and nothing more,

And he climbed and tugged and carried till he'd brought it to the shore;

Then they built their bridge, just working for an hour by the sky,

After which they all marched over and all fell to eating pie.

—St. Nicholas.

A Social Sneeze.

"Ish!" said the pepper-box,

"Ash!" said the breeze,

"Osh!" said a whiff of dust,

"Let's have a sneeze."

Then "Ish!" "Ash!" "Osh!" they went together, And grandma said: "There's a change in the weather,

I feel it in my bones, kerchoo!"

And baby sneezed, and Rover, too.

—Youth's Companion.

The Solitary Chess-Player.

IN the early half of the century lived a kind, venerable Turk. His charitable impulses unfortunately being limited by not over-abundant means, he had adopted the method of assessing privately the rich of the land a percentage

of their incomes, trusting to his persuasion and the noble purpose to collect the bounty wherewith to relieve his suffering fellowmen. So systematically did he proceed that he kept himself informed of the revenues of the different individuals, and had Ben Ali lost severely at the card table since his preceding visit, or otherwise met with financial reverses, his contribution was lowered, and that of those enriched thereby, correspondingly increased.

Once, when starting on one of his regular semi-annual tours of collection, and riding through a dense forest, he came upon a Turk deeply engaged in a solitary game of chess. Prompted by curiosity he reined in his mule, and after a while opened conversation by asking who was the winner.

The player apparently was too deeply interested to notice him for a few moments, then arising, with evident disgust, he replied, "I lost."

"Who won?"

"Allah."

"Allah? How much did you lose?" asked the venerable Turk, in surprise.

"Twenty piasters."

"And how do you pay Allah?" he continued.

Thereupon the Turk explained that it was his daily habit to play a game of chess on that secluded spot with Allah as opponent, he alone being worthy to take his losings, and that Allah at regular intervals sent an emissary in the form of some traveler to collect the bounty due him. In this instance it was undoubtedly the person before him, and accordingly he handed over his purse containing 100 piasters, the losings of five games.

Much pleased with this unexpected contribution to his fund, and mentally resolving to come by the same way on his return trip and collect Allah's further dues, the venerable man rode on.

Returning after an interval of five days, he again fell in with the eccentric player.

"Who won to-day?" he asked, as the other arose.

"I won to-day," was the reply.

"How much did you win?"

"You see," was the explanation, "Allah is a much better player than I. When I lose, it costs me 20 piasters; when I win, I get 1000 piasters, and Allah always promptly

sends an emissary to pay his debts. Pay up, old man."

With these words, and leveling a pair of cocked revolvers at the stupefied traveler, the brigand captured his purse containing nearly twice the amount that he claimed as his due from Allah. — Harper's Young People.

All Said "Beans."

"It is not always safe to ask questions of a Sunday-school unless you make sure of the answer beforehand," says the Boston *Congregationalist*. "At a certain Sunday-school anniversary in Boston the speaker to the children waxed eloquent in describing the breakfast at a poor children's home which is witnessed on Easter Sunday morning. He wished to bring out the fact that the poor children had eggs for breakfast, in recognition of Easter. So he said to the Sunday-school he was addressing: 'Oh, children, it was a beautiful sight to see all those poor boys and girls enjoying themselves. They had clean napkins and fresh faces, and bread and milk, and what else do you think they had to eat?' 'Beans,' shouted a chorus of boys from all parts of the church. What else could have been expected from a Boston audience when speaking of a Sunday breakfast?"

DOMESTIC ECONOMY.

GRAPE CATSUP.—Five pounds of grapes, boil and run through a colander, add two and one-half pounds of sugar, one pint vinegar, one tablespoon each of cinnamon, cloves, allspice, pepper, and one-half tablespoon salt, boil until the catsup is a little thick.

BROTH OF RAISINS.—One pound of raisins and four quarts of water, boil gently for two hours with one tablespoon of cornmeal stirred in when it begins to boil. Make a thickening of flour and water, grate in a part of a nutmeg and sweeten to taste, add a small piece of butter and juice of lemon when ready to take up. This receipt is intended for the sick, but the well are very fond of it.

GRAPE SYRUP.—After washing and picking the Muscat grape I put it through the sausage-grinder, then strain the juice and put upon the stove equal parts juice and sugar, quart for quart, boil one hour, stir and skim thoroughly—it will be very clear—then bottle. I have had it keep a year, but it must be kept in a cool place. It is not necessary to be hermetically sealed. It may be very nice for ginger bread or brown bread or graham bread or any purpose that syrup is used for.

BAKED LIMA BEANS.—Soak a pint of Lima beans for half an hour in tepid water, boil for a half hour; then turn off the water and boil in fresh water until the beans are very tender; turn the beans and water in which they have been boiled into a baking-pail, put in half a teaspoonful of salt; if not enough liquor, add until the beans are covered; bake until the water is consumed, add the same amount of water, and bake as before. About five minutes before serving, pour half a cupful of cream and half a cupful of sugar over them. Other varieties may be baked in the same way, but the Limas are especially delicious.



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AGRICULTURAL NOTES.

CALIFORNIA.

Butte.

Palermo Progress: As to the fruit crop, the season has turned out splendidly. It is true that blooming was delayed to some extent, but it has turned out rather to an advantage than otherwise. There has been no frost to any extent and all varieties of trees will produce well, and we are informed by experienced orchardists that thinning out will have to be resorted to to a large extent to save breakage of limbs. So it will be seen that, as a whole, the prospects are fairly flattering.

Progress: We understand that J. W. Brummsjim, of San Francisco, will take up his permanent residence in Palermo about the first of next month. He will have charge of Herman Zadig's extensive orchards here.

Progress: Plowing has commenced in earnest and nearly all the available teams in this section are employed. Orchard work is later than usual this season and will extend over into harvest time.

Progress: Ashby Moncure, foreman of the Hearst & Taylor ranch, informs us that he is working over 20 teams, with a correspondingly large force of men.

Contra Costa.

Gazette: The late mild weather has imparted a wonderful growth to vegetation of all kinds, but the weeds appear to have appropriated the largest share, and the battle for their destruction goes on fast and furious in numberless vegetable and posy gardens.

Livermore valley can boast of one thing no other viticultural section of the State can; she has no vines affected with phylloxera, says the *Herald*. Contra Costa enjoys equal immunity from phylloxera, adds the *Gazette*. Not a case of the disease has ever been reported in the county.

El Dorado.

Republican: Mushrooms are a delicacy rarely enjoyed in this vicinity, but if our residents knew how abundant they are in the woods at this season of the year and knew how to find them, they would, no doubt, be seen more frequently among other edibles. Charles Brizolari knows all the mushroom's hiding places, and at Smith's Flat, the other day, he brought in 20 or 30 pounds of them. They are excellent samples of their kind.

Fresno.

Reedley Exponent: The Reed Bros. have finished plowing at the ranch at Minturn. They have seeded at that place about 6000 and summer-fallowed about 10,000 acres. Altogether they will have in grain this season not less than 20,000 acres, with prospect of a good crop. It takes a fortune to handle this kind of farming.

Kern.

Californian: Flannigan & Hart have 1000 acres sown to wheat near Bealville. The grain is now about seven inches high and gives promise of abundant harvest. It will probably yield 14 sacks to the acre, as last year they harvested 6900 sacks from 480 acres, and then Ruth, had she been there, could have gleaned a whole lot from what was left in the field.

Californian: One of the most beautiful things we have seen was a sprig of apple blossoms, brought in from Mr. Angel's orchard in the Lowell addition. It was 26 inches in length and a solid mass of bloom in various tints from the bud to the full-blown flower. Whether Bakersfield can grow apples or not, it is evident she can beat the world on blossoms.

Echo: Henry Freear has been putting in a large acreage of orchard this year on contract out in the Mt. View Colony. He has planted for Messrs. Duncon, Reich, Tweedy, Grant, Martin and Astill, all newcomers, a total of 180 acres, chiefly prunes. The trees are making a fine start and the prospect is good for a good stand.

Merced.

Modesto Herald: Three thousand rabbits and three coyotes, according to report, were slain in the course of the rabbit drive near Livingston on Tuesday, and hundreds of the long-eared pests escaped through the lines. Another drive, in the same neighborhood, is contemplated for a fortnight hence.

Napa.

St. Helena Star: The planting of deciduous fruit trees is now about over, but orange-tree planting will continue until the middle of May. First of April to the middle of May is really the best time for orange-tree planting, so says G. H. Beach, the best of authority.

Register: The cannery in East Napa will go this year without any ifs. The company of fruitmen in charge have already bought their cane—300,000 two-and-a-half pound—and will be ready for business as soon as the cherries are red enough.

Sonoma.

The orchardists of Anny township have planted trees this year as follows, says the *Sebastopol Times*: Otis Allen reports 450 prune trees, 450 peach and 56 apple trees (Gravenstein). Oscar Murphy has set out 560 apple trees, 450 peach, 275 prune, 50 cherry, 60 pear, 60 quince; total, 1455. In addition to this, he has planted 7000 strawberry plants and four acres of red raspberries. Durant Litchfield has set out between 300 and 400 trees this year, mostly prunes and apples. We are indebted to T. J. True of the Forestville nurseries for the following: S. McReynolds, 300 prune, 200 apple; Wm. Taylor, 500 peach, 400 prune; J. R. Rosie, 400 peach, 60 Bartlett pear, a few apple; Chas. Rorke, 500 prune, 350 peach; Chas. Johnson, 50 apple, 150 prune, 100 peach, 35 Bartlett;

Mr. Seavy, 600 prune, 200 apple, 60 walnut, small order mixed varieties; P. Lankant, 160 apple, 350 prune; Wm. Rose, 125 prune; Manuel Davis, 1000 prune, 700 peach, 50 apricot, 150 apple; Gottlieb Deitrich, 1000 prune, 1050 peach, 150 apple; Henry Barnes, 360 peach, 55 cherry; T. E. Barlow, 400 apple, 75 peach, 100 prune; Mrs. F. Lawton, 75 apple, 25 cherry, 50 peach.

Democrat: The assertion was incidentally made that the egg industry brought more money into Sonoma county than the vineyards. This caused quite a heated discussion on Tuesday. Tom Murray gave us some figures in regard to some of their shipments. Three thousand eight hundred dozen of eggs were shipped by Murray & Seegleken one day last week and were sold for 20 cents a dozen, which would make \$760 for one day's receipts. Of course that was an extra day, but 1000 dozen are often shipped, and this is only one out of many firms that deal in eggs.

Democrat: Mr. Robert Crane has a hive of bees which he domiciled 38 years ago. It has sent out many swarms. What he wants to know is whether he has still the original swarm, or how long does the bee live? He has in this interval lost many swarms which he put in high-priced patent hives; but this old, original family, which he housed in a home-made redwood box, is still working on the "flowers that bloom in the spring." He has noticed many swarms, and they are always young bees. He thinks he still has the old stock.

Index-Tribune: Trout-fishing in Sonoma creek and its tributaries is reported to be better this season than for many years. A local sportsman one afternoon this week caught over 20 of the finny tribe that weighed from a half to a pound and a half each. He also succeeded in hooking a number of small fry between six and eight inches in length. It is easy enough to catch trout if you only know how to do it.

The Santa Rosa *Democrat* says that a number of contracts have been signed by hop-growers, selling their prospective crop at 15 cents.

Stanislaus.

Turlock Times: One of the finest fields of grain in the country can be found on the Wm. Owens place, near town. He has a half-section of wheat that is fully two feet high.

Sutter.

Farmer: It is late for tree-planting, but considerable new orchards are still being set out.

Tulare.

West Side Cor. of Delta: Wild feed here is luxuriant this year. Alfalfa and clover are six inches high, making a solid matting of verdure where sheep have not been pastured. The plains are covered with wild flowers, and the sight is a beautiful one indeed. Grain that was well seeded is six to eight inches high on the plains. That harrowed in does not look so well. In the "sinks" where the land has been overflowed once and thoroughly wet, grain stands two feet high. There are hundreds of acres of the same.

Hanford Journal: Mr. Heading of Coalings was exhibiting in Hanford March 26th some barley stalks which stood two and one-half feet high, and the heads on which, although they had not yet reached maturity, measured four inches long. The barley grew on the John Hill ranch, was volunteer, and grew on unirrigated land.

Oakdale Cor. to Delta: The flood did not affect anybody in these parts, though the heavy rains, wetting the ground thoroughly and then turning warm, are giving the grain and grass a good start. James Morton has a fine piece of alfalfa—about 20 acres—which is nearly blooming and is about 20 inches high.

Visalia Delta: Mr. Spaulding of Pixley is raising ducks, turkeys and chickens by the hundreds; that is, he has 100 chickens out of danger and 900 eggs hatching. He has a good place to raise poultry, and should succeed.

Delta: Major C. J. Berry has left for southern California to purchase 8000 lemon trees for ranches at Lime Kiln. This purchase of trees involves an expenditure of \$3000.

Yolo.

Woodland Democrat: Mr. Merritt has six 8-mule teams and two 6-mule teams at work plowing on the Merritt farm, between Woodland and Davisville. He will summer-fallow about 2000 acres in one body. He sowed a small field of barley during the last week of March and one of his neighbors did likewise. He thinks it will make a fair crop if we are favored with the usual spring showers.

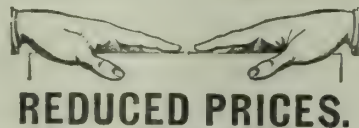
Record-Union: A young man brought in from the Bryte ranch in Yolo a mushroom measuring ten inches across. He asked only six bits for it. It should be preserved and sent to the World's Fair as a sample of California production in that line.

Yuba.

Marysville Democrat: The Excelsior Water Company of Smartsville has received several thousand young olive trees from Hayward, Alameda county, and will have them planted at the Bonanza farm, located in the foothills 15 miles east of this city. This is not an experiment, as some of the first trees of the Mission olive planted in this part of the State were on the place formerly owned by William Carpenter at Smartsville and afterward by O. F. Redfield. From the fruit grown on those trees the latter named gentleman made a superior quality of olive oil, which took the first premium at the first citrus fair held in Sacramento.

OREGON.

The discovery has just been made in Oregon that the Chinese pheasant feeds on wild oats.



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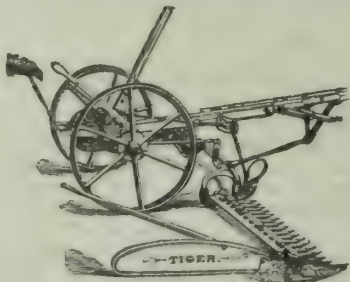
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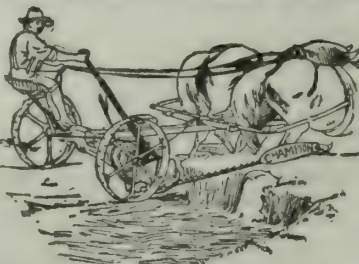


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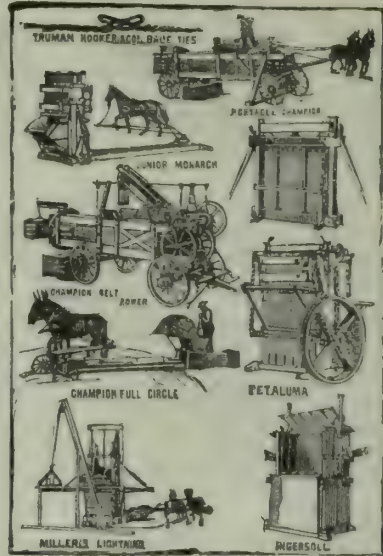
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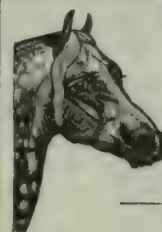


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Is Certainly the Best Preparation of Its Kind in the Market. Ranchers, Stock-Raisers and Horse-Owners of Every Description Will Tell You That It Does Good Work Every Time.

Messrs. H. H. Moore & Sons, Stockton, Cal.—GENTLEMEN: In answer to your inquiry, would state that I used your H. H. H. Liniment on my Holland prize-winning cow, "Lena M. No. 1" for a wrenched shoulder, and it relieved her very much. She calved the next day, and while still suffering from the sprain gave the largest authenticated quantity of milk ever given on this coast (104 gallons per day), showing conclusively the great relief received from your remedy. I consider it a necessity in my stable, and when away from home feel perfectly safe, as inexperienced men can do no harm with it, as they can with the more powerful blisters. Respectfully yours, FRANK H. BURKE, Breeder of Registered Holsteins and Berkshires. Menlo Park, Cal., January 23d, 1893.

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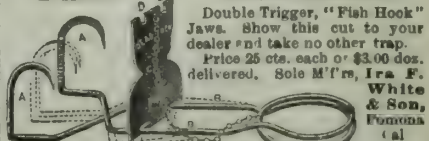
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"DEAD LOCK" GOPHER TRAP.

Simple, Effective.



Double Trigger, "Fish Hook" Jaws. Show this cut to your dealer and take no other trap. Price 25 cts. each or \$3.00 doz. delivered. Sole Mfrs. Ira F. White & Son, Pomona, Cal.

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Assaying of Ores, \$25; Bullion and Chlorination Assay, \$25; Blowpipe Assay, \$10. Full course of assaying, \$50. ESTABLISHED 1844. Send for circular.

SPRAY YOUR TREES!

Whitewash Your Barns and Fences!

WAINWRIGHT'S PUMPS

Do Either Successfully.

Catalogue and testimonials sent by mail.

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TREE WASH.

"Greenbank" Powdered Caustic Soda and Insecticide.

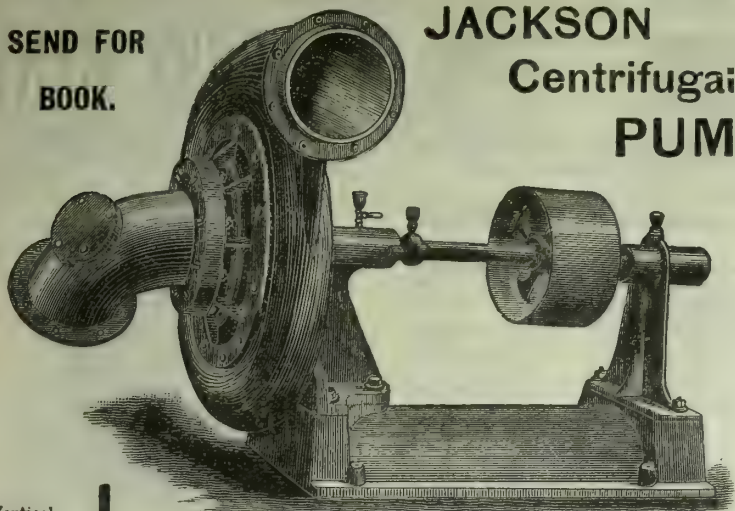
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JACKSON Centrifugal PUMPS.

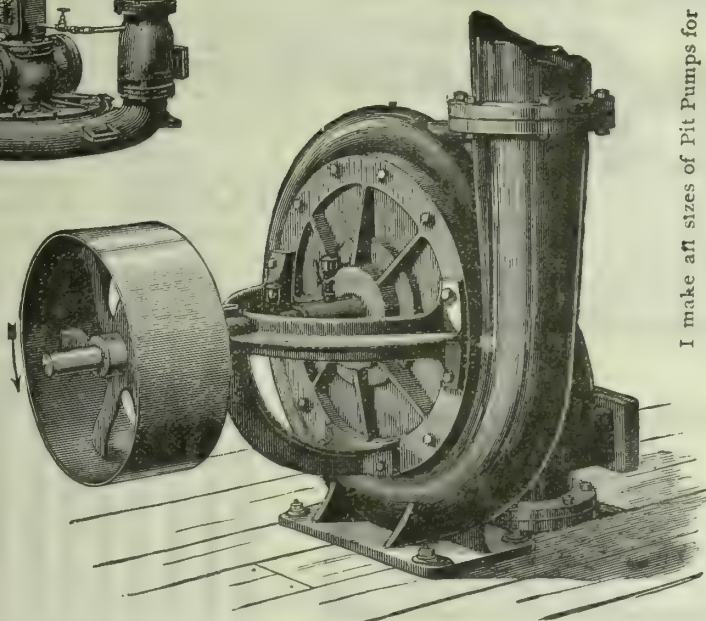


Made and carried in stock in
sizes from 4-inch (pipe) up-
wards.



Vertical
Shaft-Pit
Pumps,
All Sizes.

Jackson's "Whirlpool" Centrifugal Pump,
With Outboard Bearing, and Adjustable Suction and Discharge.



I make all sizes of Pit Pumps for
pumping out of deep wells

I make this design of Pump in all sizes, from
2-inch (pipe) to 12-inch.

Jackson's "Whirlpool" Centrifugal Pump,
Looking at Pulley Side of Same.

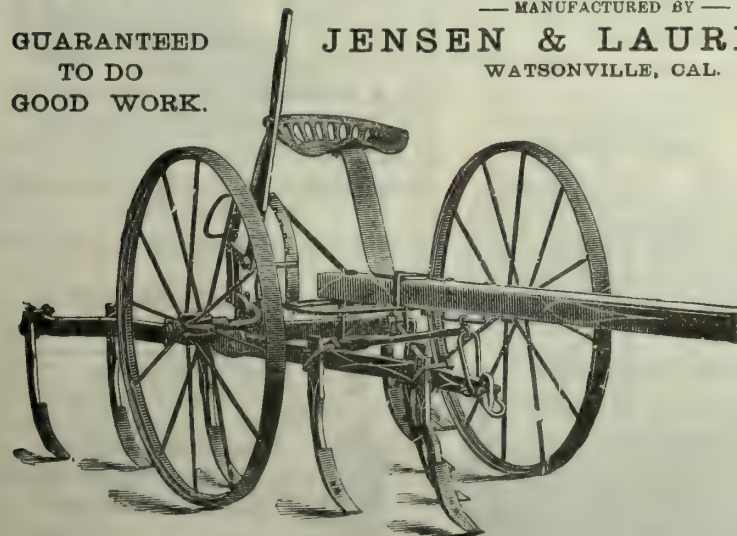
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SIMPLE! STRONG! SUPERB!

McLean's Patent Orchard Cultivator.

GUARANTEED
TO DO
GOOD WORK.

— MANUFACTURED BY —
JENSEN & LAURITZEN,
WATSONVILLE, CAL.



Any kind of
shaped tooth
can be bolted
on.

New device
for lifting out
of ground that
makes it very
easy for opera-
tor.

Three sizes
are made — 7
teeth, cut 4 feet;
9 teeth, cut 4
feet; 11 teeth,
cut 6 feet.

Write for
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MEXICAN PHOSPHATE AND SULPHUR CO.
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NITROGENOUS SUPERPHOSPHATE

AS AN EFFECTIVE FERTILIZER IT STANDS UNRIVALED.

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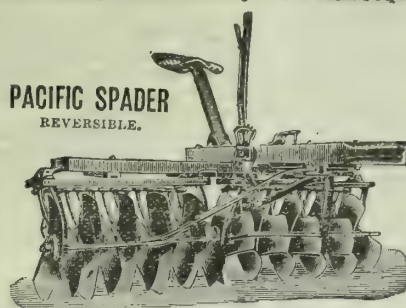
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THE PACIFIC SPADER!
Operated by one small boy. No Man required.

PACIFIC SPADER
REVERSIBLE.



Spader throwing Soil from the Center.
The Pacific Spader and Vineyard Cultivator
does more work in one stroke than a Disc Harrow in ten.
Sizes, 5 1/2 to 12 feet.

TRUMAN, HOOKER & CO.,
San Francisco and Fresno.

SIZES:			
No. 4—4 ft.	Reversible Spader, with 16 inch Spades.		
No. 6—6 ft.	" " " " 16 " "		
No. 8—8 ft.	" " " " 20 " "		
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AN OLD STYLE PULVERIZER.

Especially adapted to pulverizing "bottoms"—on
man and a small boy can operate it.

Salinas, Feb. 22, 1893.

Messrs. Truman, Hooker & Co.,
San Francisco, Cal.

Gentlemen:—I have laid aside my plows and sub-
stituted the 10-foot Pacific Spader. It is the
best implement I have ever seen for pulverizing
the ground and destroying the foul stuff. It
works like a charm in adobe and I can heartily
recommend it above any other implement. An imple-
ment of this kind is what I have wanted for years.
Yours truly,
Chas. Graves.

WHEN IN WANT OF A MILL BUY THE BEST!



It Will Cost You
No More Than
Other Makes.

**"The
Crane"**



Was Awarded the Premium at State Fair Sacramento, OVER ALL OTHERS.

WE MAKE THEM BOTH PAINTED AND GALVANIZED.

8 1/2 and 12-FOOT DIAMETER.

Please note that an 8 1/2-foot mill has 6 1/2 feet more wind surface than an 8-foot m

EVERY MILL GUARANTEED. We will replace all parts broken by storms that do not wreck buildings.

Any Mill that does not work satisfactory may be returned to us and we will
pay the freight both ways.

THE CRANE COMPANY,

405 & 407 Market Street, San Francisco, Cal.

RED SEAL GRANULATED 98% LYE

HAS NO EQUAL

**FOR DESTROYING SCALE BUGS AND OTHER INSECT PESTS
ON TREES AND PLANTS.**

FOR TREE WASH!

—USE—

One pound to 5 gallons of water.

Thousands of Orchardists testify to its
value, using it in preference to all other
preparations. Where the Red Seal is ap-
plied it kills the insects and at the same
time forms a coating through which
others cannot penetrate. When used in
the above proportions, it is a

**GREAT BENEFIT TO
THE TREES.**

Put up in SIFTING-TOP CANS, so that
any quantity may be used and the bal-
ance preserved uninjured.



**SOLD
—BY—
ALL GROCERS.**

FOR HOUSEHOLD PURPOSES

The Red Seal Lye is indispensable.

USED AS DIRECTED it will take the
place, and at 75% less cost, of all other
alkaline preparations, soaps, etc., now on
the market. ONE CAN will make 10 to
12 lbs. of Hard Soap, or 200 lbs.
of Soft Soap. See Directions in Can.

It cleans floors, kills roaches and bugs
of all kinds, cleans milk vessels, tin or
wood; keeps farming implements bright
and free from rust; is a perfect disinfect-
ant; softens water, washes dishes and
clothes; and can be put to a thousand
uses in place of soap or other prepara-
tions.

P. C. TOMSON & CO.,
Manufacturers....Philadelphia, Pa.

DEWEY & CO. { 290 MARKET ST., S. F. } PATENT AGENTS.
Elevator, 12 Front.

Crops In California.

The following crop reports from many counties, gathered by the Associated Press, will furnish a fair idea of the outlook at this season throughout the State. The data were furnished by various correspondents, April 7:

ALAMEDA—Haywards—Crop outlook in this valley very promising. Young grain well advanced. Grain of lowlands greatly set back by heavy rains. **Niles**—The principal crops of this vicinity—almonds and apricots—are damaged by too much rain and will produce short crop. Peaches, cherries and prunes promise good crop.

AMADOR—Jackson—Crop outlook fair. Heavy rains and cold rains have made them very backward. The prospect at present does not warrant the expectations of anything beyond a medium harvest.

BUTTE—Chico—Outlook for the grain crop in the vicinity of Chico is very favorable, and the average yield will result. But the crops are late. On adobe lands and low places grain is mostly drowned out. The fruit crop at present looks favorable, but apricots have been reduced to a half-crop by the rains. **Oroville**—Crop outlook not good. Owing to the early rains but little fall plowing could be done; the continued rains of winter prevented winter sowing, and the crop will not be over half the usual crop of any kind of grain. The hay crop will be fully up to the average, if not above it. Fruit of all kinds looks well, except apricots.

CALAVERAS—Milton—The grain acreage, which is about the same as last year, is making slow growth. Fruit trees are budding well, although a late hailstorm has cut the apricots and peaches.

CONTRA COSTA—Martinez—Outlook exceedingly good.

EL DORADO—Placerville—The area sown to grain, though slightly smaller than usual, gives promise of excellent crops.

FRESNO—Madera—Weather and other conditions are favorable. There is a large increase in the acreage of cereals over last year and it all looks fine. The fruit prospect is good. **Fresno**—The crop prospects were never brighter.

GLENN—Willows—The acreage is about the same as last year. The indications are fair. The summer-fallow acreage is much smaller than last year. If the weather is favorable, considerable plowing will yet be done.

HUMBOLDT—Eureka—The crop outlook is excellent. Larger acreage in fruits, especially smaller varieties. Much land has been newly seeded in grass for dairy purposes and for general farming, potatoes and feed grains, beans and peas. Increased wheat acreage in the southern portion.

KERN—Bakersfield—The hay and grain crops throughout the county are unusually good and fully one-third heavier than ever. Fruit trees and vines are in fine condition. The crops will be enormous.

LOS ANGELES—Los Angeles—The weather has been and is favorable for crops. Barley and wheat are doing well. Grain all over the county is doing finely. Apricots are yet light. **Pomona**—Peaches promise a large yield. Apricots about half a crop. Prune buds are favorable. Grain and hay on the tablelands never looked better, and they raise nine-tenths of all the crop here.

MENDOCINO—Ukiah—The average grain acreage has not yet been sown. The shortage will probably be equal to one-fourth. Upland wheat and barley never looked more promising. Hop-growers are most annoyed by the moisture.

MERCED—Los Banos—An immense acreage of grain was sown in this locality, and it all looks fine.

MONTEREY—Salinas—The outlook is for an abundant grain yield.

NAPA—St. Helena—The heavy and continuous rains of the past month insure good crops throughout the county. **Napa**—The prospect of the fruit crop in this section is very excellent. Apricots will be a short crop.

ORANGE—Santa Ana—Never more promising. The barley crop will be the largest ever harvested here. Peaches and other fruits will have a full yield, with an increased acreage.

SACRAMENTO—Sacramento—Everything points to a most prosperous season for the fruit crop, and also for hops, and, in fact, for all products grown in this vicinity. Grain, however, was little sown.

SAN DIEGO—San Diego—Best ever known in the county. The grain acreage is increased at least 30 per cent, and all is in fine condition.

SAN JOAQUIN—Tracy—No better crop prospects in 20 years on the west side than at present. **Stockton**—Crop prospects in this county are not good, and the yield will be light, owing to excessive rains. San Joaquin county will have about half the usual crop.

SANTA BARBARA—Santa Barbara—Prospects are unusually good for fine crops. Fruits are looking particularly good.

SAN BENITO—Hollister—The crop outlook is grand.

SAN BERNARDINO—San Bernardino—The unusually large area sown to barley in San Bernardino county is in a vigorous growing condition. Deciduous fruit crop was injured by premature bloom, followed by several weeks of rain in March. Citrus orchards show but little bloom. **Riverside**—The outlook for the largest crop of grain and hay ever harvested in this section is most promising. The deciduous fruit crop promises a large yield, and the citrus fruit crop is splendid.

SAN LUIS OBISPO—San Luis Obispo—An enormous area has been sown in wheat, probably one-third greater than ever before, and at present

only some unexpected and unprecedented disasters will prevent securing from three-quarters to a full crop. The outlook is for not less than 1400 pounds to the acre as an average. **Paso Robles**—Better crops than for years. More grain and fruit trees have been planted than for any other season.

SAN MATEO—Redwood City—Early rains drowned out some grain on the low lands, but the damage is less than ten per cent. Upland crops promise over an average. Fruit is in fine condition; same of vegetable gardens.

SANTA CLARA—San Jose—The grain and hay crops are big, apricots light, peaches spotted and prunes immense. **Gilroy**—Cereals better than last year. Not more than five per cent of the land remains unplanted, owing to excessive moisture. Prospects of a heavy yield, and acreage more than last season. Fruit promises splendidly.

SANTA CRUZ—Santa Cruz—Crop prospects in this county are good. The grain harvest will be late, but, with the usual spring rains, the yield will be large. Apricots and prunes will be short, but other fruit prospects are good.

SHASTA—Redding—Fruit crop excellent, with perhaps a falling off of apricots. The excessive rainfall has retarded plowing of the bottom lands, and the grain crop is liable to be light in consequence.

SOLANO—Dixon—Summer-fallow grain is looking well. Winter-sown grain on the highlands will make an average crop, but on the low and tule land the prospects for a crop are very poor. **Vacaville**—The promise of the fruit crop generally is good, though apricots will be short. On some ranches apricots will be nearly a total failure. **Vallejo**—Crops are looking well. In low places there has been too much rain and the grain drowned out.

SONOMA—Sonoma—The crop prospect never looked better. Farmers say this rain will keep the fruit back, which will insure a good crop. Grain is looking fine throughout the valley. **Santa Rosa**—Winter wheat and grass have made rapid growth and give promise of big crops. **Petaluma**—Outlook is not very bright. Very little grain has been put in up to date. There will be heavy crops of barley and hay. Orchardists anticipate a good and abundant crop.

STANISLAUS—Modesto—The crop outlook in all parts of Stanislaus is the best for many years. Acreage will not be heavy.

TEHAMA—Red Bluff—The apricot crop is light. The other fruit prospects are fine. There will be a large yield. The wheat crop is light and not over a half crop. Grass is plentiful. The outlook for the wool crop is very fine.

TULARE—Hanford—The heaviest wheat acreage was sown that has been known here for years and the whole country reports excellent prospects for a large yield. The fruit crop outlook is also excellent. Apricots promise a big yield. **Visalia**—Grain yield the largest for years. Fruit prospects are equally good. As to peaches, pears, prunes, nectarines and apricots, yield will be light.

VENTURA—Hueneme—Crop prospects are fine. Barley in many places is headed out. **Ventura**—The crop outlook was never better at this date. An increased acreage of beans will be planted. Apricots will be light.

YOLO—Woodland—Considerable grain has been drowned out. Prospects are good for an average yield. Fruit and grapes promise big crop.

YUBA—Marysville—The usual cereal yield of Yuba and Sutter counties is about 140,000 tons. Owing to the high waters on the lowlands, where the largest crops are secured as a rule, careful computers place the total output at about two-thirds. The fruit crops will be much larger than usual, save in apricots.

The Farrier's Art.

Points to be observed in shoeing a horse properly:

Twist off the old clenches, or rasp them off without touching the crust.

Gently raise the shoe in such a manner that the crust shall not be broken or spoiled.

Don't use a knife, but with a rasp make the sole quite level.

The toe must be rasped down more than at the heels, and the more you can rasp away the soles at the toes without making the sole convex, the shorter the toes will look, and bear in mind that this is the only way that the toe must be shortened.

Endeavor to keep the frog as high above the heels that when the shoe is on, it shall be about one-sixteenth of an inch above the level of the shoe.

With the rasp held at an angle, gently rasp around the edge of the crust to take off the broken edges before the shoe is applied.

The sole of the foot being a dead level and flat, and the foot side of the shoe a dead level and flat, there will be no occasion to burn the foot to make a fit.

Be careful that the shoe fits the foot all around the heels, and that the hoof does not project beyond the hoof.

In like manner the shoe must not project beyond the hoof.

See that the nails fit the holes tight.

In order that the foot may expand when placed on the ground, don't use nails far back on the inside.

Let the nail's point come out in a level line all around the foot about three-quarters

of an inch above the foot side of the shoe.

The shoe having been nailed on, twist off the projecting points of the nails and turn down and hammer down the stumps to form clenches.

The rasp must not touch the foot after the shoe is on.—London Live Stock Journal.

Three and One-Half Days to the World's Fair.

We take pleasure in advising the readers of the PACIFIC RURAL PRESS that the UNION PACIFIC is the most direct and quickest line from San Francisco and all points in California to the WORLD'S FAIR.

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Horse Owners! Try GOMBAULT'S Caustic Balsam



A Safe Speedy and Positive Cure

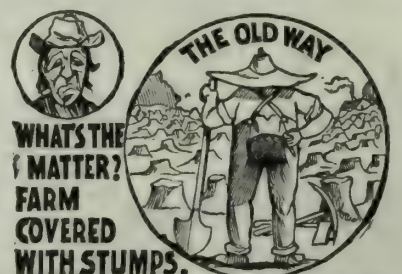
The Safest, Best BLISTER ever used. Takes the place of all liniments for all over sore action. Removes all Bunches or Blemishes from Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING. Impossible to produce scar or blemish. Every bottle sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars. THE LAWRENCE-WILLIAMS CO., Cleveland, O.



FRUIT, GRAIN AND GRAZING Farm for Sale!

930 ACRES, AT \$12.50 PER ACRE, EIGHT MILES east of Paso Robles, on the Southern Pacific railroad and but six hours from San Jose; 300 acres are under lease, to be planted to wheat this season. The land is of rich, alluvial soil from 6 to 15 feet deep. No irrigation necessary. The annual rainfall is sufficient for fruit trees, vines and grains. A farmhouse and well of excellent water, besides running water in the Huero creek all the year; good fences, 3 fields; oak trees in abundance for posts and fuel. About 600 acres are well adapted to grain, fruit trees and vines; the balance is rolling and best for grazing; the land not cultivated is covered with the most nutritious of all grasses, the bunch grass, burr clover, alfalfa, wild oats, and on margin of creek wild alfalfa; mixed farming pays best. No better section in California for fruit-growing than that portion of San Luis Obispo county. Here is an opportunity to buy 10 to 15 acres for the price of one in Santa Clara county. Terms: One-half cash; balance in two, three and four annual installments. Interest seven per cent on deferred payments.

AMOS ADAMS, 235 South Eighth St., San Jose, California.



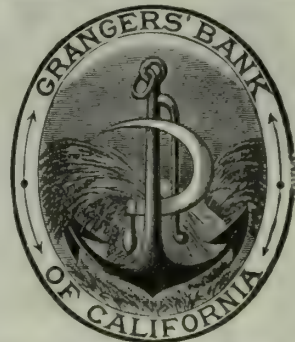
HAWKEYE GRUB & STUMP MACHINE Works on either Standing Timber or Stumps. Pulls an ordinary Grub in one and a half minutes. Makes a clean sweep of two acres at a sitting. A man, a boy and a horse can operate it. No heavy chains or rods to handle. The crop on a few acres the first year will pay for the Machine. You can not longer afford to pay taxes on unproductive timber land. Clear it, raise a beautiful crop with less labor and recuperate your old, worn-out land by pasturing. Send postal card for illustrated Catalogue, giving price, terms, testimonials and also information concerning our New 1XL Grubber. Address: The Manufacturer, JAMES MILNE & SON, SCOTCH GROVE, IOWA.

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Capital paid up and Reserve Fund 300,000
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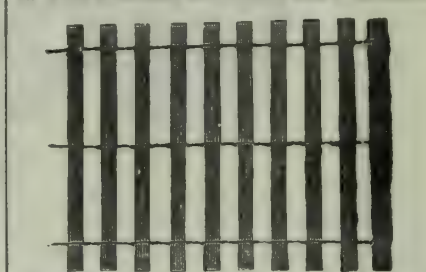
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Pickets colored red by boiling in a chemical paint to preserve the wood. We make it 2 ft., 2 1/2 ft., 4 ft., 5 ft. and 6 ft. high. Send for circulars and price list to

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The above cut shows a section of the Judson 2-ft. Rabbit-Proof Fence. By stretching barbed wires on the posts above it, it will turn any stock whatever.

\$100.00 Reward!

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STOCK SCALES

4 TON \$45.

U.S. STANDARD. FULLY WARRANTED.

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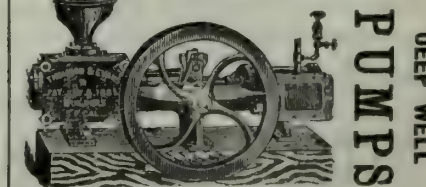
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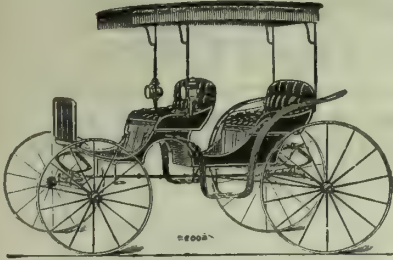
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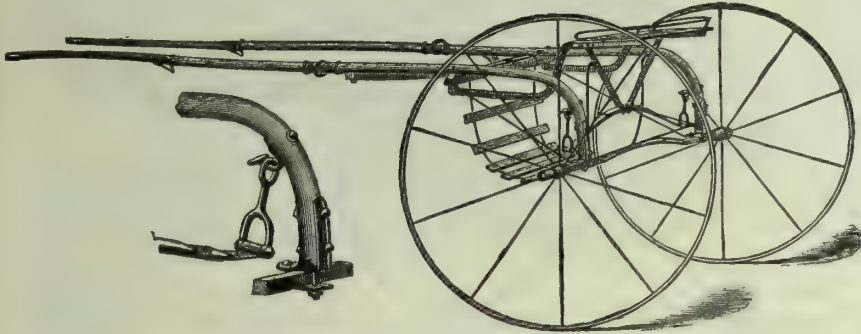
As good as any \$135 job.



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No. 5 Cart. A Good, Strong Cart. Price, \$15.

All Kinds of Vehicles and Harness Way Below
Anything on This Coast.

WE SHIP ALL OVER THE PACIFIC STATES.

CALIFORNIA WAGON & CARRIAGE CO.,

36½ to 44½ FREMONT STREET,

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WE DON'T WANT

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☒ — Only want to fence it in

The
Lightest,
Strongest,
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and best
Fencing
in the
World.
90 lbs. to
100 rods.



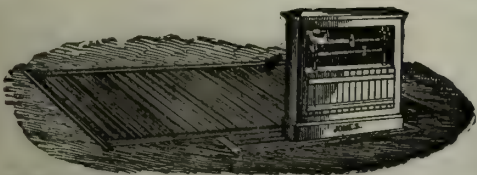
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8 AND 10 PINE STREET.



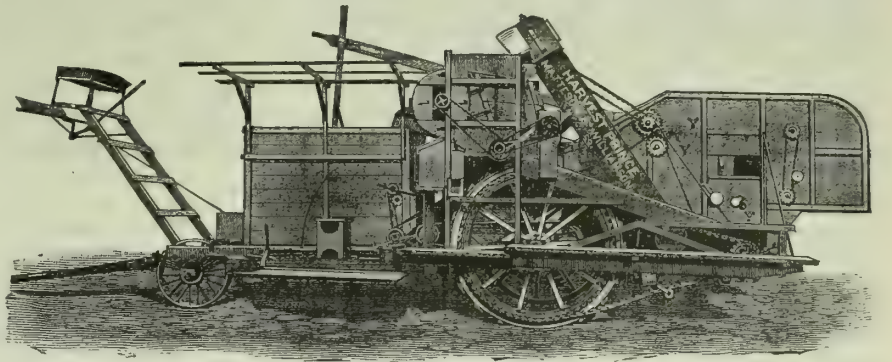
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BEAR THIS IN MIND.
From 25 to 50 per cent cheaper than any other
Scales of like quality. All sizes and kinds
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Elevator, 12 Front.

New Improved Belt Combined Harvester "PRINCE."



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It has had a thorough test, having cut 500 acres in two weeks. Size, 18 feet; drawn by 18 animals. It starts easy and possesses light-running qualities. Having two 6-foot drive wheels, 20-inch by 4-inch tires, with a 5-foot header wheel, renders it very easy of operation.

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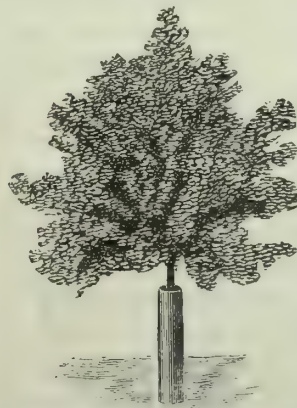
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Valuable Pacific Coast Shells.

Occasionally large and valuable shipments of shells of various descriptions are made from San Francisco to Europe and elsewhere. These comprise rather an important item in our export trade. Formerly abalones received more prominence as an article of export, but they are still in good demand, being used for many purposes, both ornamental and useful. On the California and Mexican coast the *halotis*, or abalone, shell is much sought for by the Chinese for food and bait. Large quantities of the shells are exported to China and Europe annually for the manufacture of buttons, etc. The pearls found in these shells are light green, and irregular in shape, but the luster is often very beautiful, and they have ranged in price from a few dollars to \$100 dollars each. The most valuable variety known to commerce is the Mexican. It is found clinging to cliffs, reefs and submarine rocks throughout the coast of Mexico from San Tomas, close to the American line, as far south as Acapulco. Blue-green abalones are gathered by Mestizos and brought to Wilmington (San Pedro) by traders and fishermen.

The next most desirable of seashells is the black, of California. By some this is regarded as the richest and most beautiful of all. The wholesale price of this shell has been given as high as \$1000 per ton, and it is used in the same industries as the one before mentioned. The gray is common to the whole coast, and has had a market value of \$700 per ton. It is used for numberless purposes, useful and ornamental. Los Angeles is the center of this trade and Europe is the market, France being the largest buyer. The shells are stored at San Diego, San Pedro, Los Angeles and Santa Barbara, and are shipped as the trade demands. The Chinese, besides providing an unlimited market for abalone meat, which they regard as a luxury, also compete with Europe for the possession of the shells, which are used in China much as they are in Europe.

The abalone-shell trade of California long ago assumed large proportions, the annual value reaching a very respectable figure. In bringing these shells to the perfection of beauty, that determines their value, both the Chinese and European manipulation embraces four processes: First, ground upon a common grindstone; second, applied to an emery wheel; third, polished by hand with pumice stone; fourth, a secret process which gives the final polish.

Mother-of-pearl are the most valuable of all shells, and are known to the trade as the "Tahiti Shell." They are deep-water shells and are found around and off the coast of the island of Tahiti. Native divers raise them to the surface and they are brought to California by traders who procure them in barter. The Tahiti shells are marketed solely as articles of virtu, bric-a-brac and curios. In Europe they find additional use and value in the manufacture of rare and elegant articles of fancy, fashion, toilet and jewelry, and in the creation of costly and artistic laid work.

Pearl oyster shells are found along the Mexican coast, and at La Paz their gathering and shipment forms quite an industry. They are used in the manufacture of pearl buttons, and the trade is confined almost exclusively to France.

The Redwood's Disappearing.

The question as to whether a redwood forest that is once cut away will renew itself is one that has occasioned much discussion among lumbermen. So far, however, as the evidence supplied by the abandoned logging woods of this county is concerned, the question must be answered in the negative. There are, adjacent to Eureka, tracts that were "logged off" more than 30 years ago, yet there is little or no new growth of timber upon them.

When redwood trees are cut, sprouts sometimes spring out from the stump and grow quite rapidly for a time, but that these sprouts seldom or never develop into large trees can be seen by examining almost any old logging claim.

Another noticeable feature about our redwoods is that groves of young trees are seldom found, and then only on the outer borders of the forest. Back in the primeval forests a young tree is seldom seen. One explanation of this is found in the fact that the redwood seldom or never propagates itself by means of its cones, as do pines, spruce, hemlock, etc. Practically speaking, all the young trees are sprouts.

Several years ago the writer, accompanied by Hubert Vischer, an agent of the State Forestry Commission, spent several days in investigating this question of the reproduction of the redwoods, and the conclusion reached was that, practically speaking, the forests will never be reproduced. This conclusion is also in accordance with the theory

of Professor Kellogg, the botanist, that our redwood forests are the remnants of a former epoch, and are the results of geological and climatic conditions that have long since passed away. If this theory be true, in another generation all that will be left to indicate the grandeur of the departed redwoods will be an occasional blackened and decaying stump, unless some provision be made to soon preserve as a park some portion of the primitive forest as a heritage to future generations.—Humboldt Times.

"Heart Failure" and Stomach Stuffing.

A physician writing to the *Medical Brief*, says: I wish to say a few words about heart failure. We almost daily see reports of deaths attributed to heart failure. Now, what I wish to ask is, what is it the heart fails to do? I have always considered the heart the most perfect organ of the animal economy, and one that never shirks its duty. It commences its labors during the early stages of pregnancy, and goes on until the last moment of life, without one second's rest, night or day, often without the intermission of a single pulsation for 100 years or more. At every beat it propels two ounces of blood through its structure. At 75 pulsations per minute, nine pounds of blood is sucked in, and pumped out. Every hour, 540 pounds; every day, 12,960 pounds; every year, 4,730,400 pounds; every 100 years, 473,040,000 pounds. Verily a good organ and all performed without one moment's rest.

Now, the heart has the very meanest and most contemptible neighbor that ever an organ had, namely, the stomach; a drunkard, a glutton, a trespasser, and almost everything else as bad. Verily it ought to be walled in and compelled to keep on its own grounds.

The stomach lies directly under the heart, with only the diaphragm between, and when it fills with gas it is like a small balloon, and lifts up till it interferes directly with the heart's action. The stomach never generates gas but when filled with undigested food fermentation takes place and gas is formed, and the interference depends upon the amount of gas in the stomach. To overcome this obstruction, the heart has to exert itself in proportion to the interference, more blood is sent to the brain, and the following symptoms are the result: A dizzy head, a flushed face, a loss of sight, spots or blurs before the eyes, flashes of light, zigzag lines or chains, etc., often followed by the most severe headache. These symptoms are usually relieved when the gas is expelled from the stomach.

Now, when this upward pressure upon the heart becomes excessive, more dangerous symptoms supervene, a larger quantity of blood is sent to the brain, some vessel ruptures and a blood clot in the brain is the result, and the patient dies of apoplexy, or, if he lives, is a cripple for life.

When a sick person, or an old one, or one with feeble digestion sleeps, digestion is nearly or quite suspended, but fermentation goes on, and the gas is generated as before stated.

A man is found dead in bed, and the medical attendant pronounces it the result of heart failure, and such is the certificate of burial given. Now, the man was out, partook of a late supper, and ate roast beef, turkey, chicken, lobsters, oysters, mince pie, plum pudding, ice cream, cake, an orange, nuts and raisins, three or four cups of coffee, etc., went home at midnight, retired, and dies of heart failure before 9 o'clock the next morning. What did the heart fail to do?

Again, a man is sick with typhoid fever or pneumonia, or almost any other disease, and died, it is said, from heart failure; but what has his diet been during his sickness? At present it is very fashionable to commence at once with what might well be called the stuffing process—iced milk, which is so cool and grateful to the patient, from three pints to one gallon during the day and night. But if allowed to make a suggestion, I would say that in place of it, clam chowder, thickened with gravel, stones, eggs, beef tea, whisky, cream and all the other good things the poor patient can be induced to swallow.

To the World's Fair!

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Are you going? If so, call on or write to the undersigned before arranging for your trip. The "SANTA FE ROUTE" is the only line under one management from California to Chicago! Palace and Tourist Sleepers through to Chicago every day without change! Excursions every Tuesday. W. A. BISSELL, G. P. A., 450 Market Street, Chronicle Bldg., San Francisco, Cal.

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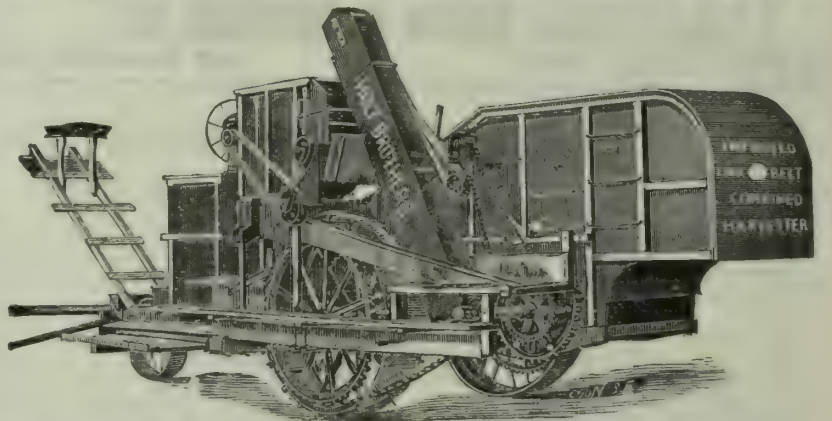
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SIDE HILL COMBINED HARVESTER,

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Send for Circulars describing the Side Hill Harvester.

Those contemplating buying are invited to visit our manufactory at Stockton and see for themselves.

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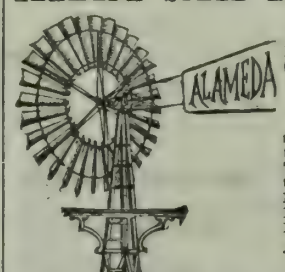
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An Auxiliary Engine is used on the Harvester, taking steam through a flexible steam pipe from the boiler of the Traction Engine, doing away with all gearing necessary to run the Harvester, the effect being a steady, uniform motion at all times and in all conditions of the grain, and at any speed the Harvester may be running.

For fuel, straw, wood or coal can be used, the straw being taken from the rear of the separator by a conveyor to the furnace door of the engine, making it very convenient to fire.

These Steam Harvesters were run successfully all last harvest, giving entire satisfaction in all ways, in grain in all conditions.

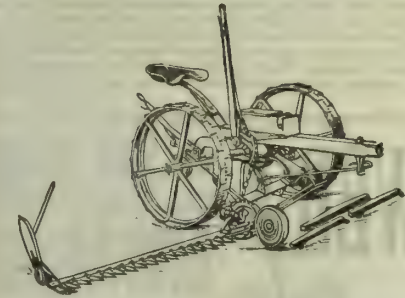
Estimates given for any size of machine desired, from 14 to 40-foot cut. Every machine fully guaranteed, same as the horse-power machines.

I hold patents for conveying steam from the boiler on the Traction Engine through a flexible pipe to the auxiliary engine on the Combined Harvester, making mine the only complete Steam Combined Harvester in the market.

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the market I know of that will cut heavy grain without clogging. The Wood Mower is a daisy.

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I remain, yours truly,
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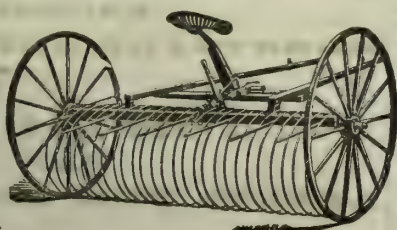
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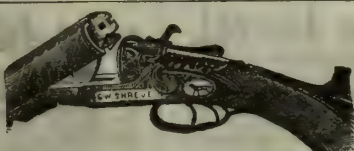
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PATRONS OF HUSBANDRY.

From Worthy Master Davis.

There is no communism, no agrarianism, no nihilism, no socialism, but plenty of patriotism, in the Grange.

The Grange protects the weak, restrains the strong, encourages right, condemns the wrong, and if it can have the united strength and influence of the farmers of this nation, there is no organization on earth that can cope with it. Its possibilities would then be immeasurable. Let us united stand!

Discipline is important to success. That Grange is most prosperous where the Rules of Order and the Constitution and By-laws are the most strenuously observed. Education is discipline, and vice versa.

Children's Day is soon to be observed by many of our subordinate Granges. How would it do for May Day to be observed, with a basket picnic, to which everybody should be invited, and have a programme in honor of the children?

Vaca Valley Grange gives a varied programme on the 29th of April. Only members of the Order and those specially invited are to be admitted.

The prospectus of the "Industrial Insurance Company," of San Francisco, Cal., has been received. From it we learn the following: "Capital stock (to be) \$200,000; 2000 shares of \$100 each. Principal place of business, San Francisco, Cal. Risks to be placed on farm and city property." The idea of rival insurance companies is all right. There is no good reason why the insurance business should not stand healthy competition; but under the "compact rules," now controlling the companies in this State, competition is excluded. If the new company will organize, pay up a sufficient sum to properly and safely cover every loss that the company is to sustain, pay reasonable salaries and commissions, insure only insurable risks, and avoid all the extra-hazardous ones, they will find a fair field for business, and can afford to carry such insurance at a rate much lower than the present compact rates. But business experience, caution and conservatism must control; otherwise the insurance business is extremely dangerous, not to the company only, but to the policy-holders as well. The great central idea of insurance is to get help in case of fire. To insure without being insured is worse than folly, for you pay the premium, but are not sufficiently protected to get back anything. We hope the new venture will prove a success, and that cheaper rates than those now charged will prevail.

"Should boys be taught to sew on buttons?" Somebody has asked this question, and has partially outlined an answer, which seems to be the one expected, by saying, "No, such work is for girls." To this sentiment we do not subscribe. There is nothing effeminate in being able to sew on buttons, or darn stockings, or sweep the floor. "Order is Heaven's first law," and neatness is next to godliness. By all means, teach the boys to do anything and everything that will insure their comfort and neatness, and their usefulness and independence. We want just such men in the world as boys thus taught will make. The boy who is so instructed in youth will not forget in his manhood days the lessons taught by mother. There is something homelike and refining connected with needles, thread, buttons and the like. You don't often find a needle in a haystack, or buttons and thread at a gambling table. These articles are almost inseparably connected with the home and the domestic relations of life. Oh, yes! by all means teach the boys to sew on the buttons. It is for their own good. And that is not all, for by and by some mother's daughter will call you and the boys blessed.

The executive committee want a few "rustlers" to "go to the front" in California and organize new Granges. To the proper persons, fair wages and pleasant employment will be given. None but those worthy and well qualified need apply. It is expected that with the right kind of work good results will surely follow. Any one sending a charter list of those eligible for a Grange, will get \$1 per name up to 25 names. Who is the lady that takes the first \$25 for 1893? The offer holds good for men also. To the front, ye willing workers!

Official Visitations.

The State Lecturer reports his doings at Hollister and Watsonville.

TO THE EDITOR:—I write from the "field" while waiting for a conveyance to proceed to San Antonio. I arrived at San Jose on the 3rd, where I was joined by Bro. Adams, in whose company I was to visit Hollister and Watsonville Granges. Upon arriving at Hollister we were met at the depot by Bro. De Hart, who took us to enjoy the hospitalities of his beautiful home. After dinner Bro. De Hart and the writer took a trip around the country a short distance to see some of the Patrons. April 4th we met with the Patrons of Hollister Grange at 10:30 A. M. I found the officers for this year had not been installed. These ceremonies were gone through with, and a few moments were taken up in suggestions for the good of the Order by Bro. Adams and myself, after which dinner was served.

After dinner an open meeting was held, but the attendance was not large, owing to some mistake in the notification and advertisement of the same. At 3 P. M. we had to leave on the stage for Watsonville. Arriving at Watsonville we were met by that valiant Patron Bro. A. Roache, who took us to his home. Upon arriving there, Sister Roache welcomed us as only a whole-souled Patron can do.

At 10 A. M., upon arriving at the Grange hall, I met many of the familiar faces I had seen while there at the session of the State Grange. Sister Roache, the Worthy Master of Watsonville Grange, opened the Grange in due form without a ritual; in fact, none of the officers used the ritual, each having entirely memorized his or her part of the ceremonies.

The forenoon was taken up with suggestions for the good of the Order and inspection of paraphernalia, working tools, books, arrangement of the room, etc., which I take great pleasure in reporting as A1, and especially the books, the minutes legibly written, vouchers, receipts, and cash account properly posted. After this came the feast for the class of the week before, Watsonville intends having

200 members upon the roll at the next session of the State Grange, and of having the honors of the banner Grange of the State. What Grange will be the next champion for that honor? and let us know through the RURAL.

At the afternoon open meeting the hall was full, about half of the attendants, I was informed, being strangers to the Order. A program had been prepared suitable for the occasion. Music, speaking, double quartette, recitations and select reading were the order of the day. Unfortunately, about the time the afternoon exercises closed it commenced raining, but withal we had a good meeting at that point. From there Bro. Adams returned home, and I moved farther south. Saturday, the 8th inst., I expect to be at San Antonio, and I will write again when I have come to a stop.

San Lucas, April 7, 1893. J. D. HUFFMAN,
State Lecturer.

A Field Day in San Jose Grange.

REPORTED BY AMOS ADAMS.

Among the many interesting meetings of San Jose Grange, the writer has been privileged to attend, the one of Saturday, April 8th, excelled them all. It was truly an educational meeting, not of that class of knowledge obtained from books, coined from the brains of others, but knowledge gathered from actual experience and observation, gained by men from an intelligent prosecution of their avocation as fruit growers. The questions of the propagation, cultivation, and treatment of fruit trees; insect pests and the best remedies to exterminate the same; the best season for pruning; the root knots and the best way to treat them; the effect of fall irrigation on the fruit buds of the coming season; and the beneficial effects of keeping the soil from packing in the immediate vicinity of the roots of trees.

Then the prospect of the coming fruit crop was discussed, the consensus of opinion was that should all the blossoms on apricot trees produce fruit, it would be much below the average. Of other fruits it was conceded that should the trees pass successfully through the climatic changes common to all fruit-growing countries, there would at least be a good, average crop, the prune leading them all. The impromptu discussion of these questions by practical fruit growers, carried with it more importance than the discussion of like questions at large fruit conventions, as is too often the case that prepared speeches are formulated and delivered more to display the oratorical powers of the speaker than an effort to add to the sum of knowledge on the subject before them.

At the conclusion of this interesting and instructive talk it was suggested by one who took no part in the discussion that had been a short-hand reporter present, the speeches preserved and printed into leaflets and scattered broadcast throughout Santa Clara county, the present capacious Grange hall would not be large enough to hold half the members.

The social and educational features are two of the principal pillars of our Grange Temple. Upon these rocks let us all strive to erect a superstructure worthy of the tillers of the soil.

Self-Defense and Justice.

The following resolutions were adopted by Stockton Grange, No. 70, P. of H., at its meeting April 1, 1893:

WHEREAS, The prevalence of combinations and trusts for the control of the productions and manufactures of the necessities of life, to the detriment of the producers and consumers, have assumed alarming proportions; and

Whereas, A combination of the manufacturers of flour have formed a trust to control their output and to determine and limit the prices of wheat and flour in this State; therefore

Resolved, By the Stockton Grange, No. 70, P. of H., that the farmers, in accordance with the laws of self-defense and justice, should give their support and patronage to those flouring mills that are free from, and competing with, such combinations and trusts; and further

Resolved, That it is the duty of all farmers and citizens generally of San Joaquin county to give their preference and support to the Union Milling Company and the Crown and Aurora mills of Stockton so long as they continue free from and in competition with such combination; and also

Resolved, That it is a matter of great interest and importance to farmers and to citizens of all occupations in this county that the competing Union Transportation Company of Stockton, which secures for us reasonable fares and freights, should be upheld by giving them the preference in our patronage and in every legitimate way our hearty support.

Sacramento Grange.

Sacramento Grange, No. 12, falls into line with a class of four brothers and six sisters who received the Third and Fourth Degrees on April 8th. After the Harvest Feast, a musical and literary program was rendered. A fishing party, managed by Sisters Della Krull and Delma Green, created much merriment. A pretty vase was awarded to Sister Flint for being the most expert angler, and Bro. Flint received the booby prize, a toy chicken, which does not imply that he is at all chicken-hearted about getting a supply of the good things at the banquet-table.

The next regular meeting of this Grange will be held on the evening of April 22d at 7 o'clock, to be followed by a ten-cent social. A program consisting of a drama and musical selections will be given. Music will be furnished for dancing, and refreshments will be served in the banquet-hall. A cordial invitation is extended to all Patrons to be present.

Bro. D. Flint was declared the choice of the Grange for County Lecturer.

Bro. G. C. McMullen has gone to Chicago to superintend the exhibit of Sacramento county at the World's Fair.

Stockton is Not Asleep.

TO THE EDITOR:—Stockton Grange is still living, although the weather for the past two or three months has been against very active work, and the attendance has been comparatively light, but with settled weather we expect a full attendance at our

meetings, and the usual interest manifested. We strive to keep abreast of the times, and discuss the leading questions of the day as they come up.

The Worthy State Master seems to think we are too quiet up this way; if he could hear us discussing the free and unlimited coinage of 65-cent silver dollars, and the unlimited issue of wind money by the Government direct to the people—tramps included—he might think that we were pretty lively at times up in San Joaquin.

There has not been the usual amount of grain sown in this section the past winter, but as a great deal of the land here needs resting it will probably be quite as well in the end. M. T. NOYES.

Adapted to California.

The ability of a machine to do good field work, under all conditions, is a true test of superiority. Recognizing this, the Walter A. Wood people have, year after year, been sending out practical, skilled men to test their mowers and witness their performance in every kind of grass, when operated by inexperienced persons.

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Parties writing for information should give the quantity of water that can be supplied to the engine, either in gallons, cubic feet or miners' inches; the head or fall from source of supply to point where the engine is to be located, length of drive pipe, height to which the water is to be raised, distance from engine to place of discharge and the quantity of water it is desired to elevate. No reliable information can be afforded without an explicit answer to these inquiries.

STANDARD MOWER

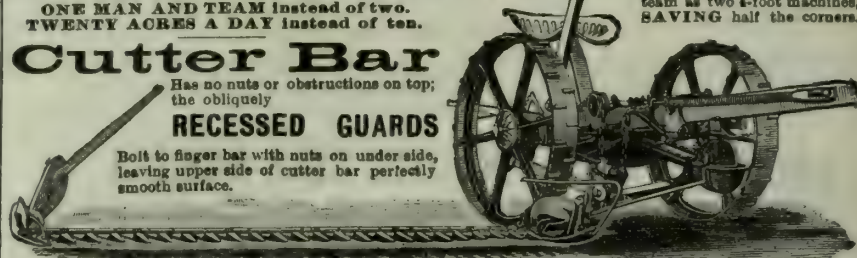
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RECESSED GUARDS

Bolt to finger bar with nuts on under side, leaving upper side of cutter bar perfectly smooth surface.



NO SIDE DRAFT

as CUTTER BAR is carried entirely on Main Wheels.

7-FOOT mower will do as much with one team as two 4-foot machines, SAVING half the corners.

MAIN WHEELS made interchangeable—one wheel fits either side of mower. THE FOOT LIFT raises cutter bar with perfect ease without the aid of hand lever, the first ever made. EASILY TILTED. THE STANDARD MOWER can be entirely taken apart and put together again by the farmer with a common wrench. SEND FOR SPECIAL CIRCULAR.

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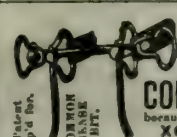
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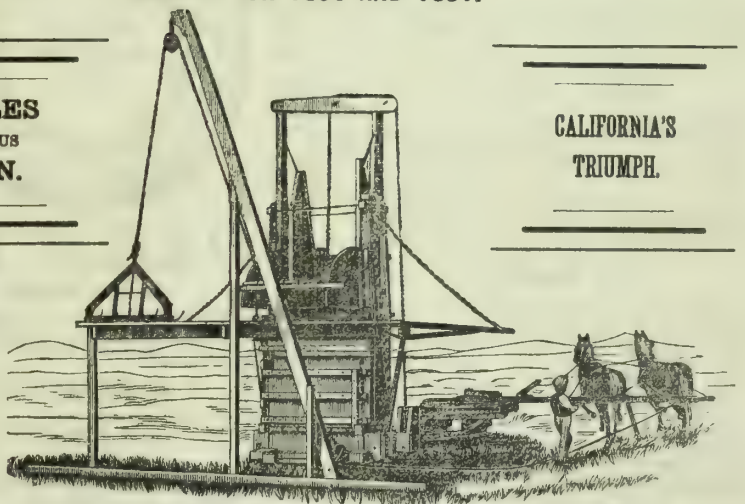
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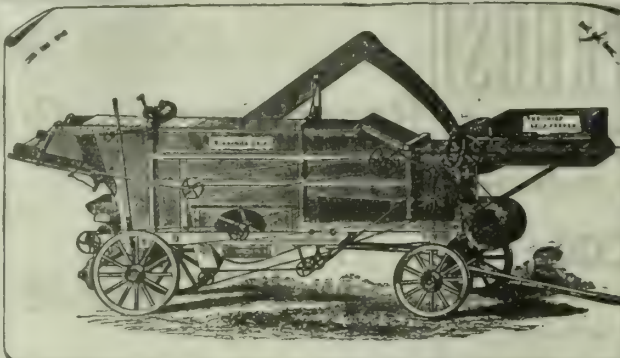
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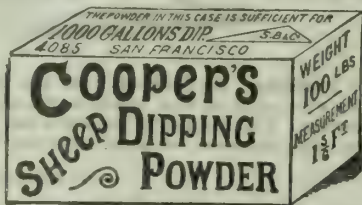
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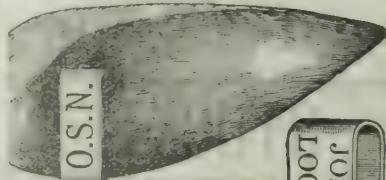
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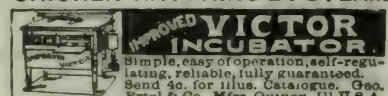
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S. H. MARKET REPORT

Market Review.

SAN FRANCISCO, April 12, 1893.

The long lethargy that has dominated the wheat market seems to be broken. Prices have taken an upward turn, and conditions are altogether better for the California producers than they have been for some months. The reasons are easy to explain: The United States crop for 1893 is certain to be very short, and the California yield, except in some localities, will be about as usual. Europe will probably have a normal crop; but the very large shortage in the American yield is certain to clear the way for diminution of present enormous surplus stocks, and consequently for better prices. The general conditions are set forth at length in other places in this issue of the RURAL PRESS. The average condition of winter wheat at this time, it may be added, is the lowest in the East during a period of 14 years. The average on April 1st was 77.4 per cent. On April 1, 1885, the percentage was 76.3, and in that year the crop of the country was only 357,122,000 bushels, as against 512,765,000 in 1884 and 457,218,000 in 1886. Unless there should be a marked improvement later on, the winter crop of 1892-93 will fall far short of those of recent years.

The better feeling has had a sharp effect on the markets. Local prices are a little higher, with an upward tendency. Liverpool markets have advanced, and Chicago shows a remarkable improvement in May figures. The reason of this advance movement, however, is found largely in the great corner in May wheat. Bulls control the market, and the bears have suffered severe losses. It is claimed that the noted plunger, Ed. Partridge, who has been operating on the bear side, lost several million dollars. May wheat in Chicago this morning went up to 90 cents, but afterward receded.

The small feeling of activity that recently developed in barley has eased up, and the market has been quiet during the week. Shipping demand has fallen off, and this circumstance has been of influence in depressing prices. Buyers are in stronger control than they were a week since. But there have been no material changes in general conditions.

Improvement is to be noted in oats, and sales are occasionally made at an advance over recent quotations. Strictly choice feed and milling oats are in better demand. It is likely that present prices will be pretty evenly maintained until the new yield.

Government Report for April.

The April report of the Department of Agriculture makes the average condition of winter wheat on the 1st of April 77.4 against 81.2 last year, and that of rye 85.7.

The averages of the principal wheat States are: Ohio 87, Michigan 74, Indiana 82, Illinois 72, Missouri 86, Kansas 82. The average of these six States is 74.2 against 77 in April, 1892. It is 83 in New York, 87 in Pennsylvania, 89 in Maryland, 87 in Virginia; the Southern States ranging from 83 in Tennessee to 100 in Texas. The Pacific States show a favorable condition, with the exception of California, where too much rain is reported. Seeding is late in the Ohio and Mississippi valleys, because of the widely prevalent drought, causing poor condition of soil and retarding germination, and in some cases wholly preventing the same, as in Kansas, where the reports show a total failure.

Over considerable areas in the Atlantic, Middle, Southern and Pacific States, seeding conditions are favorable. Wheat planted in winter in the main wheat producing States is in a low state of vitality, caused by persistent drought and early cold weather, except in California, where excessive rains produced similar effects. No damage from the Hessian fly is noted in parts of the States of Ohio, Michigan, Indiana and Illinois.

Snow covering has been general throughout the Eastern, Middle and Northwestern States, but notwithstanding, the reports do not show much abatement from the benefits of protection thus afforded, because of the excessive cold of the winter and high winds, alternate thawing and freezing in the latter end of the month of February and through March and April.

The Crops of California.

The reports from the grain-growing sections in California are of a fairly satisfactory character. With the exception of some of the northern and central counties, where the rain has been so excessive as to prevent work in the fields, and of those sections which have been overflooded, the almost unanimous report is that grain is better than it has been for years, and with average fair weather the crops will be abundant.

Generally speaking, the reports indicate a material shortage of the wheat production in northern California, while there will be a very heavy excess in the San Joaquin valley and the south. Abundant rains during the latter part of the winter season caused floods that overflowed the lowlands, washing out the new-sown grain along the rivers and on bottoms, and continuing so assiduously as to prevent rescuing. On the contrary, these same rains have been a godsend to upland crops. The San Joaquin valley and southern California usually have too little rain.

A fair estimate of this year's yield is 38,000,000 bushels, against 39,000,000 for 1892, and 36,500,000 for 1891.

The stock of grain carried over into the new cereal year July 1st, will be somewhat in excess of last year, because of the falling off of exports up to April 1st. The total export movement for the nine months beginning July 1st was 9,000,000 cents, against 12,000,000 cents for the same period the previous

year. The combined wheat and flour exports for the same period were 12,000,000 cents, against 15,000,000 cents for the preceding year.

The stocks of wheat on hand April 1st are conservatively estimated at 4,500,000 cents greater than at the same time a year since, the export movement since January 1st having been 30 per cent less. The aggregate stocks of wheat on hand December 1, 1892, were 12,000,000 cents, against 10,000,000 cents for 1891.

The barley crop for California will probably be about the average.

Prunes are expected to show an unprecedented yield, largely owing to the increased acreage. Some estimates place the excess over 1892 at 9,000,000 pounds of dried product.

The hop acreage is being slightly increased.

Wool will be average clip.

About one-half the orange crop is yet unmarketed. The total yield has been from 6,000 to 7,000 carloads.

The fruit crop everywhere seems to be good, with the exception of apricots, of which a small yield is predicted.

The outlook as a whole is good, and it is hoped that the weather from this time will be of such a character that the foreshadowings will be more than realized.

Oranges.

No improvement is to be noticed in the orange market, either generally or locally. About one-half the Southern California crop has been marketed, and the chances now seem favorable for a fraction of the remainder finding no market at all. The same general influences will no doubt prevail till the end of the season; but a number of growers say they will allow their fruit to rot on the trees rather than pursue present unsatisfactory methods of marketing. The principal cry is raised against auction sales of fruit in the East, which have resulted disastrously.

There is still a very large amount of fruit on the trees, and the navel is not improving in quality. In fact, many of them are becoming puffy and are dropping. It will be impossible to avoid the loss of a large quantity of fruit, which might have been avoided, to a great extent, had the market been met by growers earlier in the season.

The experiment of sending oranges East in bulk, without boxing or wrapping, is being tried, a carload being sent from Azusa to St. Louis. They are reported to have arrived in good condition. It is probably too early yet to decide whether this method of shipment can be successfully carried on as a regular business.

The southern California growers seem to have started out in the right manner to organize. Briefly stated, the plan is for growers in a locality to pool their issues and pack the fruit under a single brand. It is sold on the co-operative plan, f. o. b., and the proceeds divided in proportion to the quantity of fruit of each kind supplied by the members. Several organizations of this description combine, the managers meeting each day for consultation and having access to all books, telegrams, etc.

Ultimately this might lead to a general union of all organizations in southern California. Meantime the object aimed at is to do away with indiscriminate shipments and cutting against each other by neighbors.

Locally orange shipments have been in excess of requirements. The market rules weak, and prices of different consignments vary greatly according to quality.

Dried Fruits.

A local authority says as to dried fruits: "There is practically no change in the dried fruit market and prices rule about the same as they did last week. The Eastern market has not advanced materially in any particular line. Apricots are the strongest fruit on the list and stocks are light. Peaches are in heavier supply than any other line, but at present prices dealers are of the opinion that stocks will clean up. Raisins are quiet, but with the increased trade which is expected when the interior roads get in good condition a reaction will probably set in and prices be advanced."

"Evaporated apples are stronger than they were last week, and while no material advance is looked for, the market will probably clean up before the new crop comes in. There is not more than enough fruit left on the Coast, it is claimed, to supply the home demand, and the outlook is that we shall go into the fall trade with old stocks practically exhausted."

Wool.

Christy & Wise write as follows relative to the condition of the local wool market: "Shipments from interior points have been quite liberal and there are several hundred thousand pounds of year's growth wool in warehouses offered for sale. Short wools have arrived in much smaller quantities, and up to date very few of the foothill and middle county wools have been received by the merchants. Trade has been fairly active and the bulk of the transactions have been confined to year's staple wool at prices ranging from 12@13½¢ for good to choice grades. Heavier descriptions of similar wools are not at present in strong demand, and, of course, will bring relatively lower figures. The present week will market considerable short wool and trade will be more general in that direction and the market on a quotable basis for the six months' clip. Nevada wools have been selling freely at satisfactory prices and it might be said that present conditions promise an active and steady trade during the spring."

The weekly report of Thomas Denigan, Sons & Co. is as follows: "There is considerable inquiry for choice shipping grades of short wool, of which the quantity reaching here is limited. The poor descriptions of both long and short are neglected. The scourers are taking good year's wool, but they decline entertaining poor shrinky parcels at any price." Reported sales of 70,000 pounds of six to seven months' growth at 12@15¢; 60,000 pounds year's fleece, private.

Vegetables.

The feature of note in the vegetable market during the week has been the sky rocket advance in potatoes. Supplies last week were very much less than sufficient to meet local demands, and in consequence there was a rise all along the line. Oregon Burbanks selling as high as \$2.20; but the bullish feeling has been allayed somewhat and prices are restored to nearer a normal figure. The market is

still very firm, however, there being solid reasons for high prices. The new yield has been shortened by rain and flood, and old supplies are light. As a matter of fact, no old potatoes are coming in from local points. Oregon is almost the sole resource, and supplies in that State have been heavily drawn on. Attracted by high prices, there have been shipments from Salt Lake, but it is not likely they will be very extensive, because of heavy freight charges. The market just at present is a little unsteady, and will probably fluctuate considerably, owing to uncertainty about receipts; but it is not likely that there will soon be a permanent reduction in figures.

Green peas, which have been poor in quality, are better, and the demand is improved. Rhubarb has come in freely, and prices are weaker. Supplies of asparagus are quite large. The tendency of values in all vegetables is of course downward.

Butter, Cheese and Eggs.

No material changes are to be discovered in butter, except that the tone of the market gives signs of improvement. Dealers have begun to pack, and the effect will certainly be an advance in prices as soon as stocks are at all decreased. The local demand is good.

Cheese is arriving freely. Buyers are in no hurry to make purchases, as they think prices will be lower.

Eggs show material improvement, and quotations have been advanced. A few Eastern are arriving.

Provisions.

The Eastern market for pork products has again developed a stronger tendency. The persistent assaults of packers had the effect of reducing prices materially from the maximum recently attained, but the actual conditions are so unprecedented that the bears could not continue to be successful. The Cincinnati Price Current says:

"The aggregate number of hogs packed in the West the past winter, as shown by full final returns, is 4,633,000, the decrease being 3,128,000 compared with last year. The deficiency thus shown is without precedent. The average weight of hogs has fallen somewhat below general expectations, being 91 pounds lighter than last year. The decrease in yield of lard is 3.03 pounds per hog. The increased average cost of hogs is \$2.53 per 100 pounds. There was a very marked increase from the earlier portion of the season to the later portion."

It will thus be seen that an astonishing decrease has taken place in the pack. Receipts at Chicago continue at a minimum. Locally, conditions are altogether unchanged.

Poultry.

The poultry market discloses only slight changes from week to week. Prices now range higher than a week since, but they vary from day to day according to receipts. The general situation is wholly in favor of sellers.

Miscellaneous.

Strawberries sell at a very wide range. The quality varies greatly. No stable quotation can be given. Offerings of apples are fairly liberal, with good demand.

There is no change to note in the general features of the hay market. Choice wheat hay keeps firm in price under moderate offerings, while about everything else shows easy tone, being in good supply.

Onions are steady.

Nothing of interest is to be noted in hops. Soft-shell almonds and walnuts continue to show firmness in price, not being plentiful. Other kinds are in good supply. Trade is wholly of light jobbing character.

Beef is firm, and the demand shows improvement. There was an advance of figures during the week, but to-day former quotations obtain. The tendency is upward. Mutton, lamb and pork are cheaper.

Bran has gone up 50 cents per ton, and middlings are firmer.

Grain Futures.

Liverpool.

The following are the closing prices paid for wheat options per cbl. for the past week:

	Apr. 12.	Apr. 13.	Apr. 14.	Apr. 15.	Apr. 16.	Apr. 17.	Apr. 18.
Thursday.....	56½ d	56½ d	56½ d	56½ d	56½ d	56½ d	56½ d
Friday.....	56½ d	56½ d	56½ d	56½ d	56½ d	56½ d	56½ d
Saturday.....	56½ d	56½ d	56½ d	56½ d	56½ d	56½ d	56½ d
Sunday.....	56½ d	56½ d	56½ d	56½ d	56½ d	56½ d	56½ d
Monday.....	56½ d	56½ d	56½ d	56½ d	56½ d	56½ d	56½ d
Tuesday.....	56½ d	56½ d	56½ d	56½ d	56½ d	56½ d	56½ d

The following are the prices for California cargoes for off coast, nearly due and prompt shipments for the past week:

	O. O.	P. S.	N. D.	Market for P. S.
Thursday.....	29½ d	30½ d	29 d	Improving
Friday.....	29½ d	30½ d	29 d	Steady
Saturday.....	29½ d	30½ d	29 d	Firm
Sunday.....	29½ d	30½ d	29 d	Firm
Monday.....	29½ d	30½ d	29 d	Steady
Tuesday.....	29½ d	30½ d	29 d	Steady

To-day's cablegram is as follows: LIVERPOOL, April 12.—Wheat—Less disposition to buy. California spot lots, 6s; off c. ast, 30½d; just shipped, 31s; nearly due, 31½d; cargoes off coast, quiet; on passage, quiet but firm; Mark Lane wheat, firmer and held higher; French country markets, quiet but steady; weather in England, cooler and fine.

Eastern Markets.

The following shows the closing prices per bushel of wheat for the past week at

New York.

	Apr. 12.	Apr. 13.	Apr. 14.	Apr. 15.	Apr. 16.	Apr. 17.	Apr. 18.
Thursday.....	74½	74½	74½	74½	74½	74½	74½
Friday.....	74½	74½	74½	74½	74½	74½	74½
Saturday.....	74½	74½	74½	74½	74½	74½	74½
Sunday.....	74½	74½	74½	74½	74½	74½	74½
Monday.....	74½	74½	74½	74½	74½	74½	74½
Tuesday.....	74½	74½	74½	74½	74½	74½	74½

The following is to-day's telegram—per bushel: NEW YORK, April 12.—Wheat—77½¢ for May; 78½¢ for June and 79½¢ for July.

Chicago.

	Apr. 12.	Apr. 13.	Apr. 14.	Apr. 15.	Apr. 16.	Apr. 17.	Apr. 18.
Thursday.....	74½	74½	74½	74½	74½	74½	74½
Friday.....	74½	74½	74½	74½	74½	74½	74½
Saturday.....	74½	74½	74½	74½	74½	74½	74½
Sunday.....	74½	74½	74½	74½	74½	74½	74½
Monday.....	74½	74½	74½	74½	74½	74½	74½
Tuesday.....	74½	74½	74½	74½	74½	74½	74½

The following is to-day's telegram—per bushel: CHICAGO, April 12.—Wheat—85½¢ for May; 75½¢ for July and 75½¢ for September.

WHEAT.

	March	May	July
Thursday, highest.....	\$1.30	\$1.26	\$1.26
" lowest.....	1.26	1.25	1.25
Friday, highest.....	1.30	1.26	1.26
" lowest.....	1.26	1.25	1.25
Saturday, highest.....	1.30	1.26	1.26
" lowest.....	1.26	1.25	1.25
Monday, highest.....	1.30	1.26	1.26
" lowest.....	1.26	1.25	1.25
Tuesday, highest.....	1.30	1.26	1.26
" lowest.....	1.26	1.25	1.25

The following are to-day's recorded sales on Call: Wheat—Morning—Informal Session—May, 100 tons, \$1.27; 200, \$1.27; 100, \$1.27; 100, \$1.27. Regular Session—May, 100 tons, \$1.33; 300, \$1.33; 300, \$1.33. Buyer's call. Afternoon—No sales.

tons, \$1.27. December, 100 tons, \$1.33; 300, \$1.33; 300, \$1.33. Buyer's call. Afternoon—May, 500 tons, \$1.27; 400, \$1.27; 100 tons, \$1.27. December, 100 tons, \$1.33; 300, \$1.33; 300, \$1.33. Buyer's call. Afternoon—No sales.

BARLEY.

	March	May
Thursday, highest.....	84½	86½
" lowest.....	84½	86½
Friday, highest.....	84½	86½
" lowest.....	84½	86½
Saturday, highest.....	84½	86½
" lowest.....	84½	86½
Monday, highest.....	84½	86½
" lowest.....	84½	86½
Tuesday, highest.....	84½	86½
" lowest.....	84½	86½

*Brewing. The following are to-day's recorded sales on Call: Barley—Reg. lar—December 100 tons, 88c; 500, 87c. May, 100 tons 85c. Seller 1893, new, 500 tons, 84c; 300, 84c. Afternoon—No sales.

Markets by Telegraph.

California Products and Prices.

NEW YORK, April 9.—In canned fruits there are no indications of immediate activity. All the prices are weak. Southern standard peaches have sold at \$1.25, a few California at \$1.55; apricots are quoted at \$1.30 and pears at \$1.60.

Prunes—Steady with light sale; forties, 13c; fifties, 12c; sixties, 11½c; seventies, 11c; few small are left.

Peel peaches—Holders are anxious to close out; 450 bags sold at 9½c; Chicago is offering here at 10½c.

Raisins—During the week Two Crown California sold on the wharf at 4½c; Three Crown, 5c. The best bid was 5½c, at which price they will be probably swept into the pool, as receivers cannot break up lots profitably while our local syndicate humors buyers with a shifting scale as soon as new lots appear. For the eight months ending February 25th, the government returns show an increase of 17,000,000 pounds, foreign and coast, over the same time last season.

Apricots continue firm.

Oranges—There are further good reports about the reception of California Naval oranges in England. Part of the late consignments sold at 2s in London, and that the best were auctioned at 19@25 in Liverpool. The shipment kept admirably. Florida is surprised that Californians met such a ready sale. The fact is the mingling of russets in the Florida venture this season was ill-advised. It was a long time before this country accepted them freely.

Wool—New York had only scattering sales of domestic, 229,000 pounds, but sold full lines of foreign, 1,020,000 pounds, including 600,000 China, 150,000 Donkio and 150,000 Cape.

Philadelphia is not in a wholesale condition of stock.

Cotton had a light business. The mills are not running out goods as fast as they were and some orders have been revoked. The large clothing trade has been seriously interrupted by controversies with workmen, and this lends something to the present pause in material. The general market sounds no change in recent prices.

Boston had a light business. The mills are not running out goods as fast as they were and some orders have been revoked. The large clothing trade has been seriously interrupted by controversies with workmen, and this lends something to the present pause in material. The general market sounds no change in recent prices.

Boston sold 1,158,500 pounds domestic, including 370,000 Territory, at 15@22c, and 50,000 California spring on private terms; also 393,000 Australian and a small lot of carpet.

Lima beans—The demand is light, quoted at \$2.15@ \$2.20 for spot.

Hops—The feeling is somewhat firmer, but there is no advance. Country markets are strong at 20c for choice, strictly fancy 21c. Spot business shows little volume. The larger brewers are using deliveries upon former contracts. There have been a few straight sales for export, but confidence in this line is no way emboldened as yet. Exports for the week 1,221 bales, and since September 1, 1892, from this port 49,650 bales. Including Pacific for the same period last year, the amount was 46,900 bales. Spot quotations range for best State and Pacific at 21@21½c, common to prime 18@20½c. The stock now is almost exclusively last year's growth.

Visible Supply of Grain.

NEW YORK, April 10.—The visible grain supply is as follows: Wheat, 77,293,000 bushels, a decrease of 362,000; corn, 14,915,000 bushels, an increase of 402,000; oats, 4,370,000 bushels, a decrease of 163,000; rye, 889,000 bushels, a decrease of 86,000; barley, 896,000 bushels, a decrease of 220,000.

British Grain Trade.

LONDON, April 10.—The Mark Lane Express says: In 33 markets there has been 6d improvement in English wheat. In consequence of low values, wheat has been fed to stock. Imports of foreign wheat since harvest amount to 8,968,247 quarters, and imports of flour to 4,173,415 quarters. Both imports of wheat and flour show a decrease. Stocks have all decreased since January.

California Fruits at Chicago.

CHICAGO, April 11.—California Dried Fruits—The trade is quite slow. Jobbers have curtailed their purchases. During the past two months an active business was done. The supposition is that country merchants who were free buyers, have become supplied and are not ordering much at present. Prunes have suffered somewhat from competition with foreign goods of this kind. There were a number of cars of California prunes which had been held for some time that were ordered closed out. And to bring about this result prices had to be shaded, though now the market is said to be steady, only that it rules quiet, for buyers by taking these lots have become pretty well stocked again. Raisins are a trifle weaker. It does not seem possible to hold them up, due to the demand not being equal to the supply. Unpeeled peaches are quoted a little lower and said to be dull. Consumption is light, for they are too high for the masses. Apricots are scarce and steady, though quiet.

Prunes—40 to 50 to the pound, in sacks, per lb., 12½@12½c; 50 to 60, 11½c; 60 to 70, 11c; 70 to 80, 10c; 80 to 90, 10c; 90 to 100, 9½c; 100 to 120, 9c.

Apricots—New, choice to fancy in sacks, per lb., 16@17c; new fair to good, 16@16½c; peaches, peeled, 25-1b boxes, per lb., 22@24c; peeled, in sacks, 20@22c; unpeeled, 11@12c; nectarines, red, in sacks, per lb., 11@12c; white, 12@13c.

Oranges—There was a fair demand for sound oranges. For either California or Florida prices held about steady. Choice held at about former prices. Specked and common. Pacific Coast stock has to be discounted. Some culls are being daily sold at auction. Prices from store for sound fruit are quoted as follows: California oranges, sound—seedlings, 12s to 21s, \$1.75@2.15; 250 to 300, common smutty, \$1.25@1.50; Seeding Riverside, 12s to 21s, \$2@2.25; 250 to 300, \$1.90; unsound 75c@1.50; Navel, 200 to 216, \$2.50@2.75; 95 to 176, \$2.75@3; fancy to extra, \$3@3.50.

Chicago Wheat Markets.

and a rally of 2 1/2c, closing steady at 3 1/2c higher than yesterday. July opened 1 1/2c higher; receded 1 1/2c; rallied 1/2c and so closed. Receipts, 168,000 bushels; shipments, 24,000. At the close of the market wheat was steady.

General Produce.

Extra choice in good packages fetch an advance on top quotations, while very poor grades sell less than the lower quotations. APRIL 12, 1893.

BEANS AND PEAS.		Do, do very poor	
Bayo, cl.	2 97 @ 3 00	and shirky.	9 @ 11c
Buckeye	2 75 @ 3 00	Standard Calc Grain.	Spot.
Red	2 75 @ 3 00	Spot.	6 1/2 @ 6 1/2c
Pink	2 91 @ 3 00	June & July delivery	6 1/2 @ 15c
Small White	2 85 @ 3 00	Potatoes, gunnies	14 @ 30
Large White	2 70 @ 3 00	Wool, 3 1/2 lb.	30 @ 30
Lima	10 @ 1 65	Wool, 4 lb.	38 @ 30
Fid Peas, blk eye	2 00 @ 2 25	1892, fair.	15 @ 15
Do green.	2 00 @ 2 25	Good.	17 @ 17
Split.	4 50 @ 5 50	Choice.	18 @ 18
BUTTER.		FLOUR.	
Cal., poor to	15 @ 15	Extra, city mills	3 90 @ 3 90
fair, lb.	18 @ 18	Do country m'ls.	3 90 @ 3 90
Do g'd to choice	20 @ 20	Superfine.	2 50 @ 3 00
Do Giltedged.	20 @ 21	NUTS—JOBBER.	
Do Creamery.	20 @ 21	Walnuts, hard	6 @ 8
Do do Giltedged.	23 @ 23	shell, Cal. B.	13 @ 12
Eastern, ladies.	15 @ 18	Do soft shell.	10 @ 12
Cal. Pickled.	15 @ 18	Do hard shell.	12 @ 13 1/2
Cal. Keg.	15 @ 18	Almonds, affahl	12 @ 13 1/2
Eastern Cherry	19 @ 20	Paper shell.	13 @ 15
CHEESE.		Hard shell.	7 @ 8
Cal. choice	11 @ 12	Brazil.	10 @ 10
cream.	11 @ 12	Pecans, small.	18 @ 18
Do fair to good.	10 @ 11	Do large.	34 @ 34
Do Giltedged.	13 @ 13	Peanuts.	10 @ 12
Do Skim.	8 @ 8	Filberts.	7 @ 8
Young America	11 1/2 @ 12 1/2	Hickory.	8 @ 10
EGGS.		Chestnuts.	8 @ 10
Cal. "as is," doz	— @ —	ONIONS.	
Do shaly.	10 @ 10	Stiverskiss.	2 00 @ 2 25
Do candled.	20 @ 20	POTATOES.	
Do choice.	20 @ 20	River Reds.	1 25 @ 1 40
Do fresh laid.	— @ 20	Early Rose, old.	1 25 @ 1 40
Do do & d white	— @ 19	Peerless.	1 25 @ 1 75
Do selected.	— @ 19	Do do Oregon.	1 50 @ 2 00
Outside prices for selected		Sweet.	1 50 @ 1 75
large eggs and inside prices		Oregon Burbank	1 50 @ 1 75
for mixed sizes—small eggs		Extra choice sell for more	
are hard to sell.		money.	
FEED.		POULTRY.	
Bran, ton.	15 50 @ 16 00	Hens, doz.	7 00 @ 8 00
Feedmeal.	25 00 @ 26 00	Roosters, old.	6 50 @ 7 00
G'd Barley.	20 00 @ 21 00	Do young.	7 50 @ 9 00
Middlings.	19 50 @ 20 00	Broilers, small.	4 50 @ 5 00
Oil Cake Meal.	— @ 35 00	Do large.	6 00 @ 7 00
HAY.		Fryers.	6 00 @ 7 50
Compressed.	7 00 @ 10 00	Ducks.	7 00 @ 7 50
Wheat, per ton.	8 00 @ 8 00	Do large.	8 00 @ 9 50
Do choice.	— @ 12 00	Geese, pair.	2 50 @ 2 75
Wheat and oats	7 00 @ 10 00	Turkeys, gob's.	20 @ 21
Wild Oats.	7 00 @ 8 00	Turkeys, hens.	20 @ 21
Cultivated do.	6 00 @ 9 00	Do dressed.	20 @ 22
Barley.	7 00 @ 8 50	All kinds of poultry, if poor	
Alfalfa.	8 00 @ 10 50	or small, sell at less than	
Clover.	7 00 @ 9 00	quoted; if large and in good	
Straw, bale.	35 @ 50	condition, they sell for more	
GRAIN, ETC.		than quoted.	
Barley, feed, cl.	— @ 80	Manhattan Egg	10 @ 10
Do good.	82 @ 82	Food (Red Ball	1 02 @ 1 02
Do choice.	85 @ 87 1/2	Brand) in 100-	
Do brewing.	92 @ 1 02 1/2	lb. Cabbinets.	— @ 11 50
Do Ohevalier.	90 @ 90	PROVISIONS.	
Do do Giltedged.	1 15 @ 1 15	Cal. bacon.	— @ 13
Buckwheat.	1 75 @ 2 00	heavy, per lb.	13 @ 14
Corn, white.	1 35 @ 1 07 1/2	Medium.	13 @ 14
Yellow, large.	1 13 1/2 @ 1 15	Light.	14 1/2 @ 16
Do small.	1 12 1/2 @ 1 15	Lard.	39 @ 14
Oats, milling.	1 40 @ 1 50	Sal sm'd beef.	10 @ 10
Feed, choice.	1 40 @ 1 45	Hamp, Cal.	14 1/2 @ 15 1/2
Do good.	1 3 1/2 @ 1 3 1/2	Do Eastern.	14 1/2 @ 15 1/2
Do fair.	1 3 1/2 @ 1 3 1/2	SEEDS.	
Do common.	1 25 @ 1 25	Alfalfa.	10 @ 10 1/2
Surprise.	1 50 @ 1 50	Clover, Red.	15 @ 15
Black feed.	1 02 1/2 @ 1 12 1/2	White.	30 @ 30
Gray.	1 25 @ 1 30	Heaped.	24 @ 24
Rye.	1 10 @ 1 13	Hemp.	4 1/2 @ 5 1/2
Wheat, milling	— @ 1 30	Do brown.	5 @ 5 1/2
Giltedged.	1 30 @ 1 30	HONEY—1892 Crop.	
Shipping, choice	1 25 @ 1 25	White comb.	9 1/2 @ 12 1/2
Off Grades.	1 05 @ 1 12 1/2	Do do 1-h frame	11 1/2 @ 13 1/2
Sonora.	1 20 @ 1 30	White extracted	8 @ 8 1/2
WOOL.		Amber do.	7 @ 7
Nevada, per lb.	16 @ 18	Dark do.	6 1/2 @ 6 1/2
San Joaquin and		Do Short Wools.	12 @ 15
Southern.			
year's staple.	10 @ 13		
Do Short Wools.	12 @ 15		

Fruits and Vegetables.

Choices selected, in good packages, fetch an advance on the quotations, while very poor grades sell less than the lower quotations. APRIL 12, 1893.

Limes, Mex.	4 00 @ 4 50	Parsnips, cl.	1 00 @ 1 25
Do Cal.	75 @ 1 00	Peppers, dry, lb	5 @ 6
Lemons, box.	2 50 @ 3 75	Turnips, cl.	— @ 60
Do Bitter choice	4 50 @ 5 00	Cabbage, 100 lbs	75 @ 85
Apples.	35 @ 65	Garlic, 10 lb.	3 @ 12
Do Good.	75 @ 1 25	Cauliflower.	40 @ 50
Do Extra choice	1 50 @ 2 00	Celery.	50 @ 60
Persimmons.	50 @ 1 00	Mushrooms.	8 @ 12
Oranges, pr bx		Do, Common.	8 @ 12
Navel, liver de	2 00 @ 2 50	Do, Button.	12 @ 15
Do, Butte Co.	— @ —	Tomatoes, box.	— @ —
Seedling, River de	1 25 @ 1 50	String Beans.	8 @ 12
Do, Fresno.	1 25 @ 1 50	Rhubarb, bx.	75 @ 1 25
Do, Butte Co.	— @ —	Green Peas.	2 @ 4
Extra choice fruit for special		Asparagus, box.	1 @ 2 25
purposes sells at an advance		Cucumbers, doz	75 @ 1 25
on outside quotations		New Potatoes.	24 @ 30
Beets, sk.	— @ 60	Artichokes, doz	50 @ 60
Carrots, sk.	50 @ 60	Eggplant, lb.	15 @ 20
Okra, dry, lb.	12 1/2 @ 12 1/2		

Live Stock.

BEEF.		MUTTON.	
Stall fed.	6 1/2 @ 6 1/2	Wethers.	8 1/2 @ 8 1/2
Grass fed, extra.	6 1/2 @ 6 1/2	Ewes.	8 @ 8
First quality.	6 1/2 @ 6 1/2	Do Spring.	10 @ 11
Second quality.	6 @ 6	Light, 10 lb, cents.	6 1/2 @ 6 1/2
Third quality.	5 1/2 @ 5 1/2	Medium.	7 @ 7
Bulls and thin Cows.	3 @ 3	Heavy.	7 @ 7
VEAL.		Soft.	6 @ 6
Range, heavy.	5 1/2 @ 5 1/2	Feeders.	6 1/2 @ 6 1/2
Do light.	7 @ 7	Steady Bogs.	6 @ 6
Dairy.	7 @ 8	Dressed.	9 1/2 @ 10

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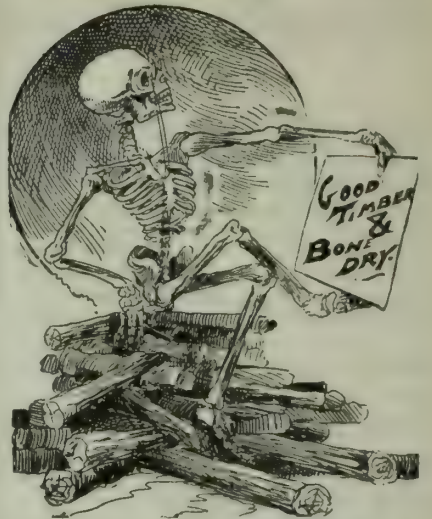
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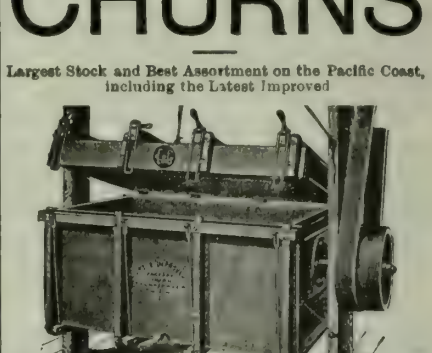
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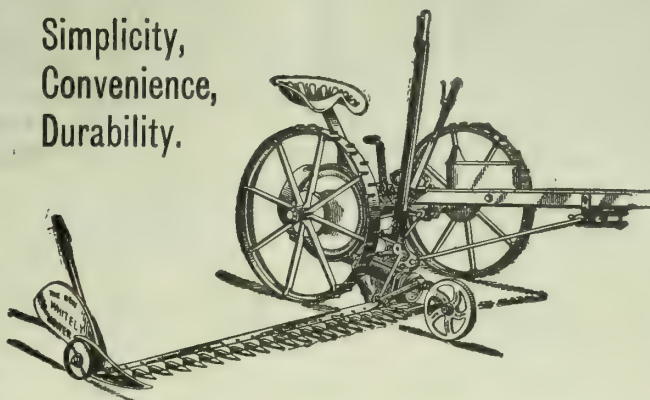
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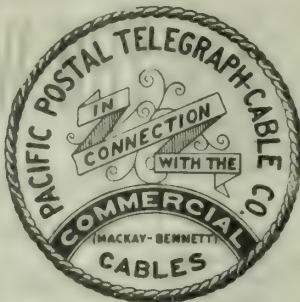
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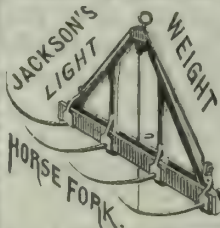
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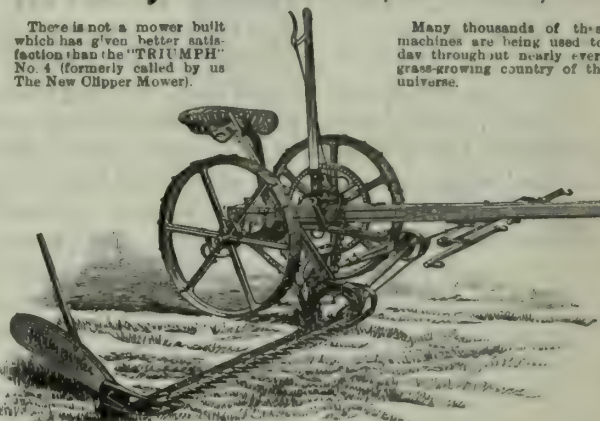
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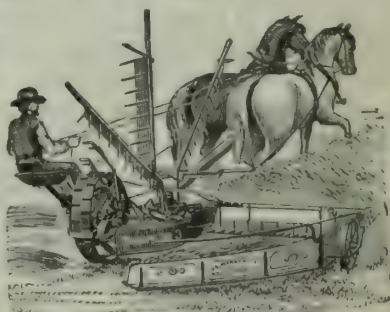
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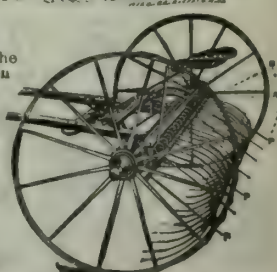
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Vol. XLV. No. 16.

SAN FRANCISCO, SATURDAY, APRIL 22, 1893.

THE DEWEY PUBLISHING CO.
Office, 220 Market St.

The New Ferry House.

The great ferries, which for nearly twenty years have received and landed their passengers at or near the foot of Market street, are the chief connecting links between the metropolis and the outer world. It is true that many gain access to San Francisco by the Golden Gate and by rail along the peninsula, of which the metropolis occupies the northern end, but very few do not use the ferries at some point of their journeying. The ferry conveniences are, then, of interest and importance to the whole population of the Pacific Coast, and not the peculiar property of the thousands of commuters who seek their suburban homes through its well-guarded gateways.

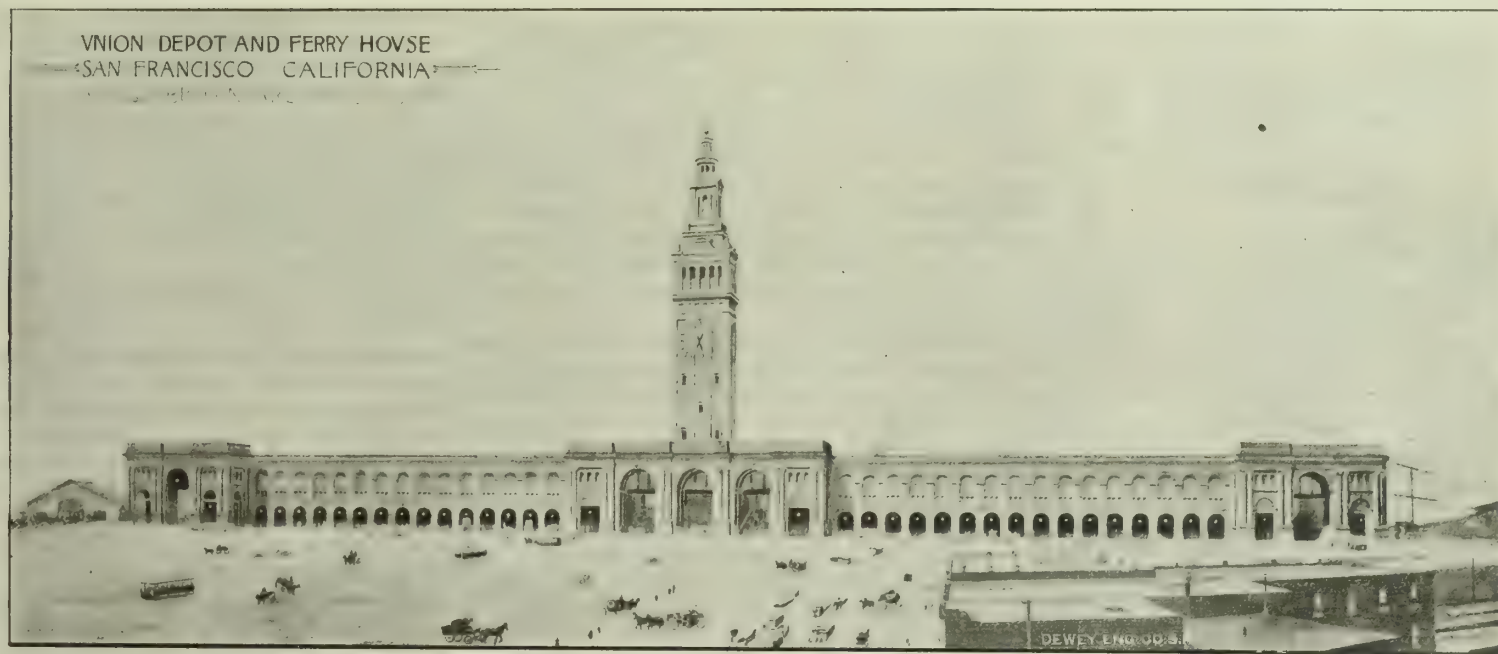
The old aggregation of sheds with barn-like architecture, with interior walls bespangled with baking powder adver-

page. It is designed to be a union ferry house and thus will accommodate the several ferries plying to different points on the bay shores. The outside dimensions will be 850x150 feet, and the general cornice-line will be 50 feet above the base. Three entrances will extend the entire length of the building, and a like number of grand staircases will lead to both of the upper floors. These entrances will have three large arches extending through both stories, and from the central arch in each entrance there will be a staircase to the second floor. The entrances will project 35 feet from the seawall, and thus break the long line of the building. The arches will be one on either side of the main entrance and the third in the center. On each side of the arches will be great Corinthian columns 21 feet in circumference. The whole front of the ground-floor will be crossed by a continuous arcade,

What Has Been Done Can Be Done.

The RURAL PRESS presents this week a very interesting and instructive review of the poultry interests of Sonoma county, and particularly of that portion adjacent to Petaluma. The purpose of this article is twofold: First, to furnish in an adequate manner a statement of the magnitude and local importance of the industry, and second, to illustrate by practical examples the pecuniary profit to be derived from its pursuit.

Results have been surprising. A comfortable income is derived by poultry-raisers on an original investment of less than one thousand dollars, and there is scarcely a farmer or farmer's wife about Petaluma who does not find poultry rearing a source of satisfaction and profit, in addition to regular farm and household pursuits, on an outlay



THE PROPOSED UNION DEPOT AND FERRY-HOUSE, SAN FRANCISCO.

tisements, with ceilings festooned with cobwebs and floors soaked with bilge water has for years been not only a municipal disgrace but an affair unworthy of the State. This has not particularly impressed the commuter. He always enters and leaves the ferry house with horizontal coat-tails, and if his course led him through even a more desolate structure he would not notice the good intentions on the floor nor tarry long enough to note the rise of temperature. The commuter is a straight line, the shortest distance between two points and the media permeated do not count. But to the intrant from the interior of the coast or from the distant world the ferry inconveniences of San Francisco have always been a surprise, a disappointment—an insult.

Probably while San Francisco had a system of wharves which could be fairly counted a disgrace to a salmon cannery it was impractical to do anything decent in ferry landings. As, however, the water front belongs to the State, the city is not chargeable with the long-endured outrage to the traveling and commercial classes. For years the work of sea-wall and pier building has been pursued and the ferry improvement has been finally reached. How this improvement was finally secured and the expenditure involved are discussed at length on another page. In this place we merely mean to call attention to the very creditable structure which is now projected on the general lines shown in the engraving on this

a covered passage-way leading directly to the ticket offices, baggage-rooms, etc.

Surmounting the center of the facade will be a tower of 250 feet. To support this a separate foundation is needed. The tower will not only be the first object to meet the eye of the passenger on the ferry-boat, but will serve as a clock-tower and beacon, visible for many miles. The tower will be made of iron and steel, and will not only be fire-proof, but earthquake-proof as well.

The first floor will be divided into various waiting-rooms, baggage-rooms, postoffice, and express-office. The second floor will in a measure be a duplicate of the first, and will be so constructed to accommodate passengers to or from the upper decks of the ferry-boats. On this floor the refreshment-rooms will be located, and also the offices of the Harbor Commissioners. The principal feature of the second floor is a corridor 50 feet in width, and extending the whole length of the building. The exterior face of the building will be of Roman brick and terra-cotta, with a base of granite. The interior face will be of glazed and enamel bricks.

THE Department of Agriculture has been experimenting with sugar beets from California and finds that our beet "contains a high percentage of sugar." "California," says the report, "is the most promising State in the Union for the manufacture of beet sugar."

that is really little or nothing. In other words, one who wishes to make a specialty of poultry raising can, by procuring a flock of 500 and necessary appliances for less than \$1000, place entire dependence upon the output of his yard as an independent source of income sufficient for any man of modest habits and reasonable requirements; or the housewife can, by a little attention to poultry, supply her own table and her own purse with money sufficient for her small needs, outside of the regular revenue from agriculture or horticulture.

These things are not new, or ought not to be. It has been demonstrated over and over again that there is money in poultry. Of course, intelligence and conscientious attention must be applied, or failure will result. No one can buy a flock, turn the hens loose, let them shift for themselves, lay golden eggs, find buyers, make sales, and turn over the proceeds to the owner with a cluck of satisfaction. Hens lay, and you must do the rest. The business manager is just as important a factor in the poultry yard as the business hen. The only biped, feathered or unfeathered, that has an unquestioned right to loaf in the poultry yard is the rooster. All others must scratch gravel.

POTATOES are not as high as they were, but are still pretty well up. Substantial profits are to be obtained at present prices.

PACIFIC RURAL PRESS.

BY THE DEWEY PUBLISHING CO.

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ANY subscriber sending an inquiry on any subject to the RURAL PRESS, with a postage stamp, will receive a reply, either through the columns of the paper or by personal letter. The answer will be given as promptly as practicable.

ALFRED HOLMAN.....General Manager

San Francisco, April 22, 1893.

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See Advertising Columns.

The Week.

The week has brought the first real good promise of summer, the first intimation that there might be haying and harvest, ripe fruits and shade that would be grateful. Of course the calculating mind has seen these things in the dense growth of field, the bloom of tree and the foliage of the forest, but to the common man no realizing sense of these things comes until there is a certain temper in the air which brings the butterfly from the chrysalis, the rose from the bud, and causes a man to unbutton his vest. Such tokens of summer have come, and it does not lessen their gentle charm to read that in the cyclone belt another dozen towns have sought the level of the plain, and in far-off Zante the great predicted earthquake wrought sad havoc. We have indeed a region of perpetual quiet; according to the daily papers, even Cleveland's lightning does not strike an office-seeker.

THE Mendocino Board of Horticulture finds that the county is infested with the following pests in sufficient numbers to be alarming: San Jose scale, oyster-shell scale, greedy scale, woolly aphid and codlin moth. The board is taking active measures to eradicate the pests and its success is encouraging. Mendocino has no more to fear from insects than other places of the State, but it knows that "eternal vigilance is the price of good fruit."

THE Fortuna cannery, in Humboldt, has already made contracts to sell and deliver a large part of its coming output to a San Francisco firm. The Fortuna cannery is never troubled about a market, for the simple reason that the character of its product is well known. First-class canned fruits do not need brass band and circus-poster attachments to attract attention. The same thing can be said of other fruits.

The Agricultural Aspect of the Sheep.

We had a talk yesterday with Mr. Alexander Bruce, chief inspector of stock of New South Wales, who is en route for the World's Fair. Mr. Bruce has given much attention of late to the means by which the mutton interests of New Zealand have been developed, with the idea of making the New Zealand success valuable to agriculturists of his own colony. Though New South Wales has vast sheep interests already, they are based upon range or pastoral sheep-farming while New Zealand rears sheep upon the agricultural plan, maintaining them upon cultivated farms and upon the produce of fields freshened and enriched by rotation of crops. The result is that New Zealand markets for more sheep from smaller flocks enjoying the notable advantages of early maturity, larger percentage of increase and greatly superior carcasses—all of which are attainable by higher skill in breeding and a more generous system in care and maintenance. Mr. Bruce has urged his fellow-colonists to profit by New Zealand's example and to participate also in the frozen meat shipments to English markets. New Zealand has 23 meat freezing outfits with an aggregate capacity of 12,000 to 13,000 sheep per day, or about 4,000,000 per year, but this grand output is not reached as yet because the supply does not come forward regularly. Three fleets of steamers are engaged in this meat carrying trade.

We found particular interest in Mr. Bruce's statements because the conditions in his own colony, which he desires to improve by emulating New Zealand methods, are in many respects similar to the California sheep situation. New South Wales has much arid land in regions of high temperature and has developed her sheep interest on the pastoral plan in pursuit of the wool product. The Merino breed has thus been almost wholly adopted. Though Merino mutton is good enough for certain purposes it does not meet the best demand, nor do Merino sheep reach acceptable weight soon enough to give the grower ample and quick returns. The cross of the Merino with some of the choice mutton breeds commands very satisfactory results. This is generally known, of course, but new point is given to the knowledge when it is stated that the New Zealand cross-bred carcass brings in London about two-thirds of the value of the prime Scotch mutton, while the Merino mutton from New South Wales sold for only one-third of the Scotch. These prices for frozen meat as compared with the British home-grown, show that the colonial producer of frozen meat works at a sad disadvantage, but he can double his price by using pure mutton-bred bucks on his Merino ewes and this may cover a margin of profit to him, providing he can feed and freeze and ship cheaply enough.

Now we have no idea of advancing the frozen-meat idea for California. Possibly when we get the Nicaragua canal we may compete with Australasia in this line, but not at present. We have, however, on a limited scale, and for nearer markets, much the same changes to make as those Mr. Bruce urges upon New South Wales. We can profitably do much more than we do with sheep, by growing feed for them and following sheep farming rather than sheep ranging. Wherever water and alfalfa can be brought to do their best together, we have a basis for high-class sheep farming than which the world probably has no better. It is also probable that where alfalfa is not available, grasses like rye grass and orchard grass, root crops, equashes, corn and sorghum, etc., can be employed to carry the sheep along well during the dry season, and thus keep them up to their growth. It is, however, of little use to think of improving sheep with mutton motive if they are permitted to approach starvation diet. Sheep will thrive on moderate rations during part of the year, but the mutton sheep should never be rationed like a range rustler.

One thing which Mr. Bruce reports as his observation in New Zealand which is of special importance to us is the comparative results attained in the use of the different mutton breeds for crossing on Merinoes. We prepare the following condensed tabular statement from Mr. Bruce's data:

BREED OF SHEEP.	Ap- titude to Fatten	Health and Vigor	Increase	Form	Flesh	Fleece	Suitability to Cross- ing	Total
Scale of Points.....	7	13	6	12	16	40	6	100
Lincoln.....	6	7	4	11	13	38	5	84
Border Leicester.....	7	10	5	12	13	36	6	88
English Leicester.....	7	8	5	10	8	35	4	77
Romney Marsh.....	5	12	6	11	11	31	5	81
Shropshire.....	6	9	6	12	13	26	3	75
Southdown.....	6	8	5	12	12	23	2	70
Hampshire.....	6	8	5	11	16	24	2	72

With reference to the relative value of these different crosses as compared with an ideal standard in each feature, Mr. Bruce says that the above markings were made upon

sheep kept on good pasture, but not of the best quality. He believes that if the pasture had been of the best quality, all the crosses would stand better, but the Lincoln would in that case come closer to, if it did not take the lead, while again, if the land was only middling, the Lincoln would show less favorably and the Border Leicester, English Leicester, with the Southdown, would be proportionately better, and, if the land were wet, the Romney Marsh sheep would rate higher. The conclusion would then be that the Leicesters and Southdown would be very satisfactory on ordinarily good conditions, taking it for granted that no cross should be wasted on poor conditions. We expected to see the Shropshire rate higher than it does in Mr. Bruce's list.

We thus give our readers a glance at cross-bred sheep in a distant part of the world. We should like to see how the points advanced agree with local experience. We await correspondence in that line.

Mr. Hatch's Address.

For one who has never surrendered himself to approbative contemplation of his own admirable gifts of speech-making, and who in fact thinks he is not able to talk in public at all, Mr. A. T. Hatch, the fruit-grower is able to clothe his well-digested views in singularly clear and satisfactory language. He talked to the State Board of Trade last week and said a number of valuable and interesting things about horticulture in California and the possibility of over-production. Mr. Hatch has long followed horticulture as an exclusive pursuit in California. He is a pioneer of modern methods of fruit-growing, and has taken an active and important part in the later development of the industry. He has studied market conditions as a practical man, and his success amply demonstrates the soundness of his conclusions and the practicality of his methods. He therefore speaks *ex cathedra*.

Mr. Hatch has no timid fears of over production. He has found that the market for California fruit has expanded as production has increased, so that prices obtained to-day are actually better than fifteen years ago, when the output had not reached one-fourth its present dimensions. The experience of the past is the best possible criterion for the future, and Mr. Hatch believes that, within reasonable limits, the market for California fruits will continue to widen, and the consumption be largely increased in places where it is already introduced. Essential factors in bringing about these results are low freight rates, cheap refrigeration, and quick transportation, to say nothing of meritorious fruits.

Mr. Hatch's views of the situation are fully set forth in this issue.

DESPITE the unprofitable experience of last year, the State Raisin Growers' Association has decided to maintain its organization. A meeting was held at Fresno last Saturday, and just one voted for disbandment. The association decided on a very important departure from previous methods, in that proceedings as regards prices fixed shall not be given publicity through newspapers. The raisin growers may further find it wise to follow the example of the Santa Clara Fruit Exchange, which does not attempt to fix unvarying prices for the season before the conditions are understood, and to be adhered to under all circumstances. The Santa Clara growers empower their executive officers to change the prices to suit the demands. Their success is the best testimonial to the prudence and safety of their methods.

REPORTS from the East are to the effect that the fruit crop of the greater part of six States was ruined by frost April 14th. The fruit only which blossoms before its first leaves are fully out was hurt, including pears, apples and peaches. The States that suffered were Missouri, north of the Ozark mountains, Illinois, Indiana, half of Ohio, northwest Pennsylvania and northern New York. The fruit in the Northern States, where there was much less warm weather, was not as far in bloom as in Missouri and the more southerly States, and therefore suffered less. The Olden fruit farm, in Howen county, of about 3200 acres, probably escaped through being south of the frost line. Strawberries were not sufficiently matured to be hurt much by frost, but they will be held back materially by the cold.

THE home market of the United States is said to demand yearly supplies, as follows:

For eggs.....	\$ 208,000,000
For butter.....	416,000,000
For meat.....	728,000,000

A total of.....\$1,352,000,000

And yet the clarion yowl of overproduction is raised because in California an infinitesimal fraction of the United States population manifest special activity in the two first lines.

From an Independent Standpoint.

The American protectorate over the Hawaiian islands has been withdrawn and the stars and stripes have been hauled down from the government building at Honolulu. The marines from the cruiser Boston, who have been doing military duty under the authority of the island provisional government, have returned to their ship and Hawaii is again in the hands of the Hawaiians. These changes were brought about on the 1st day of April by direction of Commissioner Blount, acting under direct instructions from President Cleveland. Mr. Blount is still in Hawaii investigating the causes which led up to the recent revolution, and when he will return and what the policy of our government will be, no man knoweth.

The course of Mr. Cleveland in this matter amounts practically to the surrender of our option on the islands, and is, in our judgment, a very grave mistake. It will be some months yet before the question of annexation can be finally determined, and in the meanwhile no possible harm could come of allowing our flag to protect the revolutionized realm from dissension within and from foes without. This could have been accomplished without trouble and without cost by leaving matters to rest where they stood when Mr. Cleveland came into office. But now, having hauled down our flag, we are in no position to prevent another nation from establishing a protectorate dangerous to American interests, or to maintain order should trouble arise among the island factions.

Mr. Cleveland's position seems to be that it would be unfair to annex Hawaii upon the invitation of a revolutionary clique and without the approval of a majority of its people; and that to treat with a people under "military protection" would be like dealing with a captive bound and prostrate. In this position he is entirely right, and there can be no question about the propriety of withdrawing our armed forces before the time of settlement. But that time is still remote, and, in our judgment, the President should have waited till measures were under way to ascertain the will of the Hawaiian people. He should not arbitrarily have made changes whose only effect can be to sacrifice an advantage on our part and leave the islands for a term of several months exposed both to domestic and foreign dangers.

Mr. Cleveland's policy in this Hawaiian matter has from the very beginning been subject to grave criticism. First, he overturned a negotiation almost completed; next, he sent an unofficial commissioner with authority above that of the regularly authorized minister, and third, he has, by the lowering of our flag and the withdrawal of our armed forces, given away an advantage of position—all this upon his own motion and by his own authority. If the Senate had not been in session this might have been well enough; but the Senate has been in session, and the President should not have taken such radical courses without inviting its judgment. The Senate is, with the President, charged with the conduct of our foreign affairs, and the President does very wrong to proceed arbitrarily and without advice from the representatives of the people to the adjustment of grave international affairs. There is an unpleasant smell of dictatorship about the withdrawal of the annexation treaty, the Blount mission and the hauling down of our flag. Matters of this sort are related to the interest of the people and they have the right to be consulted (through their agents in Congress) about the ways and means of their disposal. We have so good an opinion of Mr. Cleveland, generally speaking, that we hesitate to attribute to him motives other than legitimate and rightful; but it certainly looks as if, in this Hawaiian matter, he were bent upon undoing the work of the Harrison administration for mere political effect.

About two years ago, Mr. Wm. Waldorf Astor of New York, came to the conclusion that America was too new, raw and democratic to suit his fastidious tastes and moved over to England. There he has bought a ducal castle with a large landed estate, has become the proprietor of a weekly political newspaper and a monthly literary review and is on the lookout for a daily paper. It is reported that he will soon discard his American citizenship and become a subject of Queen Victoria. Mr. Astor's purpose in buying up a job lot of English journals, it is said, is to "combat radicalism"—or in plain American language to oppose the liberal, progressive, anti-aristocratic tendency which is just now so strong in England, and which promises in time to sweep away the entire system of privilege which prevails in that country. In other words, Mr. Astor proposes to employ his American millions to combat American ideas as they present themselves in England. These facts lead the *Examiner* of this city, a journal which rarely pauses to think about anything, to present a few reflections eminently timely and wise:

There is something a little rasping, under the circumstances,

in the thought that Mr. Astor is going to make such a use of the wealth created by the people of New York. He has never earned one cent of that money, nor did his father or grandfather before him. His family has been a colony of parasites upon the community on Manhattan Island. The people of that community have made the Astor millions, and have turned them over to the Astors for the privilege of living and working on the island. Nine-tenths of those people believe in radicalism as the term is applied in England, and would use their money to propagate that doctrine if they cared to take it from their wives and children to be spent in politics at all. That it should be taken from their families and carried across the ocean to be used in defending a social system they detest and fighting the ideas they believe contain the hope of the world is a wrong that is likely to bear fruit. It will not take many Astors to set people to thinking seriously about the justice of the social system that permits their growth, and when the American people once get to thinking they do not stop at that.

This paragraph is worth reading over two or three times not more for what it says than for what it suggests. There are things in it well worth thinking about. Is it a good social system which allows a man who never did a stroke of productive work in his life to exact toll from those who do work, and to use that toll to combat the ideas and efforts of the workers? We call ourselves free and equal in this republic, but do we not by an absurd respect for an antiquated system of property rights enforce the violation of personal rights more sacred than any mere property rights can possibly be? These are questions well worth reflection, for they involve suggestions of reform which will, in our opinion, have to be accomplished before the liberty and equality which we talk so much about can be complete.

At the last general election, the people of California authorized the San Francisco Harbor Commission to issue bonds in the sum of \$600,000 for the erection of a union railroad and ferry depot on the State's property at the foot of Market street. The natural supposition was that the work was to be accomplished with the fund thus provided. It was upon this presumption that the *RURAL* gave its support to the bond scheme; and it would not have supported it if the commissioners had frankly announced then, as they do now, that the sum to be raised by the bonds is to be only a little more than half of the whole cost of the structure. We question if the project would have received one vote out of every five given for it, if it had been known that the accepted plans called for an expenditure of nearly eleven hundred thousand dollars, not to mention possible deficiencies.

The quibble upon which the commissioners have proceeded in this gross deception of the people, has been *separation in the estimates of the cost of the foundation from the cost of the superstructure*. Upon the building the commissioners propose to expend the six thousand dollars provided by the bond issue; while the cost of the foundation (estimated at \$478,500) is to be paid from the ordinary source of revenue on the city front. This separation of the cost of the "foundation" from the cost of the "building" is unnatural and arbitrary and nothing short of gross and dishonest imposition. By thus reserving the real facts and allowing the public to vote upon a false understanding of conditions, the Harbor Commissioners are practically and morally guilty of falsehood.

There is no sense in expending eleven hundred thousand dollars on a depot at the foot of Market street. A building adapted to answer every purpose and an ornament to the city could be constructed for half the money; and a building thus constructed would be a business proposition. But the structure planned by the commissioners cannot earn two per cent on the investment, and will, therefore, result in a permanent loss of revenue to the State. It is a loss which will have to be charged against dishonest officialism.

Timely Horticultural Topics.

The next regular meeting of the State Horticultural Society will be held at 220 Suiter St., on Friday, April 28th, at 1 o'clock P. M.

Mr. Alexander Crow, quarantine officer of the State Board of Horticulture, will present a paper on "Spraying for Codlin Moth."

Mr. S. J. Holmes, of the State University, will give the results of his researches on "The Effect of Lichens on Fruit Trees."

The subject for general discussion will be "Thinning Fruit," and all are invited to describe methods and benefits.

All interested are invited to attend.

THE entire practicability of electricity in agricultural pursuits is not to be doubted. So far its general introduction has been prevented by the question of expense and unfamiliarity of the ordinary farmer with its management. But it is gaining steadily, and is now in actual use on farms in the United States. The latest instance is that of an electric dairy, opened on the farm of Baron Eichal near Hildburghausen in Germany, where 120 cows are kept. The centrifuge is worked by an electric motor of six-horse power, which is placed on the banks of a river, and is connected with a secondary dynamo of two-horse power. It sets in motion the centrifuge for working the mill, and also works

a threshing machine, two chaff-cutters, a beet-cutter, manure mill, an oilcake-crusher and a circular saw. The current is also used for lighting purposes. The total cost was about \$3250. It is a question of time only when electric appliances will be in common use in California agriculture, horticulture and dairying.

The Great Floral Festival at Santa Barbara.

If flowers beyond description in beauty and beyond measure in profusion; if scenic effects beyond adequate exclamation and visitors beyond the bedding capacity of the city, constitute success in a floral festival, then Santa Barbara scored a notable success last week. The event prospered from beginning to close, and in all directions showed notable devotion, energy and taste in its promoters.

On Tuesday the pavilion show opened, and a local writer says that the interior was transformed into the semblance of a grotto, the rough redwood timbers being draped with gray tree-moss which hung in graceful festoons from the beams, and palm leaves and bamboo appearing in relief against the rich tints of the redwood walls. Occasional clusters of pampas plumes gave a sense of lightness to the decorations, and before the main entrance and in the rear of the hall large square spaces were vaulted with the pale pink draperies, starred with gilt, consisting of breadths of pale tinted stuffs caught at a common center with palm leaves and radiating to wires at the sides.

Exhibitors in the pavilion presented many artistic creations as environment for their display, of cut flowers, foliage and plants. There were individual exhibitors in great numbers and others joined in the general exhibits from the different wards of the city in which they resided. The charming suburban regions of the town were also well represented. Tuesday was the great day in the pavilion and in the evening the scene was one never to be forgotten.

Wednesday was the great street day. Business houses, residences, public buildings, in short, everything architectural which would sustain bloom foliage and design was decorated lavishly and in most instances with great taste and skill. The roadways were filled with gay turnouts, the sidewalks with a delighted throng. Avenues to the city were thronged, steamships and railway had brought in thousands from distant points. Before night it was plain that many could not find lodging in the town and sleeping accommodations had to be sought even as far away as Ventura. Still the throng was content to enjoy the sights and said little of the inconvenience.

Wednesday evening was the great street pageant, the greatest probably ever seen on this coast. The following are some of the notable features: The most dignified affair of the procession was the George Washington coach, modeled strictly after that historical vehicle, and filled with ladies and gentlemen in the stately dress of the Continental period. The coach was covered with gray moss, and covered with festoons of the delicate lilac of the wisteria, contrasting with the shell-pink of the Duchess roses, and the dresses of the ladies were in one of the other of these colors. The coach was drawn by six gray horses.

Another was a gay Spanish market wagon. The foundation was a farm wagon and it was draped in lilac, yellow and white flowers and drawn by four gayly-bedecked white mules. The flower chiefly employed was the brodiaea, or wild onion. The mules were covered with lilac nettings, with fringes and pompons to correspond, embroidered bands and tassels galore. On each side of the wagon were large baskets of eggs, or, rather, egg-shells filled with gold powder, tissue paper and flowers, which were used with effect in the battle. The costumes were faithful representations of the Spanish peasant holiday dress developed in lilac, yellow and white, and the ladies wore antique combs and many genuine old Spanish ornaments.

There was a phaeton completely covered with yellow mustard. The harness was covered with satin of the same color and the reins were yellow ribbons. The young ladies were attired in yellow chiffon over yellow satin, and carried parasols of mustard upon a yellow chiffon foundation.

The "Old woman who lived in a shoe" rode in an immense shoe covered with the most beautiful pink roses, massed closely together, with great flaps covered with pink roses, and an enormous buckle on the instep, and around about it was the beautiful foliage of the silver-leaf tree. The children, a dozen in number, were clad in colors to correspond with the big floral shoe, the little girls in pale pink, their quaint straw bonnets bedecked with pink daisies; the tiny boys in blouses and kilts of sheeny gray-green stuff, with pink ribbons knotted at their throats and green ribbons on their straw hats. This exhibit was entered in the spring-wagon class by Mrs. Spence and took the first prize.

These are only a few of the decorated vehicles, but they will serve to give an idea of the elaborateness of the undertaking. The decorated bicycles formed quite a feature of the street parade. The most striking bicycle exhibit was composed of a double team of safeties, which supported a full-rigged sloop yacht, the sails made of fish netting, embroidered with wild hyacinths, pink roses and wisterias, with the emblem of an anchor of white spotted with hyacinths upon it. The sheets were strings of wild hyacinths. The national pennant floated from the mast, and the name of the craft on a pink verge was "Flora." Anchor and chain of wild hyacinths dropped over one side. The height of mast and sail was sixteen feet, and the skill required to successfully navigate this petty craft may be imagined. The young men were rigged out as pirates in full dress, embroidered caps, knives and cutlasses.

During the progress of the parade there was waged a floral battle in which volleys of blooms were fired from the vehicles. The day was the most notable of the fair.

Thursday there was a floral tournament in which bloom-clad steeds and riders tilted for awards and a dramatic entertainment in the evening. Friday the festival closed with a grand floral ball and the multitude sought rest from excitement in a return to wonted duties and occupations.

How to Put Up Wool.

The subject of improving the methods of preparing wool for market is one which should engage the attention of the wool-grower, now more than before, if wool of domestic growth is to hold its own against the increasing importations of foreign wools. One thing, more than any other, which has caused the buyer to look with so much favor on Australian wools has been the careless and slovenly manner in which domestic fleeces in past years have been prepared for market. The amount of refuse, dirt and extraneous matter frequently found concealed in a single fleece has been simply astonishing to the purchaser, and annoying to the dealer or commission merchant.

It is gratifying to note, however, that in the past year or so there have been evidences of improvement in the methods of putting up wool, due to some extent we believe, to the earnest efforts of the *Wool and Cotton Reporter*, which has agitated the matter for some time. Our wool exhibitions, and the readiness with which the stock exhibited there was taken by manufacturers, has established beyond the possibility of doubt, the fact that consumers will pay decidedly more for wool prepared in accordance with our suggestions.

Supplementary to our efforts of last year, the *Wool and Cotton Reporter* has already begun work this season by giving away circulars relating to the preparing of wool for market, which are now being distributed all over the United States.

Following is a copy of the circular:

PREPARING WOOL FOR MARKET.

The experience of recent years has shown conclusively that American wool growers must pay more attention to the manner in which their wools are prepared for market. The increased importation of foreign wools, in spite of higher duties, has been due in a measure to the superior manner in which these foreign wools are prepared for the inspection of the buyer.

Since the recent election, and with the possibility of lower duties upon wool, the domestic grower must inevitably improve his methods of preparing wool for market. Keep out of the fleeces all dung locks, loose tags, sticks and stuff from the floor of the shearing pen. All of these tags and refuse should be packed separately, as also the bucks' fleeces, and sold on their merits. If dung locks adhere to wool in shearing, either clip them off and throw them away or pack them separately. The grower will get an immediate advantage in price by taking this course as well as keeping out of his fleeces the refuse of the shearing shed.

Many growers still fail to realize the injury to their wools resulting from the use of sisal twine. Sisal costs only five or six cents per pound, but it is weighed with wool costing from twenty to thirty cents per pound, so that the manufacturer has not only to make a reduction in price sufficient to protect himself against loss in weight, but also to guard against the damage to the goods by the sisal fibre.

This unsuitable twine causes a loss all the way from the fleece to the finished garment, which must be sold at a lower price because of the imperfections caused by the fibres of this twine getting into the cloth.

American hemp twine possesses many advantages for use in tying fleeces, and, everything considered—costs, etc.—is, perhaps, to be preferred to any other. It has strength, lightness and a glazed surface, while its cost is very much in its favor.

If dealers in wool and growers' supplies in your neighborhood do not have the twine for sale which we recommend, make them get it for you. If not, send your order to either of the offices of the *Wool and Cotton Reporter*, and we will turn it over to a manufacturer of the twine, who will forward it to you at nineteen cents per pound.

There are about 1600 feet of twine in a pound and allowing a most generous estimate of ten feet to each fleece, the cost per fleece would only be one-eighth of a cent. The Australian wool growers use about five feet to tie each fleece. All the twine required is enough to bind the fleeces so that it can be easily handled in transportation.

Growers are also cautioned against using tar or paint in marking or branding their sheep, as paint and tar locks must be clipped off and thrown away before the wool can be used. Sulphur dips are also to be discouraged, as they make wool hard to scour. In preparing your wools for market, roll up the fleece without the use of a box, keep out the tags, use a small quantity of light twine, and you will take a very important step toward improving the popularity of American wools.

Condition of Farm Animals.

The report of statistician of the Department of Agriculture presents the following as the condition of farm animals in the United States: Horses—Average sanitary condition, 97.5; ratio of losses to the country at large, 1.7 per cent, as against 1.5 per cent last year. Cattle—Average condition, 94.7, as against 93.2 a year ago; losses from all causes, 3.5 per cent. Sheep—Average condition, 94.9, as against 96.3 in 1892; losses from all causes, 4.4 per cent. Swine—Average condition, 96.4, the highest figure for several years, as against 95.2 for 1892. The following is given as the approximate number of these several classes of farm animals in the whole country: Horses, 16,207,000; cattle, 52,378,000; sheep, 47,347,000; swine, 46,095,000.

Wood Ashes for Gum and Woolly Aphis.

TO THE EDITOR:—After losing a number of cherry trees, apparently from oozing gum in the heat of the summer, I determined to try various remedies, and amongst others, about ten gallons of wood ashes dug in around the roots. The tree I thus treated was nearly dead and now, the second season from treatment, I have a perfectly healthy trunk and the tree itself as full of bloom as it could possibly be.

Apple trees infested with woolly aphis (root form) treated in a similar manner are quite free from the pest.

V. HOPE.

Blocksburg, Humboldt Co., April 18.

To Our Readers.

Any reader of the *RURAL PRESS* will do the publisher a favor by sending in a list of his or her neighbors who are not, but who ought to be, regular subscribers of the paper. We will send to all addresses thus furnished sample copies of the *RURAL* free of charge.

To any subscriber of the *RURAL*—or member of his family—who will undertake to act as local agent in the matter of getting new subscriptions, and of collecting from old ones, we will allow liberal cash commissions.

If any subscriber of the *RURAL* will send us three new names with cash for one year in advance (\$2.40 each) his own subscription will be credited one year on our books. Or, if he will send us one new name with payment in advance for one year, we will advance his own subscription four months.

We will gladly communicate with and give further directions to any of our readers who would like to co-operate with us in extending the circle of *RURAL* subscribers. Recent improvements in the paper are turning the attention of the public to it, and the business of bringing in new names is easier than ever before.

He Lassoed a Grizzly Bear.

Saturday last George Kenison, who is in the employ of the cattle department of the Kern County Land Company, was riding in the Coast Range mountains, near Carissa, looking after stock, when he came upon a grizzly bear. When first seen the bear was sitting on its haunches. Kenison made for the animal and got it started down the gulch. He kept behind it until it came out on the Carissa plains; then he raced quickly up to it, fired a shot from his pistol into its back, and while passing threw his lasso over its neck and then straightened out the rope. The horse was greatly frightened and took good care to keep the rope taut, but it was a long-distance fight, as there was about 60 feet of rope between the bear and the horse.

Kenison, however, kept his horse under perfect control. When the bear would clutch his riata he maneuvered with his horse so as to break the bear's hold. He circled around and around with good horsemanship and perfect coolness, all the time keeping the rope tight around the bear's neck, and he actually choked the grizzly to death. J. E. Hunter, who handles the herds for the cattle department, saw the struggle from a distance and put his horse to its speed in order to give any help in his power, but before he could reach the scene of combat the bear lay dead and Kenison had conquered it single-handed. The grizzly weighs 900 pounds. Kenison is a small man of slight frame, and does not weigh over 130 pounds, but he bears the reputation of not knowing what fear is. His horse only weighs about 900. It was Kenison's nerve, coolness and superb horsemanship that enabled him to perform the feat of lassoing and killing a grizzly single-handed.

Earth-Blasting After Planting.

TO THE EDITOR:—I note in your issue of the 15th inst. a very interesting article on "Earth-Blasting for Tree-Planting," page 326. I take the liberty of asking you if this process is applicable to ground wherein trees have been already planted, and are one year old?

Guinda, Cal., April 18, 1893.

W. G. LATIMER.

Blasting has been successfully done by boring and exploding the powder at central points between the rows. If the hardpan is rather a thin layer and is underlaid by gravel or loose rock, this will open ways for the escape of surplus water and thus give the orchard desirable drainage. If the subsoil is hard and not underlaid by a pervious stratum, the benefit from blasting would be slight if any.

Crops In Southern California.

The regular weekly weather bulletin for Southern California states that corn planting has begun, also the first cutting of alfalfa. Barley is vigorous, but it is often short from cold nights. The weather has generally been warm and favorable, bringing out fruit buds rapidly. The hay crop will be rather light in some places. Oranges are moving, but the demand is not so brisk as might be desired. About 60 per cent of the total crop has been shipped. Navels are growing large and are rather puffy. Trees are now in bloom for the next crop.

A Compliment Duly Appreciated.

Petaluma Courier, April 15th:

"Every week since the *PACIFIC RURAL PRESS* has had an editorial page devoted to the discussion of leading current topics 'From an Independent Standpoint,' it is probably, take it one week with another, the most thoughtful and best balanced page of editorial matter published by any journal in the State."

A *PRESS DISPATCH* from Santa Rosa states that citizens there propose to test the validity of the new road law. Acting under instructions from the Board of Supervisors, a citizen commenced the construction of a culvert for drainage of a ditch, and was promptly stopped by a restraining order. The case was to be heard Wednesday.

THE lateness of the season in the gardens has led to the postponement of the spring rose shows. The Oakland show will be held May 10th to 13th, and the State Society's show in the Mechanics' Pavilion in this city will open May 17th and continue through the week.

Gleanings.

THE leather-dealing firms in the United States number 48,096.

THE annual tobacco product of the country is 565,000,000 pounds.

THE Ventura Unit is a cipher. It suspended publication last week.

THE United States produces annually 610,000 tons of butter and cheese.

AN AEROLITE fell at Ossawatimie, Kansas, and knocked the left arm off the statue of John Brown. But his soul goes marching on.

THERE were 5000 carloads of exhibits at the Centennial Exposition, and it is estimated that there will be 10,000 carloads at the World's Fair.

THE Chico cannery has declared a dividend of five per cent., payable May 1st. Results have been encouraging and the cannery is to be enlarged.

A TEHAMA COUNTY CHICKEN has laid an egg $7\frac{1}{2}$ inches lengthwise and $6\frac{1}{4}$ inches crosswise, and the San Francisco press records the feat with boastfulness and satisfaction.

"MY SON," said an old Sonoma county rancher thoughtfully the other evening to his boy, "you can turn that \$12-cow out in the lot and take the blanket off of that \$25-horse and put it on that \$35-bog."

A SPECIAL FROM ANAHEIM says that the red scale is again giving much trouble in the orange orchards there. Fumigation is said to have been carelessly done. Vigorous measures will have to be adopted to keep the pest from spreading.

THE Monterey Agricultural Association has decided to hold its fair the week following the San Jose fair, from October 3d to October 7th. The officers of the association are: J. D. Carr, president; John J. Kelly, secretary; Wm. Vanderhurst, treasurer.

ALL PERSONS slaughtering cattle for their own use, or for sale, are now required by law to keep the hides in their possession ten days after such slaughtering. The hides must be kept in such condition that all marks or brands will be plainly visible.

THE following gentlemen have been recommended to the Governor for directors of Agricultural district No. 40: From Colusa county, D. H. Arnold, P. Peterson and J. McElroy; from Yolo county, L. B. Adams, W. B. Gibson, G. W. Woodard, T. S. Spaulding and J. B. Griffin.

AN exchange deplores the custom of certain young ladies of Yuba City, who address each other by their surnames, as "Hello, Smith!" "Hello, Jones!" Perhaps it is only a mild way the sweet young things have of hinting how objectionable their surnames are, and the great desirability of making a change.

SECTION 29 $\frac{1}{2}$ of the county Government bill confers upon county Boards of Supervisors the right "to make the regulations for the protection of fish and game; when such regulations are made as provided in this section relating to game, the laws of the State for the protection thereof are suspended in such county, and to regulate the size and kinds of nets and seines to be used for fishing."

THE Bear Valley Irrigation Company is now delivering water upon about six thousand acres of land, distributed as follows: Two thousand acres at Alessandro; 1000 at Perris, 2000 at Redlands and 1000 acres at Highlands. The company has contracted to deliver water upon about fifty thousand acres within a few years, 25,000 acres of which is located at Alessandro, 16,000 acres at Perris, 6000 at Redlands and 2500 acres at Highlands and vicinity.

THE attention of the Sutter Farmer has been called to the fact that along the tules and rivers the sportsmen have been in the habit of shooting the large cranes. These birds, owing to their use for destroying gophers and squirrels, are protected by a State law, approved in March, 1889, and any person who kills them or destroys the eggs or nests is guilty of a misdemeanor and subject to a fine of \$50 or \$100, or 50 or 100 days in jail, or by both fine and imprisonment.

THE Humboldt Improving and Canning Company will pay during the coming season, the following prices for fruit: Strawberries, 1st grade, 5 cts. $\frac{1}{2}$ lb; strawberries, 2d grade, 4 $\frac{1}{2}$ cts. $\frac{1}{2}$ lb; raspberries, same prices; blackberries, tame and wild, 4 cts.; currants, 4 cts.; huckleberries, 4 cts.; cherries, white, 4 cts.; cherries, black, 3 cts. The prices are for fruit fit for canning. Such as are only fit for pie fruit, the company does not agree to pay the above prices for.

ARRANGEMENTS are made for the races of the District Fair Association, to take place at Marysville May 5th and 6th. The list, as now arranged, is, for the first day, a half-mile running race and repeat; a trot for two-year-olds colts, two in three; a running race, one mile and repeat, and a wheelmen's race, entrance free. For the second day, a five-mile running race; farmers' race for trotters without a record, two in three; four-minute trotting, and a saddle-horse race free for all.

At a meeting of the Pomological Society of southern California in Ventura, the following officers were elected for the ensuing year: President, N. W. Blanchard, Santa Paula; vice-president, W. E. Collins, Ontario; secretary and treasurer, D. Edson Smith, Santa Ana; pathologist, Prof. Newton B. Pierce; entomologist, D. W. Coquillett. Directors, L. M. Holt, Rioisto, chairman; E. B. Sargent, Riverside; C. M. Heinz, Los Angeles; F. B. Smith, Ventura; Warren Kimball, National City; I. N. Hoag, Redlands; E. S. Thacher, Nordhoff; John S. Calkins, Pomona; P. C. Higgins, Carpinteria; and J. L. Howland, Pomona.

THE following is an Associated Press telegram from San Antonio, Texas: "J. M. Campbell, the most extensive sheep raiser in Texas, lost 23 per cent of his flock during the past twelve months by wolves. Campbell hit upon a novel plan of extermination. He entrapped twelve wolves a month ago and put them up with a dog that was badly affected with mange. The wolves soon caught the disease and are now thoroughly covered with the parasites which produce it. They will be turned loose on the ranch in a few days, and Campbell expects the disease to spread among the wolves so rapidly that there will not be one of them left in Texas in two years."

SECRETARY HOKE SMITH has approved the letter prepared by the Commissioner of the General Land Office, addressed to the Registers and Receivers of the land offices at Visalia, Stockton, and Independence, Cal., directing them to restore to settlement entry or make other proper disposition under the public land laws of the publiclands in their respective districts which were temporarily withdrawn from settlement November 5, 1891, and March 14, 1892, respectively, which are not included in the exterior boundaries of the "Sierra forest reserve" created by the President's proclamation, dated February 14, 1893, under Section 24 of the Act of March, 1891. As the creation of the forest reserve has accomplished the object for which the temporary withdrawal of the said lands was ordered the should be restored to settlement entries, etc.

FOLLOWING is a list of cars of fruit shipped from Vacaville during the season of 1882:

Total shipped to San Francisco and East, green and dried.....	1,548
Total shipped East, green fruit.....	759
Total shipped East, dried fruit.....	594
Total shipped to San Francisco, green fruit.....	165
Total shipped to Benilda, green fruit.....	515
Total shipped to Oakland, green fruit.....	219
Total shipped to Oakland, green fruit.....	50

It is estimated that about 250 carloads of Vaca valley fruit were shipped from Winters and Suisun, says the *Reporter*, which would make the total output of the valley 1793 carloads. If no fruit had been dried, but shipped green, the total would have been about 2450 carloads, with 11 tons to the car. The amount of fruit shipped, dried and green, was 39,446,000 pounds. If the boxes of fruit were placed end to end, a single row would reach a length of 510 miles. If piled up, they would form a column of about 141 miles in height. These 1793 cars of fruit would make a train that would reach from Oakland to a point 20 miles beyond Sacramento.

Poultry in Sonoma County.

An Industry that Has Assumed Great Importance, and Brings In Much Revenue.

One million hens in Sonoma county are actively engaged in an inadequate attempt to supply the demand for poultry products in California. The poultry business has acquired dimensions in that county that may overshadow all other interests. The volume of its poultry products is at this time somewhere in the vicinity of \$1,500,000 per year. The town of Petaluma and vicinity, during the year 1892, supplied to the San Francisco market eggs and poultry of the exact value of \$460,669. This estimate is exclusive of eggs and chickens used for home consumption, for hatching purposes and for distribution in other markets. It is not too much to state that the total value of Petaluma's output during these 12 months was about \$750,000, and the poultry interest has grown so rapidly that for the present year Petaluma will probably ship nearly \$600,000 worth of poultry and eggs to San Francisco, indicating a total output by the poultrymen in that neighborhood of about \$1,000,000. The remainder of Sonoma county will easily sell eggs and fowls of a value of \$500,000, bringing the total up to \$1,500,000.

The shipments by Petaluma consignors to San Francisco during 1892 represent \$460,669—as already stated—divided as follows: \$364,869 for 40,541 cases of eggs, or 1 459 476 dozen, of an average value of 25 cents per dozen, and 4790 coops of fowls, or 19,160 dozen at \$5 a dozen. The figures are compiled from the books of the four shipping agencies at Petaluma, and are exact and indisputable. For purposes of comparison it will be well enough to state what are the average products of Sonoma county in other lines. The annual value of the wheat output is about \$300,000; hay, \$1 500,000; fruit, \$1,000,000; wine, \$500,000; butter and cheese, \$600,000; potatoes, \$75,000; hops, \$250,000; sheep and lambs, \$200,000. It is, therefore, disclosed that the hay product alone is a rival to the poultry interest. But it is not growing so rapidly nor broadening its field of operations to the same extent or in the same manner as poultry, and there is no shadow of doubt that it will be quickly distanced. The fruit industry, it is true, has recently attracted general attention and engaged in its pursuit a very large number of the intelligent agriculturists of the county. It will bear a fair comparison with poultry to the extent that it is growing rapidly and is certain of an important place among the industries of the county. It is now an open question in Sonoma as to which brings the most valuable and substantial returns, and very likely it will be some time before the relative position of either is fixed. But when the maximum output is attained it can pretty safely be predicted that poultry will not be far behind fruit, and very probably it will be ahead. It will take time, however, to determine that question.

The poultrymen of Sonoma county have just begun to understand the importance and appreciate the magnitude of their interests. Learning of the benefits to be derived from co-operation in fruit, they canvassed the matter among themselves and quietly discussed the question as to whether the methods of marketing, successfully applied to the fruit interests, could not be adapted to their own advantage. In consequence, a number of poultrymen around Petaluma recently met and decided to organize on a basis of mutual advantage and protection, and for the purpose of placing their products on the market through identical channels, by intelligent and economical methods, and in the most advantageous manner possible. It was decided, informally, that a legal corporation would probably best attain the end desired, and that an agent should be nominated and an agency established at Petaluma which should direct the marketing of their poultry products and act as purchasing agent for the various feed and other supplies needed in the conduct of the poultry business. Their ideas as to the best methods of placing their products in San Francisco were somewhat indefinite, and it was wisely determined that the matter should be considered carefully, dispassionately, without haste and with a view to the interests of all concerned, including local shipping and commission men. They were convinced that it was possible to reach a market in San Francisco more cheaply than by means of indiscriminate and separate shipments to commission dealers, who, they claim, paid them for their poultry and eggs what they were pleased to give. The assertion was made by the poultrymen that San Francisco commission men secured a larger margin of profit on sales made by them than they were willing to divulge, and really obtained more than the regular commission of five per cent.

The first meeting of poultrymen was informal and it was decided to postpone final action until Saturday, April 15th, at which time about 30 of the leading poultrymen around Petaluma met and received the report of an Executive Committee appointed at the previous meeting. The report was as follows:

To the Poultrymen of Sonoma County:—We, the committee appointed at a meeting of poultrymen held April 8th to determine on a plan of organization for the poultrymen, respectfully submit:

1. That the association be called the Poultrymen's Union of Petaluma.
2. That we incorporate with a capital stock of \$50,000, divided into 200 shares of par value of \$25 each.
3. That we commence business in a regular way by calling in at once ten per cent of the capital stock subscribed and the balance as our needs demand.
4. That our objects are to protect our market and our brands in that market, and to effect a saving on feed by combining our orders for the same; and in order to make this association as nearly mutual as possible we recommend that the stock be placed, as far as practicable, in a pro rata of the amount of poultry kept.
5. That, in our opinion, there is no need of awakening the direct antagonism of any established interest by starting a direct opposition; or, in plainer terms, that we should first try and effect satisfactory arrangements for selling our eggs and poultry and buying our feed with houses already established, and, in accordance there-

with we submit the accompanying by-laws and articles of incorporation.

The report was unanimously accepted by the meeting, over which Mr. C. Nisson presided as chairman, and Mr. John R. Denman acted as secretary. A draft of the proposed by-laws and articles of incorporation was presented. It simply contained the usual provisions for the organization and government of incorporated bodies. The Executive Committee stated it as a part of the plan of the proposed association to secure subscriptions to stock from poultrymen at the rate of one share (\$25) for each 100 hens kept in yards. The proposition seemed to meet with favor by all the poultrymen present, and, when subscription books were opened at the meeting, quite a large block of the stock was subscribed. Poultrymen generally seemed to feel that a cash investment of \$2.50 for the protection of the output of every 100 hens they owned was worth a trial. The average subscription of poultrymen would be from twelve and a half to twenty-five dollars, on a basis of from 500 to 1000 hens owned by each. That is to say, the initial cash investment was \$2.50 per each share of stock, while credit was employed for the remaining \$22.50. Of course, the subscriber renders himself liable for the full amount of his subscription, but it is not expected that it will be found necessary to call in a large per cent. The methods to be employed, the relations to be established, and other necessary arrangements are, as yet, matters for future determination. A committee has been appointed to canvas for stock subscriptions, and when a sufficient amount is secured, the incorporation will be effected, officers elected and operations will begin.

A representative of the RURAL PRESS spent a number of hours last Saturday among the poultrymen of Petaluma. Mr. L. C. Byce, owner of the Petaluma Incubator Co., who is particularly well informed as to the poultry interests of Sonoma county, as well as of the State and nation, gave the representative a vast deal of valuable information.

"Of course," said Mr. Byce, "Sonoma county is largely devoted to the rearing of poultry and the production of eggs, but I do not think we have special advantages of soil, location, experience, or information. Other parts of California are just as well adapted to the poultry business. They have the same pleasant climate, good soil, and comparative freedom from disease. People ought to be just as successful there as the residents of Petaluma and vicinity. The Petaluma poultry district occupies an area about 10 miles long by five or more in width. There is hardly a farmer in this region who does not pay more or less attention to poultry, who has not a full yard of fowls, and who does not derive greater or less income from their output. The breed of fowl almost exclusively favored by our people is Leghorn; in fact, not many of other kinds are to be found. Our experience is that they are steady and prolific layers; they retain good health and are easily kept and managed. The essentials to success in the rearing of poultry, I should say, are the following: 1. Adaptability to the business. 2. Gravelly soil. 3. Sheltered location. And 4. Common sense. Of course these requisites, with the possible exception of gravelly soil, can be applied to almost any other occupation. For gravel we might substitute 'sand,' and do pretty well in any vocation. No one can engage in the business profitably who does not take interest in it or who will not take care of his fowls, secure the best appliances for their convenience, care and comfort, and who will not study the best methods of keeping them free from stress of weather and disease. With the exception of lice, however, we have not found that our poultry are especially susceptible to any disorder or complaint, but our long, dry summers are particularly favorable to the production and multiplication of lice, and especial care should be taken to destroy them and to keep fowls, houses and poultry yards free from them. It can be done, and is done, but it is a matter that will be of much detriment if not properly attended to.

The country west and south of Petaluma is largely taken up in poultry, because it is sandy or gravelly. On the east, however, the lands are low and somewhat damp, and poultry does not thrive, being in those places liable to rheumatism and paralysis."

"How much will it cost to equip a yard properly and to start into the poultry business on a sufficient scale to derive an independent income?"

"If one wants to make a living at the poultry business he should start in with about 500 hens, which will probably cost him about 50 cents apiece or \$250. The expense of incubator, brooders and other appliances, will be about \$500 more, making a total of \$750 as capital. There are a number of poultrymen around Petaluma who keep about 500 hens and who secure therefrom an income that is sufficient to maintain a good sized family. It is estimated that the cost of raising a dozen eggs on the farm is about eight cents. The average hen will lay per year from 10 to 12 dozen eggs, and 500 hens should produce somewhere in the neighborhood of 5000 dozen. The gross income at an average of 25 cents per dozen would, therefore, be \$1250. The net income, at 17 cents per dozen profit, would be \$850. From this estimate I take no account of interest on the investment, or the original cost of the land, or taxes. These figures are not at all chimerical, but have been amply and successfully demonstrated by actual experience."

A number of instances of actual experience by poultrymen around Petaluma were cited by Mr. Byce.

Mr. C. H. Treat, whose poultry ranch is near Petaluma, has furnished the Petaluma Incubator Co. with memorandum of his business for one year, as follows:

Commenced the year with 375 hens, sold and lost 75 hens, had 300 on May 1st. Kept 200 pullets out of 376 chickens hatched. On September 1st had about 500 hens as a total stock.	
Sold 3,723 dozen eggs, averaging 31 1/2 cts.	\$1,170 98
Sold 145 broilers, averaging 42 1/2 cts.	61 35
Sold 200 pullets, averaging 50 cts.	100 00
Total	\$1,332 33
Expenses for feed	400 00
Net profit	\$ 932 33

Another gentleman who lives within five miles of Petaluma gives the figures of what he made from 500 hens during 1891:

Commencing with 500 hens on the 1st of January, 1891.

Sold 4 658 dozen eggs at an average of 30 cents a dozen	\$1,397 40
150 hens sold at \$5.50 a dozen	82 50
18 dozen broilers at \$4.50 a dozen	81 00
Increased flock 100 pullets at \$7 a dozen	60 00

Gross receipts	\$1,607 15
Cost of feed for the year	700 00
Net profit	907 15

Which gives a profit of \$1.80 for each hen.

It will be seen that the cash receipts of these gentlemen have actually exceeded the estimates furnished by Mr. Byce. The average price per dozen received for eggs was more than 25 cents. It is possible that hereafter, owing to the large number of people going into the poultry business, these gentlemen may not be able to do so well with the same number of hens. But there does not seem to be the slightest danger of over-production, and with normal consumption the demand is not at all likely to depreciate. It is stated that something like \$3,000,000 is annually sent out of the State for eggs. Foreign shippers are obliged to pay freights considerably in excess of the cost to California poultry raisers. The tariff on eggs from the East is something like four cents per dozen. The freight per case of eggs from Petaluma to this city is 15 cents, each case containing 36 dozen, or a total freight cost of about 1/2 cent per dozen. The difference in freight charges between Petaluma and the East is therefore 3 1/2 cents. The cost of producing eggs is probably a little greater in California than in the East, but is not, we think, sufficient to overcome our distinct advantage in freight charges.

Mr. C. Nisson, a leading Petaluma poultry breeder, has been doing a little figuring with a view of ascertaining just what is the actual cost of a dozen eggs to the producer. The result he states lucidly as follows:

The cost per dozen eggs for feed	6 1/2 cts.
The cost per dozen eggs in labor	1 1/2 cts.
The cost per dozen eggs in shells, insecticides, etc.	1/2 ct.
Total cost per doz.	8 cts.

It is impossible to walk through the streets of Petaluma without encountering on every hand ample evidences of the thrift and prosperity of the people and particularly of the poultry producers. Hardly a farm wagon comes to town that is not accompanied by a case or more of fowls or eggs. There are a number of local commission houses, in front of whose places of business are piled up huge cases of eggs and boxes of poultry. Fat, sleek and prosperous chickens strut contentedly about every yard. Almost every housewife has her brood and supplies her own table, and perhaps a part of the market. A number of poultry fanciers devote themselves to the production of fine breeds and their sale to those who wish to go into the egg business. Indeed, poultry is Petaluma's fad.

It may be interesting to narrate the experience of one enterprising housewife, Mrs. W. A. Selkirk, wife of the editor of the Petaluma Courier. Last May Mrs. Selkirk found in her yard a stray hen. Pretty soon there were a number of little chicks, and in the course of time and nature there were more chicks—young chickens and big chickens and noisy roosters. Mrs. Selkirk's little flock grew so fast that she concluded last month to take stock. She found that she had eight laying hens and 62 little chicks. These hens produced during April 169 eggs. Three of them were, during part of this time, setting; the rest were attending strictly to business. During the year the Selkirk table has been supplied with poultry and the stock has been a little bit diminished on that account. Nevertheless Mrs. Selkirk feels that she is doing quite well, never having made a cent of original investment, and having bought no feed or incurred other expense during the year, except the recent purchase of a brooder. It is proper to add that Mrs. Selkirk made diligent inquiry as to the ownership of the original hen, but signally failed. The hen has never complained, and Mrs. Selkirk ought to be satisfied.

It should be stated that Petaluma possesses exceptional advantages in the matter of freight charges and accessibility to market, but there are no points, we believe, within a radius of 300 miles of San Francisco where the charge will exceed two and a half cents per dozen, leaving a sufficient margin in our favor as against the outside producer. Water freights have made the tariff from Petaluma low. It has wrought the same results in other points in the San Francisco neighborhood.

No account of the achievements of the Petaluma poultry producers would be complete without mention of the important part the Petaluma Incubator Company has performed in promotion of the industry. The chief stimulus to poultry breeding about Petaluma have been the enterprising men who are back of this large enterprise. It was established thirteen years ago by Mr. L. C. Byce and Mr. I. L. Diaz, since deceased. Mr. Byce, the surviving partner, is now sole owner. By the pursuance of sound business methods, by unswerving devotion to poultry interests, and by the manufacture of poultry appliances of the highest merit, the establishment has gained large dimensions, and a trade that extends throughout the world. Petaluma incubators are to be found everywhere on the Pacific Coast, throughout the United States, on the Pacific Islands and Australia and in Europe. Mr. Byce's incubator device may be seen in constant operation in the Zoological Gardens of Amsterdam, Holland. Another occupies a conspicuous position in a show window of Christie's London Drug Store, where it is exhibited as an example of American enterprise and ingenuity. One more is shown in public at Christenstadt, Sweden, and, in fact, the incubator has been introduced and is in operation in all parts of the civilized world. The establishment now employs constantly about twenty-five men and women. Its volume of business is so large that four stenographers and typewriters are continually employed in the business office. The expenditure for stamps, alone, is about \$1000 a year. The specialty of this concern is the incubator, but

there is no appliance necessary to the rearing of poultry that it does not manufacture or sell, or both.

It is impossible to estimate the dimensions which the poultry business will assume in Sonoma County and in the State of California. But it is safe to say that its growth will not cease until the extent of its production is adequate to the demands of the home market. Very nearly one-half the eggs consumed in San Francisco come from outside the State. There is no good reason why, with cheapened and improved facilities for poultry rearing, and with reasonable freights and commission charges, the entire local market should not be controlled and supplied by home producers. California breeders are unquestionably in position to compete with Eastern producers in our own market. The recent large growth of the poultry interests indicates that we are awakening to our opportunities and that we propose to offer home consumers such wares at such rates and in such condition as will impress them favorably and induce them to patronize us in preference to men they do not know, do not care about, and whose prosperity is no immediate concern to them.

POULTRY YARD.

A Chicken-Show Reflection.

The air was filled with cackling as I walked the garden through,
And gazed upon the roosters with their cockadoodledoo,
And listened to the Wyandottes and all the poultry crew.

I saw the bird the Frenchman loves as *pate de fois gras*,
I saw the festive fighting-cock delighting in his scar,
And the little birds that when they're broiled extremely juicy are.

I had the bliss of gazing on the bantam small and proud;
Before a pouter-pigeon with the populace I bowed;
In singing praise to turkeys, too, I joined the maddening crowd,

I raved o'er many a bird that wore great spurs upon his legs;
I went in raptures over fluffy chicks in slat-barred kegs;
I viewed with joy the Cochin and her Cochin China eggs;

But not a bird in all the show, of all there were to see,
Not one was quite so pleasing or so useful unto me,
As an eagle that I own, an eagle, oh, so weel

It is an eagle circular, no feathers has it got,
But it can fly with speed that's sure to distance all the lot.
It is an eagle made of gold fresh from the minting-pot.

—John Kendrick Bangs, in Harper's Weekly.

What Kind of Poultry Pays.

There is a larger proportion of farmers, perhaps, than in any other class of business men, who neglect to study their business sufficiently well to enable them to obtain the best possible result in the way of profit. A writer in the *Journal of Agriculture* says: Quite a number of persons wishing to start in the poultry business have a great question to decide. Some will even go so far as to write to breeders of fancy poultry and say they are thinking of starting up in the poultry business, and wish to know which variety they consider best. This is a question no breeder can decide for another. It must be answered by the one who intends breeding them. Nearly every poultryman has his or her hobby, and, if they were to decide for another, would naturally say the variety toward which they have the most inclination, whether it was the most suitable variety for the other party or not. In writing to a dozen different breeders, a writer would, no doubt, be advised to try a dozen different kinds, and each claim the one they recommended was the best.

It is not the variety you have, but the quality of stock, and especially the way they are cared for. It is essential to have good stock. When a person wishes to purchase stock or eggs, he always wishes to get the best attainable; and the person having the best stock will do the best business. In regard to what variety to choose, that is a question every one must settle for himself, but two distinct questions must be decided carefully before purchasing: What variety do I like best? How are my facilities for keeping this variety? These two questions are very important and should be given thought before purchasing.

Some people look around them and see their neighbors selling a good many eggs and stock of a certain variety, and they come to the conclusion that this is the only variety that pays, and they will get the same variety, at the same time not liking the breed, but buy it because their neighbor is making some money from them and they think they will do likewise. This is a grand mistake. If you do not take a fancy or liking to them, you will not have the success your neighbor had with his. He has a liking for his variety, and takes great care in keeping them up to the standard, and caring for them as they should be—properly keep to make them successful. It would be against human nature for a person to give the attention to something he has no affection toward—more so than for one he has. In regard to facilities, they are a very essential point to poultry-raising. You should remember all varieties are not adapted to the same facilities. Some breeds will wait for their owners to bring their breakfast, while others will wander away seeking it. Every person should study the nature of each variety, and see which they like best and how they are prepared to keep them. By giving the above questions careful study, and selecting the variety or varieties you like best, and having proper facilities for keeping them, you will be successful. In regard to eggs, let us say that all varieties of chickens will lay well if properly fed and proper care is given. It is not so much the variety, but the care that is given.

Four Proud Hens.

Six hundred little chicks may be seen following four hens at Al Baker's place in the City Homestead.

Mr. Baker has a thousand-egg incubator, and recently he loaded it to the muzzle. The thing went off a few days ago, and 600 little chickens stepped out and began to look around for a living. It happened that four hens had decided to run an opposition to the incubator, and had begun

work shortly after the incubator was loaded. When the hens saw the yard full of chicks, they promptly gave up the contest, left their nests, and took possession of the big brood.

The chickens have divided up about equally among the hens, so that each has in the neighborhood of 150. At night the little fellows cuddle around their particular hen, climbing on one another's backs and on her back, until the hen is completely concealed from view, being the center of a pyramid. In the daytime the hens strut proudly around the premises, followed by the chicks, while hens come from blocks around and roost on the fence to take in the sight.—Stockton Mail.

Raising Young Turkeys.

The main points in raising young turkeys are to keep them dry, and to guard against lice. Not only the mites attack them, but also the large head-lice destroy them. Lice pass from the mother to the young. As soon as they are hatched, dust both the hen and young with fresh insect powder, and rub one drop of sweet oil on the heads. Do this once a week.

Young turkeys should be fed every two hours. They do not eat much at a time, but they eat often. Keep a small box of ground bone where they can reach it, and give water in vessels that will not permit them to get wet. Bear in mind the least dampness to them will be fatal.

Should they droop, look for lice. Nearly one half the turkeys die from lice. Search closely on the skin of the head and neck of each, and use as a remedy one or two drops of sweet oil. Too much grease of any kind is injurious to them. Have the coops and runs clean.

Do not feed them until they are thirty-six hours old. Then give curds and stale bread, the bread being first dipped in fresh milk. Finely-chopped, hard-boiled eggs once a day may be given, and an egg, broken, and the contents well beaten into a gill of fresh milk, which may be warmed (not boiled), and thickened with bread, is excellent. Chopped onions may also be added to the mixture. Give them anything that they will eat. They are very dainty and will not accept all kinds of food. Wheat and cracked corn may also be kept before them.

Until they "shoot the red," which will be when they are ten or twelve weeks old, they will be tender, but after that time they will be hardy. They must be allowed to forage and help themselves. The good care at first, in keeping them dry and free from lice will bring the loss down to a minimum, and though it may be tedious work, yet nothing pays better than a good crop of turkeys.—Farm and Fireside.

Round or Square Roosts.

"Isn't a small round roost, on which the chickens can cling tightly, the best?" asked Grandma Perkins. "That's the only kind we used when I was a girl, but my grandson, John, tells me they have a new-fangled idea now." "Small round roosts," replied the Judge, have ruined many a fine chicken. In the majority of instances, as you all know, chicken coops are very cold, unless the owners are considerate in the matter of their fowls' welfare. In clinging to these small roosts the fowls' feet are cramped and benumbed, and it takes a very little nip from the frost to cause a bird to lose a couple of toes or even an entire foot, for a frost bite is seldom noticeable until sloughing or bleeding sets in. The best roost is a 2x4 scantling turned flat side up, with the corners smoothed off. On such a roost the chickens can squat down comfortably and cover their feet and shanks with the warm body and breast feathers."—Farm, Stock and Home.

THE STOCK YARD.

The Silo in California.

R. W. M., Riverside, Cal., writes to Prof. W. A. Henry inquiring about silos. He says:

"Our climate is a dry one, and irrigation our reliance for water supply. Alfalfa is our main supply for succulent fodder in this vicinity. Our dry hay crop is barley, wheat and wild oats grown by winter rains on unirrigated lands. In the use of alfalfa we are deprived of the full value of the crop because of one or two difficulties in handling it. The first is, if allowed to attain sufficient age before cutting, to arrive at the greatest stage of nutrition the stalks become woody and dry when made into hay, and lose most of the leaves in handling in this very dry climate, and the hay or sticks are not eaten by stock, and so a very large percentage is lost. On the other hand, if cut while the stem is immature the hay is poor and lacking in nourishment.

"Could alfalfa be made profitably into silage after arriving at proper maturity to secure maximum nutrition? Can it be handled and made into silage profitably without running through the feed cutter? It grows about the same length as eastern red clover. As the writer is situated, silos could be cheaply made in the manner of an earth cistern cemented on the walls, i. e., a hole in the ground cemented. The earth is dry to the depth of 50 feet and will stand firm while being worked. Would such a silo work successfully? It appears from the report of Prof. King that the acids act injuriously on the cement plaster. Could not this trouble be lessened materially by a coating of silicate of soda or asphaltum varnish?"

Eastern farmers have always envied those of the arid region the ease with which the latter cured their hay crops, responds Prof. Henry in the *Breeders' Gazette*, and yet here is a confession of weak points at the West. The writer spent considerable time at Riverside last summer and witnessed in the hay fields just the difficulties mentioned by our correspondent. Carefully made alfalfa hay is a very fine product indeed, but as mentioned above there are difficulties in its making. Our correspondent can try an experimental silo at comparatively small cost. In the dry soil of Riverside a large cistern can be dug and the

wall cemented, and green alfalfa, fresh from the mower can be dropped into the pit. At this Experiment Station we once tried burying clover in a hole in the ground six feet square, throwing a good deal of earth back on top in order to weight the clover down. Fine silage was the result. I should advise our correspondent, however, to make a pit not less than 12 feet deep and 12 to 15 feet in diameter. Leave the walls vertical and plaster with cement. It is true that our Prof. King has found that the acids of silage act upon the cement, but not to the degree our correspondent evidently supposes. With a silo that is whitewashed with good water-lime each season it should keep in good repair.

Allow the alfalfa to reach the best stage for profitable feeding and then cut and allow it to wilt until the stems are softened. Place it uncut in the silo, tramping it down thoroughly. Several days should be required for filling, in order to get in as much material as possible. Straw or any waste light material can be thrown on top and then rocks or earth to weight down. A large silo needs no weight, but small ones should be weighted. I hope our correspondent will try a small silo filled with alfalfa.

The writer has seen a silo constructed of brick in southern California within a few miles of the peninsula of Lower California on the place of Mr. F. A. Kimball, National city. It was not filled more than once or twice, I think, the owner claiming that it was not needed in that section as green feed could be procured for stock the year round. I have doubts whether the silo will become at all general in southern California. Alfalfa probably starts quicker for being cut early, so that the loss in feed is not so great as first appears. With more care, doubtless, most of the leaves can be saved in hay-making, and by growing beets for light fall and winter feeding, succulent feed can be secured the year round.

Sick of Pedigree Without Merit.

An English correspondent, writing of recent bull sales in Great Britain, makes the following significant remarks in the *Breeders' Gazette*:

"We are in the midst of our spring bull sales. The Scotch sales are past and next week we have the Birmingham sales, to be followed by several others. So far prices are about 25 per cent lower on ordinary (farmers') bulls, while the lower-class animals are making about 40 per cent less. Every day more and more attention is being paid to individual merit, and even in the face of bad farming times and lower prices all round the better class of young bulls make more than last year. People are sick of pedigree, be it what it may, without constitution, goodness and thrift. The South American buyers, and there are a few in the market, bid only at the good bulls and every good bull sold publicly will this year make a paying price. There is much that is very encouraging in the Shorthorn trade as it is at present. Judgment and skill in breeding and raising good animals seem now to be appreciated in a different way than they were some years ago when our famous breeders, so-called, were fireside, book-learned, non-practical men. A wholesome change has taken place which will be to the advantage of the whole cattle population and the Shorthorn breed particularly."

The "wholesome change" to which our country correspondent, adds the *Gazette*, alludes is quite as clearly defined on this side the pond as on the other. Mere pedigree no longer opens the pocket-book. The pedigreed weed is about the poorest piece of property a farmer can own at the present time. And 'tis well that it is so. It may be hard on the unfortunate owner of inferior registered stock, but it means life, health and strength to the real interests of sound stock-breeding. The breeder of real first-quality stuff still has a good market.

Treatment of Hog Cholera.

TO THE EDITOR:—In your issue of April 8th I observed that hog cholera has made its appearance at Santa Ana. I am a Patron—a member of Grange 19 in Clinton county, Ohio—consequently I take special interest in the RURAL PRESS.

I have had considerable experience in the treatment of hog cholera. My method is: Take the best quality of tobacco, dry and pulverize it; have some nice slop prepared; call you hogs, then stir in the tobacco and give it to them to drink. By so doing, they generally get a pretty fair dose before the tobacco taste is perceptible. It acts as a thorough emetic. Follow this up for a few days and there will be no more cholera symptoms.

For small pigs, take tobacco and boil it in water until you have a strong amber; add a portion of new milk and pour it down them until they vomit. A few such treatments and they are all right. I have treated grown hogs that were down and helpless, in the same manner and I have never lost a single case. E. L. WOODHULL.

Ukiah, Mendocino Co., April 10, 1893.

Curing Dogs of Sheep-Killing.

Sylvester Forbes, El Paso Co., Col., writes to the *American Agriculturist*: One way to cure a dog of killing sheep is to muzzle him in a small yard with a fighting ram, while you cover the dog with a whip to teach him not to attack the ram. Every time the dog shows fight lash him; but let him get out of the way of the butts of the ram. Two or three lessons will teach him not to touch the ram. Try the same plan with a yew or lamb, with and without the ram. But punish him at every attempt at going for the sheep. The lessons with the ram and one or two other sheep, will be pretty sure to teach him not to trouble sheep. Sheep-killing dogs should be tied up at night. Another method is to muzzle and tie such dogs with a short rope or chain near the kennel, placed in the sheep yard so that they can escape from the death-dealing butts of the rams of the flock, but yet can become afraid of the sheep. Still another is to tie a piece of woolly sheepskin snugly to the lower jaw of the dog till he becomes thoroughly dis-

gusted with wool. To make the teaching more plain, put him in the sheepfold during the lesson. Still another plan will be found in muzzling loose dogs. The most effective and never-failing method is to keep only trained shepherd dogs, and shoot all other dogs seen upon the farm. Hunting dogs are the most dangerous and destructive to poultry; but mongrels are the ones that generally kill sheep.

A New Contagious Disease.

Strictly speaking, there are no new diseases, especially those of a contagious character; they have existed somewhere before. What is popularly called a new contagious disease can only be one that has hitherto been unrecognized, or one which invades new ground. The germs of disease are not of spontaneous origin any more than plants or animals. A so-called "new species" is really an old one. The Minister of Agriculture of France, in his report, refers to a contagious disease raging in the department of the Haute-Loire. It seems to differ considerably from all contagious diseases known in this country. It appears in cattle, sheep, goats, and pigs, and is intercommunicable between these animals. It is more fatal amongst young than old animals. It is rapidly fatal in the former, but the latter are sometimes so slightly affected that it passes almost unnoticed; in the young, death is due to asphyxia, which takes place in a few hours or a few days after the attack. In adult animals, Prof. Gallier says the symptoms are a cough, accelerated respiration, and other signs of bronchio-pneumonia. On post-mortem examination, the lungs are found "cheesy." When such condition of the lungs takes place a perfect cure cannot, of course, be effected. Females attacked with this disease generally abort, or no longer conceive. If they do give birth their offspring is weak and puny, and, after lingering a while of the disease, die. In pigs the disease is said to affect the lungs and intestines in a manner somewhat similar to swine fever. The infectious germ, however, differs from that which characterizes swine fever; it is a bacterial disease, is inoculable, and it is stated, may be transmitted by mediate contagion, which renders it difficult of suppression where an outbreak occurs. The morbid germ is of a rounded form, having very distinct movements. In reproduction it retains the same feature in all animals. Its vitality and powers of resistance to ordinary destructive causes are great. The disease is known as "la courade." It is hoped we shall have no invasion of this disease in this country.

Not Hog Cholera, But Night Shade.

TO THE EDITOR:—We noticed in your issue of April 8th an article stating that hog cholera has made its appearance at Santa Ana, Orange county, California. We have investigated this matter and learned that the loss of Mr. A. Goodman was not caused by hog cholera, but solely from the fact that he permitted his hogs to run in a field where there was night shade; the hogs ate it, and it being deadly poison, he lost a number of head. We think you will find our statement correct if you address Mr. Goodman on the subject.

Our packing house is nearing completion and will be in operation not later than June 15th, and in all probability by May 1st. We shall then be prepared to care for 500 hogs daily.

THE CUDAHY PACKING CO.

FRUIT MARKETING.

California's Progress in Fruit Culture.

At the last meeting of the State Board of Trade Mr. A. T. Hatch, the well-known fruit-grower, presented to the members of the Board, in an informal manner, the results of his observations and long experience in the culture, preparation and distribution of various kinds of California fruit products. Mr. Hatch appeared before the Board by special invitation, but expressly declined to make a set address on the plea that he was not an adept at speech-making, and that he did not propose to learn at this time. He expressed his readiness, however, to answer, as well as he could, specific inquiries by members of the Board, and the result was a most interesting and profitable discussion, of which a full report is here appended.

The first question propounded was by Mr. W. H. Mills, who desired to know: "Is the fruit industry making substantial progress in California?" Mr. Hatch replied: "There is but one reply to that question; the evidences are before you everywhere. New orchards are being planted everywhere throughout the State and there is decided improvement in the culture and care of green fruit, in canning and in drying, and in preparation for the market. Our markets are widening, our facilities for reaching them are better, and freight charges have been materially reduced. The output is being vastly increased, and, as a consequence, the cry of overproduction is being raised by the same men who, 15 years ago, were tooting the same horn. The past season, as a whole, has been profitable. Last year the market was rather poor, owing to unusual conditions, and the year before we received a great deal more for our products than we should have. Our methods of placing fruit on the market in advanced stages of ripeness have improved its welcome among consumers. The general testimony of Eastern people is that our fruit is good, very good. Its quality has been improved by increasing its ripeness before shipment. A few years ago fruit placed upon the market was only from one-half to two-thirds developed, but new peaches, for instance, may be well developed and colored on the tree and then shipped East, and they will arrive in better condition than if two-thirds matured before shipment. Expeditious service and proper refrigeration have been of vast value in accomplishing these results. It may be stated as a well-

attested fact that fruits, ripe, hard, firm, and with a sufficient degree of sugar in them, can be carried farther and their qualities better retained than when packed green. Taken altogether, I am satisfied with the general condition of the fruit industry and am greatly encouraged as to its future."

Mr. Mills: "What effect will the World's Fair have upon the demand for California fruits?"

Mr. Hatch: "Inquiry will be greatly stimulated, no doubt, but I would not advise poultry-raisers to ship all their turkeys to San Francisco at Christmas time; so it must not be thought that Chicago is the only place and the World's Fair the only time for sale of our fruits."

Mr. Cole, of Fresno: "What is your opinion of the relative value of irrigated and non-irrigated fruits?"

Mr. Hatch: "I do not live in a district where irrigation is necessary, but my own opinion is that nature is the best irrigator. Here is an opinion, but it may be wrong, that fruits from irrigated districts do not seem to keep as well as non-irrigated. I look upon irrigation as an aid to natural conditions, and my method would be, if I were to use irrigation at all, to flood my lands in winter with pure water and at a time when rains are naturally expected, and I would stop flooding in the spring when the rains naturally cease; then I would begin with my cultivators."

Mr. McAfee: "Are you prepared to give a reason why there may not be overproduction of fruit? Again, can California supply all fruits required in the markets that can be reached and developed?"

Mr. Hatch: "I think it can. It will be a long time before the limit of production in California is reached. Places by natural conditions well adapted to the culture of fruits will be used first. Other regions which can be developed will eventually come into full bearing, but their adaptability and resources must be learned carefully and it will take some time to do it."

Question: "But do you think we will get markets for all the fruits that we will raise?"

Mr. Hatch: "I think that our markets and facilities for reaching the market will increase as our production increases. We can afford to put fruits in England, for instance, at last year's highest price, and make a fair profit. The cholera scare, however, then prevented a fair test. The English people are pleased with some varieties of our fruit, and prices so far realized have been good. But charges for distribution of our fruits are now too great in every way. Refrigeration, transportation by land and sea, and commission charges for handling and sale, are too high."

"I might call attention to one feature of our shipments that is bad. It costs the same to transport a 12-ton car of fruit to New York as 10 tons, and we therefore stock a car with the maximum. Now, the cars we shipped to England were 10 tons, and the fruit actually arrived in better condition than that shipped to New York. The entire cost of shipment to England was \$1200 a car. I believe that transportation companies will soon give us a rate by which it will not cost us over \$800 a car, or \$200 more per car than we are now paying to New York. It is obvious that with these lower rates the market in England will be widened."

Question: "Do you think there is a possibility of producing too much good fruit?"

Mr. Hatch: "No, not now, nor at any time. I think we will always get good prices for all first-class fruit put on the market in good shape. There is profit in good fruit, no matter what the competition. There was once a time in the East—in Ohio—when thousands of acres of fruit fell to the ground and perished. That was when I was a boy. There is a difference now. The orchard acreage in that State has vastly increased and none of the product is wasted. The reason is that they now have facilities for reaching the market."

Question: "When the fruit product of California was one-fourth what it is now, was the market better or worse?"

Answer: "It was not so good. As production has increased in the past, so has the market improved, and the analogy is that it will in the future. For my own part I am selfish in wanting greater and more general cultivation of fruit, more people in the business; I want our fruit industry to be so important that all people will naturally look to California when they want to buy. I want competition in growing and handling, and improved methods in all lines, because I know that I, myself, as a fruit producer, will have the benefit of all this knowledge and improvement of conditions that surround the business."

Question: "Is distribution of fruit easier and better than it was a few years ago?"

Mr. Hatch: "Yes, five or six years ago I was in New York City. I saw the leading fruit dealers and asked each of them how much California fruit could be disposed of by them in one week. No one said over a carload. One dealer said he did not want to handle any. Now New York sometimes consumes from 15 to 20 carloads a day of our fruit. Last year we forwarded there 600 carloads."

Question: "Do you find that the different counties of California tend to specialization in the various lines of fruit?"

Mr. Hatch: "No, not so much as formerly. Santa Clara valley raises more prunes than any other part of the State, but it is not true that Santa Clara is better adapted to culture of that fruit than any other section. Orange culture first assumed large dimensions in southern California, but it is not necessary to go there to raise oranges profitably. Elwood Cooper first made a success of olives in Santa Barbara, but other sections are as well adapted to olives as that county. It was once supposed that better almonds could be raised in Suisun valley than elsewhere, but I have secured more valuable results in almond culture outside of Suisun—say on the Feather river in Butte county. The inclination has been for one locality to start in on certain lines and for others to follow."

Question: "Do you mean to say that you do not have to go to Fresno to get the best results from raisins?"

Answer: "Not necessarily, but you must cultivate raisins where best conditions exist; they cannot be advan-

tageously produced in Napa county, for instance, because of too much fog."

Question: "What about the over-production in raisins last year?"

Answer: "Good raisins brought a good price last year, the same as any other. If it is a good article a market will be found."

Question: "What about the use of fruit now, as compared with old times?"

Answer: "People of the East are reaching out for other fruits besides their own; they cannot raise the varieties they once did. For instance, there are practically no cherries in the East without disease. They are afflicted and destroyed by pests."

Question: "Is the aridity of the California climate favorable or unfavorable to the development of insect (pest) life?"

Mr. Hatch: "I am bound to say that in some places conditions are very favorable. In hot sections the scale thrives very well. California is as completely menaced by insects as the East. But I believe that we handle our insects better and, in fact, that we do everything else better in connection with fruit. It used to be that when we discovered pest-infected trees we dug them up and burned them, but our methods have so improved that now we do not need to worry about pests. We know how to handle them."

Gen. Chipman: "I cannot agree entirely with Mr. Hatch. I am persuaded that in the warm sections of the State the scale does not flourish so well as in the more humid sections. In some counties scale is disappearing."

Mr. Beach: "In Santa Clara the scale has almost disappeared. It is the impression of some persons that insects have a definite time for existence, and many pests have reached their limit."

Mr. Maslin: "In respect to our capacity to overcome the various pests, I will say that Prof. Comstock, one of the leading entomologists of the United States, in a lecture before the State Horticultural Society, stated that at one time he began the study of washes and other means for exterminating insect pests; but the California orchardists have so far outstripped him in practical results that he had refrained from further investigation. He further congratulated the orchardists upon the intelligence they displayed in the study of the life habits of insects, and stated that the people of the State excelled all others in the enterprise and learning they exhibited in horticultural pursuits."

Mr. Mills: "I agree with Mr. Hatch that horticulture demands a high order of intelligence. It will be elevated almost into the domain of a learned profession. The Stanford University has a class of students pursuing, under a professor, the study of the theory and practice of horticulture. The State University has maintained, and still maintains, a department of horticulture. The opportunity offered in this State for the education of tillers of the soil surpasses that of any other State."

Mr. Hatch: "Our people take better care and use better judgment in everything pertaining to the fruit business than ever before. We are unquestionably further advanced in this respect than any other State in the Union."

Mr. Mills: "I am approached by a great many people who come here from the East for the purpose of going into the fruit business, and who have learned that our processes are totally different from those in vogue there. They want to know how to begin fruit culture, and they ask me if there is any compilation of printed experience that will be of benefit to them in starting and cultivating orchards. Do you know of any work that is a sufficient guide to these new-comers?"

A. "Yes, there is. Professor Wickson's 'California Fruits' is an excellent book for them and for all others. This, with the various reports of the State Board of Horticulture, giving verbatim proceedings of different fruit-growers' conventions, ought to provide sufficient instruction and information."

Q. "What do you think of a special school or college education, instructing students by a course of study as to when, where and how to plant, and designed to equip them fully for the fruit profession?"

A. "There is no doubt of its value. Fruit growing is going to become a science. It is necessary to begin at the bottom and learn. I do not want a foreman in my orchard who has had a great deal of experience elsewhere. He has too much to forget. The best experience I have had was with a man who knew nothing about the business, who knew he knew nothing and was willing to learn. He did learn."

New Plan to Market Oranges.

The committee of representative orange-growers of southern California, appointed by the Los Angeles convention on April 4th, met at Pomona and framed and issued a plan for marketing the orange crop so as to keep the markets steadily supplied, and not overstocked. The growers of that valley met the committee and approved the plan. The design is to market the crop through a superintendence or executive committee and dispense with middlemen.

The committee recommends that districts be formed as follows:

1. Riverside county.
2. All of San Bernardino county east of Cucamonga.
3. Cucamonga, Ontario, Pomona, Claremont and San Dimas.
4. That portion of Los Angeles county north of the Southern Pacific railroad and east of the Los Angeles river.
5. The remainder of Los Angeles county.
6. Orange county.
7. San Diego county.
8. Ventura and Santa Barbara counties.

Organize as many associations as may be necessary in each district to embrace as nearly as possible the sections having identical interests and grades of fruit. Each of said associations to establish a purely local brand, without indi-

vidual or company name attached, under which the different grades of oranges in said association shall be packed respectively. Each association to do its own packing.

Each of said associations shall choose of their own number three who shall constitute an executive committee. They shall also choose one who shall be known as manager. He shall receive such compensation as the association may determine, and shall be the only salaried officer. He shall have general oversight of the affairs of the association, subject to the executive committee. The executive committee and manager shall constitute a board of control, who shall determine all questions of management, unless otherwise ordered by two-thirds of the membership of the association.

Each association shall have the privilege of fixing its own price on the several brands of oranges, but such price must be made as will move its pro rata of fruit.

The said associations shall then adopt such rules as may be found necessary to secure uniform methods of conducting the business, fixing and maintaining uniformity of price, pro rating orders and regulating distribution of fruit.

The picking to be pro rated among the members so as to give each, as nearly as may be, an equal chance for delivery. The fruit to be weighed and tickets given therefor, which shall include everything clipped from the tree. The culls of each variety for each day's packing to be weighed and an account kept thereof separately. The percentage of culls of each variety to be determined at the close of the season. The same percentage to be deducted from the total delivery made by each member, for corresponding varieties of fruit, and final settlement made with each member by the pound for each variety, as the total receipts may show.

The books and correspondence of each association shall be in the name of the association, and, in connection with the brand, shall be the property of the associations respectively.

Each member of said association shall have access to any of said books or correspondence at any and all times. For cause detrimental to the whole, or in case of damage to any crop, the members of any of said associations may, by a two-thirds vote, exclude such orchard, in whole or in part, from participating in said association upon the community basis for the current season. And the said association shall handle the same for the separate and sole account of the owner.

Each member hereby agreeing that any fruit so damaged or set apart shall be marketed under the control and direction of said association, the proceeds of sales of fruit to be distributed pro rata from time to time as the management of each association may direct.

The selling shall be done under a system of brokerage which shall not exceed 5 cents per box for all varieties of fruit, said brokerage to apply only to f. o. b. sales. Orders shall be pro rated among the associations, so as to keep the fruit moving proportionately.

To this end a central office shall be established in each district, where all telegrams and correspondence shall be delivered, and where the said managers in each district shall meet daily and transact the necessary business, it being understood that each shall have access to all telegrams and correspondence.

An executive committee for southern California shall be composed of one member from each district, which shall have charge of all affairs in general, and establish a pro rate among the districts recommend the amount of fruit to be moved from time to time and equalize the prices.

Campbell Fruit-Growers' Union.

TO THE EDITOR:—Belief that facts relating to co-operative fruit-drying will be of interest to many of your readers is thought to be sufficient reason for submitting the following statement of last year's business: Last year Campbell Fruit-Growers' Union handled fruit to the extent of about one-fourth the capacity of their plant, namely, a total quantity, including green and dried fruit, of 539 tons. The short crop accounts in part for this comparatively small quantity.

Of the 539 tons handled 404 tons were dried for stockholders, 83 tons sold green, 20 tons received dried and sold for stockholders and others; the remainder only weighed for non-stockholders.

Of the 404 tons dried for stockholders there were 203½ tons of apricots, 70 tons of peaches, 97 tons of French prunes, 20½ tons silver prunes and 12½ tons of pears and egg plums.

Returns to Stockholders.—This fruit netted to the stockholders who furnished it for drying and sale the following prices per green ton: Apricots, average, \$40.96; peaches, from \$22.84 to \$46.82. The lower price was received for small refuse clings for which the owners could most probably have found no market at all. Silver prunes, from \$48.75 to \$58.

French Prunes.—The following tabulated statement presents all that is of interest relating to French prunes:

Size.	Price per green ton.	Pounds green to 1 lb. dried.	Price per lb. dried.
40 to 50's.	\$ 75.51	2.56	12 c
50 to 60's.	84.44	2.20	10¾ c
60 to 70's.	87.66	2.09	10¼ c
70 to 80's.	89.77	1.93	10 c
80 to 90's.	96.16	1.71	9¾ c
100 to 120's.	102.31	1.45	8 c

Average price of six grades was \$84.95; average price five grades, leaving out grade 40 to 50's, was \$88.43. We were surprised to learn that the smallest prunes brought the highest prices. This was due to the smaller grades losing so little in drying.

Green Fruit Prices.—The fruit sold green netted the following prices to the stockholders who furnished it: Apricots, \$42.50; early peaches, \$45; Muir and cling peaches, \$50; Salway peaches, \$60.

Cost of Drying Per Green Ton.—Apricots, \$6.25; peaches, \$6.50; silver prunes, \$2.50; French prunes, \$2.25.

The proportion of green fruit required to make a pound

of dried fruit was as follows: Apricots, 5.14 lbs.; peaches, 5.16 lbs.; silver prunes, 3.02 lbs.; French prunes, from 1.45 to 2.56 lbs.

The Fruit Exchange.—The fruit handled by this corporation was sold by the Santa Clara County Fruit Exchange, spot cash f. o. b. at Campbell. The total commissions paid to the Exchange for selling was \$48.40.

Dried Fruit Prices.—The prices realized per pound for dried fruit were as follows: Apricots, from 13 to 17 cents. There were a very few of the poorest apricots sold at 11½ cents; peaches, from 10 to 12 cents; silver prunes, from 9 to 11 cents.

Providing for Expenses.—To meet the general expenses, consisting of eight per cent interest on cost of plant, and taxes and insurance on the plant, there was reserved the sum of \$1.50 per green ton on all fruit dried, \$1.50 per ton on each ton sold green and \$1.50 on each ton of dried fruit sold for non-stockholders. Had all the stockholders' fruit been handled by this corporation, the general expenses, instead of being \$4.50 and \$1.50 per green ton respectively, would probably not have exceeded 50 cents per green ton. This would have given the growers \$4 per green ton of dried fruit more than they received, while that sold green would have netted them an additional \$1 per ton. Besides this saving to the stockholders whose fruit was handled by the corporation, there would have been saved to other stockholders on prunes alone from \$10 to more than \$50 per green ton.

Interest and Dividends.—Since the interest on the cost of the plant constituted nearly the whole of the general expenses, and this interest is paid to the stockholders who are the owners of the plant, the transaction is like taking money out of one pocket and putting it into the other. The injustice lies in the fact that these general expenses are paid by those whose fruit is handled by the corporation, while those who withheld their fruit pay nothing.

Inequalities Adjusted.—At the annual meeting of the stockholders, April 5, 1893, the by-laws were amended, giving the Board of Directors power to adjust income and expenses so as to do justice to all. This is to be accomplished by a system of dividends to be regulated by the directors.

Grading the Fruit.—All fruit was graded before drying. Some of the advantages of this system are as follows:

First—It is cheaper, inasmuch as it obviates the necessity of grading after drying.

Second—It dries more evenly and saves time and labor in the curing process and produces fruit of a better quality and appearance with less loss of weight.

Third—The same fruit is worth more if graded than if not.

Fourth—Each stockholder gets credit for the exact grades of fruit that he delivers. The grader is no "respector of persons," and promptly and accurately decides whether or not "I raise the best fruit in the valley." During the whole of last season's work the decision of this just judge was not questioned. The grader is deaf to all entreaty, blind to all save unerring justice. It treats the millionaire's and the poorest producer's fruit without "fear or favor." Can scarcely see how co-operative fruit-drying can be conducted satisfactorily without its aid.

Fifth—By grading the fruit green, and keeping the grades together after curing, the quality of the fruit can be accurately described to buyers. The advantage of this is fully realized by all who have ever sold this product.

Receipts of Union from all sources were \$42,650.77; disbursements, \$42,052.15; balance on hand, \$598.62.

Crop Prospect.—The directors estimate that the stockholders will, if the crop matures all it now promises, deliver this year at least 2000 tons of fruit for the corporation to handle.

Officers of the Union.—The directors elected at the last annual meeting of stockholders were Frank Waldo, O. Haberdier, S. G. Rodeck, G. T. Duncan and F. M. Righter. The last four were re-elected. The directors elected the following officers: F. M. Righter, president; G. T. Duncan, vice-president; S. G. Rodeck, secretary; First National Bank of San Jose, treasurer.

Campbell, Cal., April 11, 1893 F. M. RIGHTER.

HORTICULTURE.

A Flourishing Colony.

TO THE EDITOR:—In the Maywood colony, Tehama county, there have been planted this, its first planting season, 500 acres trees and vines of the best varieties obtainable in the best nurseries of the State. They have been selected with the greatest care and very carefully examined for pest of any kind. The varieties planted have been so arranged in each orchard that each owner will have ample time to pick and handle his fruit with the minimum amount of help, and at the same time enable him, by combining with other members of the colony, to make respectable shipments—even carloads daily—the colony being a large one, and owning 5000 acres of choice land. In the same manner a cannery (which is one of the features of this colony) may be kept going during the entire canning season without interruption. The different fruits, and varieties ripening in rotation in all the orchards alike, at the same time will permit of a system of handling that will prove of the greatest advantage and commend itself to anyone who has experienced the difficulty of handling small individual lots profitably. The value of this system will be more apparent three or four years hence when the wisdom and thoughtfulness of the superintendent of the colony, Mr. H. B. Galliher, will be more fully appreciated. The ripe knowledge and thorough practical experience of Mr. Galliher in all that pertains to fruit and fruit trees cannot be overestimated. In spite of the unfavorable weather during the planting season the young trees are budding in fine shape and give evidence of rapid growth.

Several new cultivators of superior construction built specially for the Maywood colony, from plans furnished by

Mr. Galliher, have been recently added to the already large stock of horticultural implements on the ground ready to work as the cultivating season advances. There is no expense spared in having the work properly and systematically done with a view to the best results. X. X. X.

Tehama county, April 15, 1893.

Cost of Operating a Drier.

In response to inquiries by Napa growers as to the workings of the drier of the West Side Fruit Association, Santa Clara county, Col. Hersey responds:

Your question, "About what is the cost of operating the plant?" is one to which no short, definite answer can be given. My son was hired last season as manager for six months, at \$100 per month. One other person was hired two months to assist in the yard work during the season of drying prunes, to whom we paid \$65 per month. Both persons were hired to work and not loaf. The manager did all the book-keeping, shipping, paying and hiring help, selling and collecting, etc. The sales amounted to \$55,000. We paid 3 per cent on our paid-in stock and paid all other legitimate expenses, also deducted \$2.38 per ton on green fruit for depreciation. After this we divided \$87.50 net to the producer on prunes, \$38 per ton for small early peaches such as the canners did not want, and \$42 for the same kind of peaches of the late or Salway variety. Apricots not yet settled for, but we expect equally satisfactory results.

We advance money to any person (stockholder) who brings fruit 50 to 75 per cent of its market value, as he may call for it. For this purpose we borrow money. This season, to meet such demands, we borrowed \$4000, and our interest bill was \$34, but we have received \$64 for interest on money left in the hands of our agents, which was not needed to meet the demands for advance money.

This matter is no bugbear. It need not disturb you in the least. Your customers will not make it hard for you if they feel assured that they are being justly dealt with. You want as many men of good business judgment in your corporation as possible and not too many Tom, Dick and Harrys.

The plant costs in accordance with the amount of business done. We have so many applicants for stock that it would cost \$10,000 to furnish a plant for them. We are hesitating.

The capacity, except trays, is now 2000 tons. We have 20 acres of land, a warehouse 80x36, 75x25, a pitting shed 100x24, a dipping shed 30x40 and a grading shed 20x30, also a well, tank and pump. We have no power yet and but 10,000 trays.

Commence Thinning Fruit Now.

The Santa Maria Times gives the following advice on a very important subject:

"Such a thing as thinning fruit too much is absolutely unknown even where they have practiced for years. Some people seem to have the idea that because we have had an abundance of rain this year, we will not need to thin so much as last year; but that is a mistake, and, if there is to be any variation, let it be in favor of more instead of less thinning, because then the fruit will be larger and bring a better price.

"Do not leave apricots hanging in clusters, because they cannot attain to salable size, and they will not only ruin the limb on which they are allowed to grow, but will weaken the whole tree so that it will never again produce as large-sized fruit as before. Thin peaches until you can at least place your hand full width on the limb between the peaches; and, if the limb is a twig, take them all off but one, or two at most. The yield will be the same, and the fruit will be first-class in every respect and command the top of the market.

"Pears will grow large enough in this section in clusters of three; the others should be removed while small with a sharp knife or shears. Apples must be thinned if you want salable fruit. Up to a year ago it was considered unnecessary to thin prunes, but even they are receiving attention in this line by our most careful and successful growers of late, and with the best of results. They have learned that if any kind of a tree is overloaded, it must be relieved or both crop and tree must permanently suffer.

"Commence thinning now and keep it up until ripening time, and you may preserve the good health of the trees and get a good price for your big crop of fruit."

A Cure for Sour Sap.

Mr. J. A. Johnson, of Willows, tells of a cure for what is termed "sour root" in peach and apricot trees. He has a young orchard near his house, two rows of which he pruned in November. A rainstorm prevented further work at that time and he did no more pruning until the usual time. Now for the result: Every tree in the two rows pruned in February is alive and growing thriftily, while in the balance of the orchard there are from one to six trees dead in every row. Mr. Johnson is of the opinion that the early pruning allowed the gases and sour sap to escape through the wounds caused by cutting off the limbs, and thus the tree was saved.

Mr. Johnson is correct in his observation but wrong in his philosophy. It is believed that "sour sap" is a fermentation of sap following stagnation, caused by the decay of the fine roots through the soaking in standing water. If this root killing is partial the trees may recover, but its recovery is also conditioned upon checking the exhaustion of the sap supply by evaporation. Therefore cutting back a tree which shows signs of sap souring is a rational method and it is about all that can be done for a tree with diseased roots. In some cases the roots may regain energy and the tree put forth new and healthy growth. The pruning which Mr. Johnson gave his trees in February probably saved them as he believes, but not in the way he describes.

Applications of Electricity to Agricultural Work.*

NUMBER 2.



AN effort was made in the first section of this article published in the last issue of the RURAL PRESS to give an idea of the wide field which is offered for the applications of electricity to the operation of farming implements, tools and vehicles. An outline was also given showing the various lines of work to which it is thought the electric motor could be applied in such a way as to give satisfactory and economical service. Under the first heading, namely, the supply of power for

stationary machines, the use of the electric motor for hoisting apparatus only was considered. Following the outline given in our former article, the application of electric motors to pumping apparatus comes up for consideration. Here again, as was pointed out in the case of hoisting apparatus, the class of work to which pumps are applied in farm work is not very different from the numerous uses now made of pumping apparatus in cities and towns—that is, where electric power can be obtained from established central stations. It will only be necessary then to call attention to a few of the uses where it is thought electric motors could be profitably used, leaving the question of the source of power to be considered later.

Pumps in farm work may be used, if electric motors are the source of power, for supplying water for drinking troughs, for fire purposes, for fountains, for the sprinkling or irrigation of lawns, gardens, etc., for use in the dairy house, for the washing of vehicles and a number of other purposes, which will readily occur to those familiar with farm work. In the supply of water to drinking troughs, which are often placed in the yards around a central barn, or, in many cases, are distributed through the stables in the basement of the barn, it is only necessary to place an electric pump of any of the standard types now in use for similar purposes elsewhere near the source of the water supply, and so arrange the connections that the pump may be used to keep a large tank constantly supplied with water. This tank may be placed at a sufficient elevation to afford pressure enough to distribute the water by means of pipes to any number of troughs about the yards or buildings. The motor can then be made to operate only when the water in the tank falls below a certain level, a float operating an automatic switch for the purpose of starting the motor, and similarly stopping its operation whenever the water rises to the prescribed level. This method of opera-

pose upon a small truck together with a suitable pump. This portable truck could then be used for throwing water upon the fire at any point, connection with the water supply being made at any suitable place provided for the purpose. The current would be carried to the motor through flexible conductors which would be connected to terminals placed at different parts of the yards.



A MOTOR CHURN.

about, the wires carrying the current being so arranged as to follow the line of hose through which the water is brought from its source of supply to the pump. Indeed, this is a method already devised for use in connection with electric fire engines, and its application for this purpose would be very similar to that mentioned.

The supply of water for electric fountains could, of course, be made to depend directly on the pressure of water in the supply tank, which, by the electric motor, would be kept at a constant height, or it might be made to depend directly upon an individual motor (a very small one would suffice), which could be started and stopped at will by a switch



THE ELECTRIC PUMP IN FARM SERVICE.

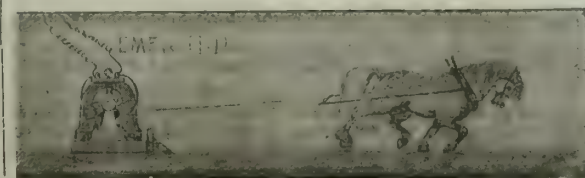
upon the veranda, or in the house itself. Here again the application is novel only as regards the location of the work to be done, since fountains are already supplied with water by electric motors and kept in operation by the same means.

The supplying of water for the washing of farm vehicles needs no further consideration and mere mention of what has been said regarding the supply of water for irrigation purposes or for fire uses, as the same apparatus used for the one could be used for the other purpose. The little portable truck and pump would be very useful for this purpose, and the attendant directing the water upon the vehicle to be washed could control the current operating the motor by means of a switch placed at the nozzle of the hose which he handled.

The dairy house can be supplied with water in a similar manner to that described for the drinking troughs about the barn, and, of course, the same may be said of water which is supplied to the residence for laundry or drinking purposes. In the regular and constant supply of water to all parts of the premises for any of the purposes mentioned above, or for any others, the electric motor connected to a suitable source of power and ready at all times for operation would be found very satisfactory and reliable.

The operation of a cider press is shown in one of our illustrations herewith. This is another instance of a class of work that is called for only at a certain season of the year, and doubtless here again a portable motor would be found fully as convenient as the permanent one and much more economical.

Another instance of this class of farm work to which the electric motor is applicable is that of the operation of a hay press, an illustration of which will appear in our next issue. Whether driven by a portable or a permanently mounted motor makes no difference.



THE DAIRY.

The Jersey a Business Cow.

Prize Essay, by A. L. Crosby.

When we engage in the business of butter dairying we need cows that will make the most butter from a given amount of feed. We want these cows to be hearty feeders, to be easy milkers, giving very rich milk, to be gentle, not too large in size, early and regular breeders, and able to do good work in the dairy for many years; in short, we need a business cow, and in the Jersey we have just such a cow.

A Hearty Feeder.—The Jersey cow is noted as being a hearty feeder, and a hearty feeder is one that cannot only eat a large quantity of feed, but a large quantity of rich feed. It is the feed that makes the milk, and in order to make plenty of rich milk the cow must eat plenty of rich feed.

Gentleness.—The disposition of the Jersey cow is about as near perfection as we can expect cow nature to be. Gentleness in a cow is worth money; it counts up in dollars every year; it saves milk; it keeps the richness of the milk from being wasted, for irritable cows are apt to beget irritation in those who milk them, and this, in turn, breeds ill-treatment of the cows, which causes a loss of butter-fat in the milk; it insures better care, for the gentle cow is the petted cow; and in other ways the gentle disposition of the Jersey is one of her valuable characteristics.

An Easy, Rich Milker.—The business cow must be one that can be quickly milked, and the milk must be rich; these two qualifications will commend themselves to every business dairyman.

Size in the Dairy Cow.—There has been a good deal of controversy about the proper size for a dairy cow. Some contend that she should be big, so that when she has done her work in the dairy she can be fattened up for beef. Those men object to the Jersey because she is too small, she won't make beef enough. Ever since I began to study the matter, I have been a strong advocate of the special-purpose cow. We want a certain kind of cow for a certain kind of work, and she must do that work better than any other kind of cow; she should be a cow for one kind of dairy business in order to be a good business dairy cow. It appears to me that the extra weight in a dairy cow, over and above what is necessary for her to do the best work, must be fed at a great loss, because it is fed for many years before it is sold. This proposition, it would seem, cannot be successfully controverted. The business cow must pay every year of her dairy life, and we can't afford to wait till we kill her to get any part of our profit; each year should show a good balance to her credit. And how much profit could we expect from cow-beef fed for from 10 to 15 years? It is absurd to expect any.

An Early and Regular Breeder.—We don't want to wait till our business cow is three years old before we get any profit from her—we can't afford to waste a year's time; and our Jersey will not disappoint us in this respect, for she begins to return a profit when two years of age, sometimes earlier. This early breeding is so much time gained; when we make a business venture we endeavor to make it pay as soon as possible, and, in the dairy business, we want a cow that will commence her work early in life and begin to pay as soon as she begins her work. A dairy cow must also be a regular breeder. We want to arrange our calving periods to suit our business; and a cow that is a regular and sure breeder is worth much more than one that is unreliable in this respect.

A Cow that Works for Many Years.—When we get a machine that does excellent work, our first thought is: Will it be durable? If it wears out after a few years of use it may be too expensive. Our business cow is a machine, by the use of which we expect to make money, and she must be a durable machine, for we cannot afford to milk her a few years and then replace her with another. The Jersey cow not only begins her work at a very early age, but she continues to work—and work profitably—till she becomes very old.

To sum up: The Jersey cow is a business cow, is one that has been bred for business; she attends to her business, and if well cared for by the dairyman will enable him to make money in his business.

Attractive Packages.

We heartily indorse the following from *Practical Dairyman*:

In getting a No. 1 price for a No. 1 article of butter, attention to details is an important factor. Though no after care will gain a first-class price for an inferior butter, yet first-class butter may bring inferior prices by being carelessly prepared for the consumer. We know that attractiveness in appearance adds to sale of food articles, so butter carefully wrapped and in clean cases will sell at better advantage than the same butter carelessly handled. The butter-maker should endeavor to have the wrappers of his butter as nearly even as possible. We who have been in the business know the improvements in a few years of wrapping the butter that has been neatly printed, and with this, as with the rest of the work, no detail which adds to its attractiveness is to be slighted.

Growth of Creameries.

In 1889, according to the returns of the census for that year, the amount of butter made on farms was 777,259,287 pounds, and during the same period there were made in factories 29,421,784, making a total production for that year of 806,672,071 pounds.

By the same authority the amount of cheese made on farms during the same year was 27,272,487 pounds, and in factories 215,885,361 pounds, a total of 243,157,850 pounds. It will be noticed that in the case of butter, at that period, a very small proportion of the total amount was produced outside of the farms. Since that time there has been a

tion is, of course, well known and already very widely applied to the supply of water in mills, factories, city residences and similar localities.

In the supply of water for fire purposes the electric motor is particularly available. Here, of course, the tank method of supply, using the pressure of water in the tank to distribute water to any required point, may be used, but probably this supply would ordinarily prove insufficient for the protection of ordinary farm buildings, including, of course, residences as well as the barns. A better method is that of direct supply, using a motor mounted for the pur-

* In a series of five articles reprinted from the *Electrical World*, New York.

marked change in dairy methods, and now a much larger proportion is manufactured in creameries, either co-operative or organized as a manufacturing industry. A change from dairy farming in the matter of cheese occurred at a much earlier date, and now a comparatively small portion of the whole is made outside of cheese manufactories.

Dairy Notes.

Those who want the best sweet butter next summer must see to it that the pastures are free from weeds, or that there is enough grass there so that the cows will not think it necessary to feed upon weeds or to browse the bushes. Such feed will not make good-flavored butter under any system that we know.

A one-horse power boiler and engine is said to be able to run a separator of 300 pounds capacity, besides furnishing hot water for cleansing the dairy utensils and heating the room as warm as desirable, with no greater expense for coal than it would be to run a cooking stove during the day. Such a one is said to cost about \$60, and to be large enough for a dairy of 10 or 12 cows, and perhaps even more, for it is not easy to have 300 pounds of milk daily from that number.

The favorite root of the farmers in the Channel island for the Jersey and Guernsey cow is parsnips. Liberal feeding of this root for many generations has contributed not a little to the development of the milk and butter producing qualities. They have been fed into the animals as well as bred in. Why not? Generations of semi-starvation will reduce milk production, and generations of good food will increase it. Moral: Sow parsnips this spring for feeding next spring.

The jest that goes the rounds occasionally, of the milkman who apologized for the blue appearance of his milk, that "the weather had been so bad it had given his cows the blues," has a foundation in fact. Experiments have shown that cows will give richer milk in bright, sunny weather than in cloudy weather, especially if long continued, and richer milk when in well-lighted stables than in dark ones. They need sunlight to develop their best qualities as much as a plant.

Some one once said that good butter might very easily be injured by overworking it, but it never hurt poor butter. This is very true. Overworking does not impart any bad flavor, but at the present time of good cows, well fed, and most frequently with a proportion of Jersey blood, working it too much to get out the buttermilk, or working it when too cold, breaks the grain, and gives a salvy, oily appearance which hurts its looks when put upon the table. Such butter also loses something of its good flavor, and becomes rancid much quicker than does that which is worked or washed only enough to get the milk out, and at such a temperature as will preserve its firm, waxy appearance and all its rich flavor.

Well-made cheese may be injured in the ripening process by an uneven or too low a temperature in the curing. If it ripens too slowly it becomes tough and leathery, and, though it may contain its proper proportion of fat, it will lose the feeling of melting in the mouth that a rich cheese should have, and will appear more like a skimmed-milk cheese.—American Cultivator.

The "Practical" in Dairying.

There is a tendency among the boys to carry that word "practical" as a shield to protect themselves against the necessity of brainwork. "We don't care about your theories," they say, "we are practical butter-makers"—and so they go on in the old rut. Yet the practical makers of to-day would have been deemed theoretical fools if they some twenty years ago had talked about centrifugal creaming; aye, even if they in some places had talked about using a thermometer! The good old lady would have said: "I don't care for your new-fangled notions, I use my fingers; I am a practical butter-maker." And so some of those who now ride in a highly "practical" manner in the railroad cars once denounced the inventors as theoretical fools. The devil never invented a finer breastwork against progress and civilization than that word "practical," misused and twisted in its meaning as it is by all of us, more or less. If we hear a lecture which is too deep for our own limited conception we excuse our own ignorance by saying, "Well, he lectured pretty well, but he is not practical." What, then, constitutes a practical lecture! A man lecturing about dairying to engineers would not be practical, yet 'tis a curious fact that the man who lectures on engineering to dairymen would be practical. And this reminds us how an extended education is necessary for the modern dairyman; indeed, we hardly know how to find a subject which would be impractical to lecture on to a set of bright, intelligent, modern dairymen, granted, of course, that the first line of thought should be nearest his present occupation. And it seems to us that this very idea should elevate the dairymen and spur them on to a greater pride in their profession.—Dairy Messenger.

Dairymen and Tubs.

Smith Fulmore of Humboldt, thinks the dairying business is only in its infancy as yet in that county. The time is coming soon when the small creameries in operation now will give way to plants having many times their capacity. Mr. Fulmore thinks also that the practice of putting up butter in rolls will soon be done away with. "The fact is," said he to a *Times* reporter, "pickling butter, no matter how it is done, hopelessly ruins its flavor. The time was when I didn't believe this proposition, but I know it now to be true. Shipment in boxes is not much better. If, for instance, we send our butter to Seattle or Portland, it must be stowed away in the holds of steamers or ferry boats, left in all sorts of places, in warehouses, on cars, etc., perhaps journeying for days with a tar barrel or a coal oil tank for

a neighbor. Under these conditions it would be a miracle if it were kept sweet."

"But how do you think butter will be shipped in the future?" ventured the scribe.

"In tubs, sir," promptly responded Mr. Fulmore. "This is the method used all over the East, and we will have to come to it in time, and not very long time either. You see they made these tubs out of white fir of all sizes, from those holding five pounds to those that contain a hundred, or more. Butter is sealed in these tubs with 'salt paste,' making it air tight and it may be shipped any reasonable distance without injury to the flavor."

The Excelsior is to be one of the largest creameries in the county. Arrangements have already been made to handle in it the milk from 3000 cows. At a reasonable estimate this will amount to almost a million pounds of butter a year.

The Value of Flavor.

Flavor is the leading factor involved in the quality of butter and is of most importance in the whole list as giving character and value to the product. The flavor of good butter is that combination of aroma and palatability which gives such satisfaction and delight when in contact with it that, after eating, one wants the more. This flavor must be present in a high degree in the make up of a fine product. Much butter, especially in winter, is simply negative in flavor—that is, it has no flavor, good or bad. Such butter is not so objectionable as that loaded with bad flavors, yet such is not good butter. The flavor must be positively good. The real high-toned deliciousness must be present or the product will be proportionately inferior.—From Paper Read Before Vermont Dairymen.

Starting a Creamery.

W. A. S., of Oregon, asks for information about starting a creamery in that State, number of cows required, cost, etc. If a separator creamery is desired, there should be at least 350 available cows within a distance of three miles of the creamery. If that number cannot be obtained, would advise a gathered cream plant. The cost of the first should not exceed \$3000 in that region. The cost of the latter will be about \$1500 to \$2000.

In either case it will take patience and experience on the part of the farmers and creamery people both to secure the best results. Do not expect full success for the first year. If you get to the top grade the second year it will indicate a deal of good sense all around in that community.—Hoard's Dairyman.

FORESTRY.

India Rubber Trees.

A recent report of the Brazilian Department of Agriculture deplores the rapid destruction of what were at one time looked upon as inexhaustible forests of India rubber trees, and suggests as a remedy that plantations for the cultivation of the tree be established, showing at the same time, by statistics, the enormous profits that would accrue to the planter. In view of the fact that Central and South America, and especially Brazil, are the main territories upon which the commercial world relies for its supply of crude rubber, this official statement from the Brazilian Department of Agriculture becomes worthy of consideration.

The large tracts of rubber forests in the valley of the lower Amazon have been, up to the present time, especially profitable, because they have required the investment of no capital and the employment of but little labor. The swamp land, where the rubber tree thrives, requires no cultivation and demands no care. The tree propagates itself and grows rapidly. All that is required for the collection of a harvest is to send men into the forest to blaze the trees and place receptacles at their base to catch the milk. The causes assigned for the depletion of the forests are the greed of the lessees of the trees and the carelessness of the laborers. No tree should be blazed more than three times in one day, and great care should be taken in this so that the hatchet may not cut through to the trunk itself. If the tree is thus wounded, it slowly withers and dies. If the wood is not touched, however, the blazing of the milk-yielding bark does no harm, and one tree will produce rubber for fully 50 years. If the yield is forced, however, by too frequent demands upon one tree, the crop becomes less every year and in a short time lasts utterly.

It is thus evident that an almost inexhaustible supply of rubber may be seriously injured by greedy merchants and their careless employes, for the dealer, as a rule, rents his rubber-yielding land, and cares only for the present return, with no thought of future production. Another source of injury is the poaching by the natives, who wander through the swamps of the upper Amazon, sapping rubber trees for their own benefit and selling their stolen milk to the traders on the coast.

The India rubber plant thrives only in a low and marshy country, and requires a mean atmospheric temperature of 90°. When transplanted to a more temperate climate, the tree ceases to yield milk, and becomes merely an ornamental shrub. In an equatorial climate, however, the plant flourishes, and will make a return in a few weeks for the capital invested in its early planting. The great drawback to planting is that a tree needs a growth of 25 years before it will yield milk. In a virgin rubber swamp, the tree grows among others of different species, so that one man can care for only about 150 trees; whereas, if it were planted in groves by itself, one laborer could attend to several acres, with an average of 540 trees to the acre. It is estimated that 540 wild trees yield 70 pounds of milk per day. This, when dried, gives 35 pounds of crude rubber, which is worth \$15, so that the annual yield per acre, at this rate, would amount to \$2250.

Senor Matias Romero, ex-Minister at Washington, and

the Brazilian Department of Agriculture are authorities for the statement that the India rubber tree under cultivation will yield twice what can be gathered from wild trees in the swamps. This statement is based on experiments made on the plantation of Senor Joachim Antonio de Silva, on the island of Boca Intento in the Amazon river, 12 miles above the city of Para. Here a tract of 40 acres, after 20 years of cultivation, gave a first crop aggregating \$500 per month per acre, or a total of \$20,000 for the first year that the trees were tapped. There was an interval of two months allowed for the trees to rest, so that the year really counted but ten months.

Other experiments in the cultivation of the plant have been made at Soconusco, on the boundary line between Mexico and Guatemala. Young rubber trees were transplanted by the Mexican Government 35 years ago, and they now each yield 50 pounds of milk annually. This amounts to 27,000 pounds of milk to the acre, which reduces itself to 12,000 pounds when dried into crude rubber. The average price of rubber would give a return of \$6000 per acre on this basis, which is double what is realized from the wild trees in the Brazilian swamps.

The official report of the Brazilian Department of Agriculture closes with the assertion that "neither tea, coffee, cocoa, hemp, indigo nor any other agricultural product is as profitable as rubber, the returns from the cultivation of which are almost like those of a mine in bonanza."

The great obstacle which has confronted all those desirous of fostering the cultivation of the rubber tree has been the labor problem. Almost the only human being able to work on the torrid swamp lands of Brazil is the native Indian, and he will only work a few days of the year, just enough to accumulate the few dollars necessary to sustain him. The heat and malaria kill off any white man, whether native born or immigrant, who attempts to work in the swamps, and the traders are therefore compelled to rely on the natives. The Indians know this, and for the most part go into the swamp on their own account, rob the trees of their milk, and sell it to the merchants. The Brazilian Congress has tried every means of preventing these marauders from invading the swamps, but as yet has been unable to frame any remedy.

Largely on account of this labor problem, the South Americans have given up the idea of laying out rubber-tree plantations. They look now to the more energetic North Americans to come down there and invest their capital and energy in the development of the rubber industry. As an inducement in this direction, and to show what could be done, the local Agricultural Bureau of Fomento has drawn up estimates to show what it would cost to establish a plantation. It is estimated that a crop could be gathered 20 years after the trees are transplanted, and that the investment of \$411, covering all expenses per acre during that period, would assure a return after 20 years of at least \$500 per year for each acre planted. But this calculation assumes that the labor problem has been solved in some way, either that high wages may induce the Indians to work steadily, or that coolies may be imported and prove able to stand the climate.

Perhaps an easier way to establish a plantation would be to purchase a tract of virgin forest in the Amazon valley, to clear away the old trees and those of other species, and then to care for the grown rubber trees already there. Such a proceeding would take about five years only, but would cost fully four times as much as the first plan. The cost of the swamp land would be small, but an acre of wild forest would produce only one-fifth as much as an equal area under cultivation. But even \$100 net profit would make fair interest on the investment. In either of these cases certain stringent laws would have to be passed and enforced to prevent marauding natives from killing the cultivated trees in their thieving invasions.—New York Sun.

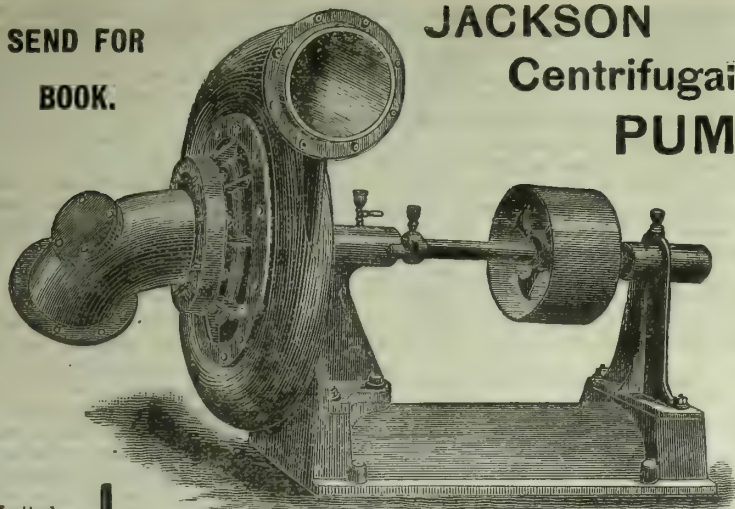
A Giant Redwood for the World's Fair.

The Eureka *Times* Rio Dell correspondent sends the following interesting account of the big tree from near Englewood that has recently been prepared for shipment to the World's Fair: "Mr. J. H. French has just completed the work of getting out a section of a mammoth redwood near Eel river and about two miles from Englewood. The log from which the outside was taken was twelve feet long and twenty feet in diameter at the butt, and bark and all scaled 36,000 feet board measure and was estimated to weigh when solid 129 tons; this, however, is not to be shipped whole. The outside or shell, about eight inches in thickness, is off, leaving the heart on the ground. It has been rafted down to the head of the Pacific Lumber Co's track and will go via Field's Landing to San Francisco, thence to Chicago, and when it reaches Jackson Park it will be put together and have a door so that visitors from all parts of the world can be admitted and see a Humboldt redwood outside and inside. Mr. French also got out a log two feet in length and fifteen feet in diameter and scales 3600 feet board measure, bark and all, and will be sent forward with the other pieces. This will be shipped in solid log and be a part of the Humboldt county exhibit. The shell is the property of Mendocino county parties, and has cost up to date \$700. The tree from which these pieces were taken was broken off 220 feet from the ground and was nine feet in diameter at the break, and Mr. French thinks the tree when standing at full height was 417 feet high. Mr. French is probably one of the best practical timber workers on the coast."

THE guns in use on the ships of our modern navy have a plate of steel armor fastened over them and bent slightly back, so that a missile striking it would be deflected upward. A visitor to one of the ships said that he supposed that this was a serviceable protection to the men who were working the guns. "Lor' bless yer!" replied the old salt who was explaining the mechanism of the big rifle, "tain't to protect the men. It's to keep the works from gettin' knocked out of order. There's men enough."

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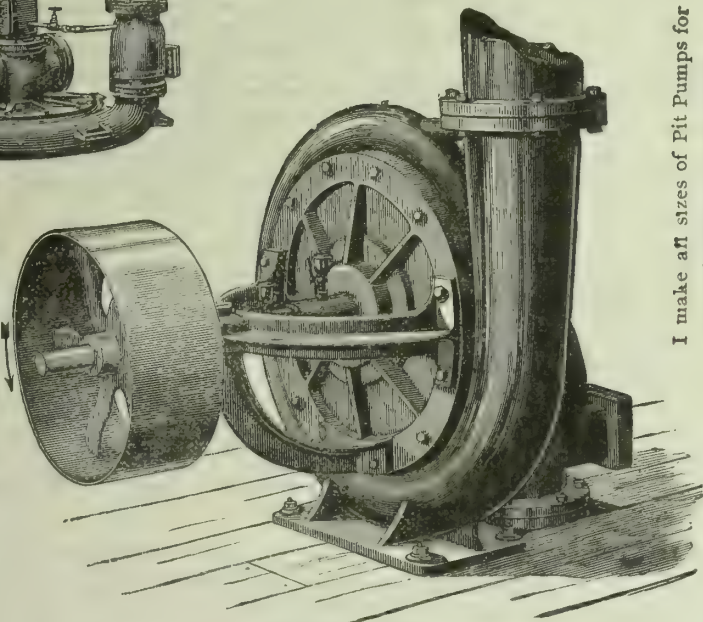


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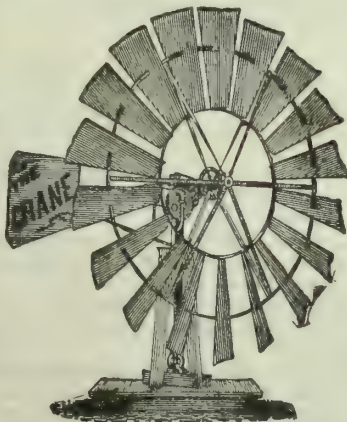
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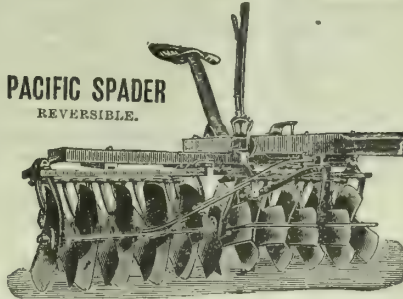
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Messrs. Truman, Hooker & Co.,
San Francisco, Cal.

Gentlemen:-I have laid aside my plows and substituted the 10-foot Pacific Spader. It is the best implement I have ever seen for pulverizing the ground and destroying the foul stuff. It works like a charm in adobe and I can heartily recommend it above any other implement. An implement of this kind is what I have wanted for years.

Yours truly, Chas. Graves.

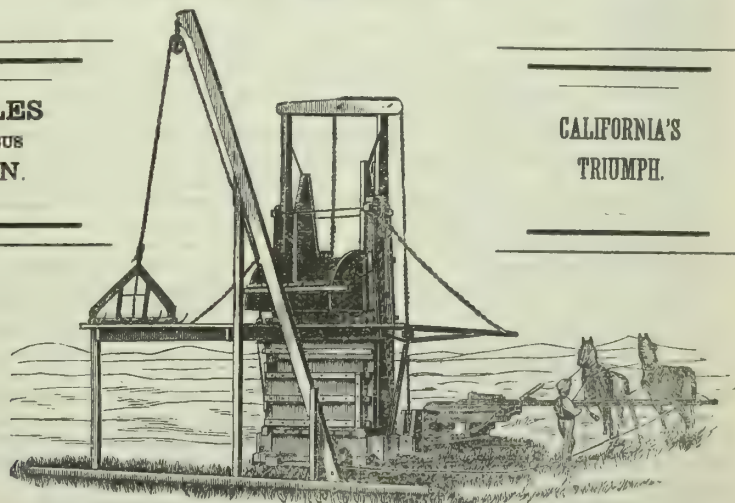
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THE HOME CIRCLE.

Spring Cleaning.

Yes, clean yer house, an' clean yer shed
An' clean yer barn in every part;
But brush the cobwebs from yer head
An' sweep the snow bank from yer heart,
Jes' w'en spring cleanin' comes aroun',
Bring forth the duster and the broom,
But rake yer foggy notions down
An' sweep yer dusty soul of gloom.

Sweep ol' ideas out with the dust
An' dress yer soul in newer style.
Scrape from yer min' its wornout crust
An' dump it in the rubbish pile,
Sweep out the hates that burn an' smart,
Bring in new loves serene an' pure,
Aroun' the hearthstone of the heart
Place modern styles of furniture.

Clean out your moril cubby holes.
Sweep out the dirt, scrape off the scum;
'Tis cleanin' time for helthy souls;
Git up an' dust! The spring bez come!
Clean out the corners of the brain.
Bear down with scrubbin' brush an' soap,
An' dump ol' Fear into the rain,
An' dust a cosy chair for Hope.

Cl'an out the brain's deep rubbish hole,
Soak every cranny great an' small,
An' in the front room of the soul,
Hang pooter pictures on the wall.
Scrub up the winders of the mind,
Clean up, an' let the spring begin;
Swing open wide the dusty blind
An' let the April sunshine in.

Plant flowers in the soul's front yard,
Set out new shade an' blossom trees,
An' let the soul once froze and hard
Sprout crocuses of new ideas.
Yes, clean yer house an' clean yer shed,
An' clean yer barn in ev'ry part;
But brush the cobwebs from yer head
An' sweep the snow banks from yer heart!
—Sam Walter Foss, in Yankee Blade.

Hungering Hearts.

Some hearts go hungering through the world,
And never find the love they seek;
Some lips with pride or scorn are curled
To hide the pain they may not speak.
The eye may flash, the mouth may smile,
The voice in gladdest music thrill,
And yet beneath them, all the while,
The hungry heart be pining still.

Oh, eager eyes which gaze afar!
Oh, arms which clasp the empty air!
Not all unmarked your sorrows are,
Not all unpitied your despair.
Smile, patient lips, so proudly dumb;
When life's frail tent at last is furled,
Your glorious recompense shall come,
Oh, hearts that hunger through the world!
—Elizabeth Akers Allen.

Helen's Wooing.

Written for the RURAL PRESS by FANNIE ISABEL SHERRICK.



HE schoolroom door was wide open. The first rains had swept the hills and mesas of southern California, having in their wake a fragrant and emerald beauty.

The fresh scent came in through the open door and windows, bringing sweeter thoughts to the tired school-teacher than her pupils suggested.

They were of all ages and sizes, from the infant of six to the full-grown young man who towered head and shoulders above the pretty little instructress.

"Ralph Sumner, come forward!"

The awkward youth with a face handsome enough for a Greek Apollo came to the front of the room and took his seat facing her.

The rest of the pupils were too busy or not keen-sighted enough to observe the look of unmistakable adoration with which he regarded her, or the conscious blush that mantled her fair face as she turned her eyes to the open book before her.

She tapped the floor impatiently for a moment as though to recover herself, and then went gravely on with the lesson, which chanced to be a Latin one.

Helen loved to teach so apt a pupil. His mind went with swiftness to meet hers. It was a rare delight. She hardly knew there were other pupils in the room until their noise aroused her, and she scarcely realized herself the lesson she had been teaching this handsome young ranchman—the lesson which was not contained between the covers of the books he studied.

Before he returned to his seat, he slipped a folded piece of paper underneath her book. Her cheeks became a vivid red.

"What audacity!" she thought, and yet she read the carefully written words eagerly: "Helen, I love you. Meet me in the Red Woods after school."

For a moment she could see nothing before her; then she raised her eyes only to drop them before his pleading gaze.

When school was over, she stood irreso-

lutely before the window for a few moments looking with far-off gaze to the blue hills; then she hastily donned her hat and gloves and took the path to the Red Woods.

There was no mistaking the signs. Helen was as madly in love with her boy-pupil as he was with her.

How it had all come about she could never tell. She was only conscious of one thing when she reached the Red Woods, that the tall figure that rose to meet her under the shadow of the great trees was the one that she most longed to see; that the strong boyish hands that clasped her own were the ones that she most longed to touch.

It was almost dusk when they parted, only a red glow deepening the sky as it touched the rim of the ocean.

What had been said there under the shade of the tall trees would never be known, but it had changed the current of two young lives.

As subtle and fragrant as the breath of the pines is love, and as grateful and subduing to the senses!

Most people would have thought the affair very silly, but these two found it a very serious matter.

Ralph was young and inexperienced, still dependent upon his father. Helen, though earning her own living, was not independent, for she was the support of her mother and younger sister.

The table was laid for tea when she entered the cozy cottage they called home. Her mother was sewing placidly; her sister busy with the supper.

"Did you stop at the postoffice for the mail, Helen?" inquired her mother.

Helen felt a twinge of conscience as she answered "No."

"I will stop the first thing in the morning and send it by one of the boys if there is any," she added, thinking mentally what a selfish creature love had already made of her.

"Mr. Sumner was here this afternoon."

"Indeed!" Helen flushed perceptibly, but her mother did not notice it. "On what business did he come?"

"He has changed his mind about buying our meadow land; says he does not want it."

Helen knitted her brows thoughtfully. The sale of the meadow land meant a good deal to them. It would almost clear the mortgage upon their house—a mortgage which had been entailed by the long sickness and death of her father some years before.

An uncle in Wisconsin had paid for her education in a good school in the East, and she had hoped by teaching to earn enough to support them comfortably, and by selling the land to clear the mortgage. They would then have a good home, with enough garden land to cultivate with profit.

But just now the fruition of her plans seemed very far off.

"I'm sorry," her mother said, regretfully. "he's a rich man and could afford to buy it easily. It's good land, too. He wouldn't lose by it."

"Well, never mind, mother, don't worry. It's always darkest before the dawn. Something will come if this don't."

"Come," said Anna, who had lighted the lamp and placed the supper on the table, "eat first and think afterward. It is late enough, goodness knows."

They were all somewhat silent during the meal, each one lost in her own meditations.

Anna was wondering about the school to which her uncle had promised to send her; her mother was thinking of the mortgage, and Helen striving to reconcile her newfound love with existing circumstances.

She was almost afraid of Mr. Sumner. Ralph's father. He was considered rather a hard man. She feared he would never give his consent to a marriage between Ralph and herself, and she felt sure if his son married against his wishes, he would never forgive him.

"I suppose it is foolish," she said to herself. "He wants Ralph to enter college, and Ralph, because of his love for me, is determined to give up the college and begin to earn a living. His father will be furious when he hears of this determination, and, if our marriage should ever take place, may cut him off with a shilling. Is it right then for me to stand in his way?"

So absorbed was she then in settling this question that she rose from the table before she had finished her supper, excusing herself on the plea of work, going into her own room there to think it all out.

When she emerged half an hour later, there were no traces of tears on her face, although she had shed many. She was quiet and cheerful, chatting pleasantly with her mother and sister over the events of the day as she sat with sewing in hand, for Helen, though not a heroine in any sense of the word, was a good, unselfish girl and did not believe in making sacrifices in such a way as to make every one around her unhappy.

What she gave, she gave freely and nobly.

Because she chose the right path, which was also the hardest path, she did not look like a martyr going to the stake or a lamb to the slaughter.

She had faith enough to feel that the path to duty must also lead to happiness.

If we follow the right leading, hard as it may seem, we are sure to be happier in the end. This is God's law of recompense.

The next morning Ralph found a closely written letter lying on his desk. He read it with fast beating heart and paling face. When he was done he laid the letter aside and leaned his head on his folded arms. Not once had he glanced in Helen's direction.

This mute despair smote Helen to the heart. She could scarcely fix her attention upon the exercises of the morning.

At last school was over and she walked thoughtfully home in the bright sunlight, her warm, sympathetic heart torn by the wound she had inflicted upon her young lover. She was aroused from her abstraction by a step behind her. It was Ralph. He seized both of her hands in his and held them tightly.

"Helen, do you think my love is so selfish that I would not give up all my hopes of an inheritance for you? You are all to me, more than wealth, more than family; you are my life, Helen."

Such simple, heartfelt words could not help but weaken her resolve. He saw it and continued earnestly:

"I am young, I am strong; I can work. Let us love and wait, Helen; all will come right."

The tears filled her eyes. He was so noble, so young, so inexperienced. All her heart went out to him.

He brushed her tears away gently.

"Helen, with all my heart, with all my soul, I love you. For the sake of that love, reconsider your decision."

Who could resist such a lover?

"We will love and wait then," she said simply.

And so these foolish young things walked home in the warm noon together, so happy that they scarcely knew they trod upon earth. It was agreed that they would wait until Ralph was twenty-one, and then, if his father's consent was not forthcoming, they were to begin life together on their own responsibility, for Ralph had already had the offer of a good position in one of the wholesale mercantile houses of the neighboring town when he should become of age.

Helen entered the house with flushed cheeks and happy, sparkling eyes. She resolved to tell her mother all just as soon as dinner was over. But she had not time to make her confession ere her mother called her into the little bed-room, looking very mysterious, but at the same time very happy.

"Mr. Sumner was here again this morning," she said, with something like subdued triumph in her voice.

"After the meadow land?" queried Helen, hoping against hope.

"No, after me."

"You!" Helen nearly fainted.

"Yes, he says it's me he has been hankering after all the while instead of the meadow land, but he was afraid to say so."

"And he is cute enough to know that if he gets you the meadow land will be thrown into the bargain," said Helen, who had now recovered herself.

"Yes, and I will be part owner of his goodly acres. Besides, he is a good, square man, and one most any woman would be proud to have for a husband. Helen, you don't think I am an old fool for loving him, do you?"

"Gracious, no!" said Helen, whose own cheeks were burning with her secret. "I want you to be happy, and I am so glad you will have a comfortable home and some one to love you and care for you the rest of your life. Besides, dear mother, your happiness may lead to mine."

Then she hid her hot cheeks on her mother's shoulder and confessed all.

Her mother was surprised, but not at all displeased, for her heart had gone out often to the motherless Ralph, and his manliness and nobility of character seemed to mark him as a fitting mate for her loving, unselfish daughter.

"I think it will not be hard to win his father's consent," she said with a roguish twinkle in her soft gray eyes, "for, Helen, you have no idea how much in love with this vain old woman my father is."

Helen smiled gaily, a great load lifted from her heart.

"Vain old woman indeed! You are the most precious of mothers and the handsomest of women. It is no wonder the old man has been 'hankering' after you."

After school, that afternoon, in the dim, romantic shadow of the dear old Red Woods, Helen confided the secret to Ralph. He danced a double shuffle and rolled over

in the grass with delight, until Helen, who had laughed until she cried, recalled him to his senses.

"And so I am to have a new mother," he said, rising to his feet and trying to look solemn.

"And I a new father," added Helen, demurely.

"And all's well that ends well and has a good beginning," said Ralph, as they turned their faces homeward. "Who would have thought the old folks were courting too?"

Washing and Dressing a Baby.

In small houses, while the family is small, the best rooms are very properly used as nurseries, writes Mrs. William Ewart Gladstone in the *Ladies Home Journal*. The nursing is good, for it is directly under the mother's eye. Here some of the common cares and duties that make a good nurse are practically taught. The simple precautions thus learned are not always attended to when the nurse acts independently of the mother. Old custom lingers long in nursery matters, longest, perhaps, in the first traditional handling of infants, where the experience of the nurse has to be trusted to. The most "experienced nurse" has to be distrusted. Experience is often pleaded as an excuse for carelessness, or as a cause for the nurse's convenience coming before the welfare of the child. To some nurses it is too much trouble to use a thermometer for the infant's bath, they can tell it is the right heat; if not, it has been said, the infant will cry and look red, if the water be too hot, blue if too cold. They are slow, also, to consult the thermometer on the wall; they like the room to be warm, and prefer a bright light from gas or lamps, when the night light is all that should be allowed. The temperature of the water used for washing an infant should be nearly that of the body—96 degrees or 98 degrees F. As the child grows older, the heat of the water should be gradually lessened, while the limbs should be allowed free exercise in a large tub. Some children do not bear cold water well; good sense, discrimination and observation should be our guides in this as in all other matters.

The World a Coconut Shell.

The savage islanders of the south Pacific believe that the world is a coconut shell of enormous dimensions, at the top of which is a single aperture communicating with the upper air, where human beings dwell. At the very bottom of this imaginary shell is a stem gradually tapering to a point, which represents the beginning of all things. This point is a spirit or demon without human form, whose name is "Root of All Existence." By him the entire fabric of creation is sustained. In the interior of the coconut shell, at the very bottom, lives a female demon. So narrow is the space into which she is crowded that she is obliged to sit forever with knees and chin touching. Her name is "The Very Beginning," and from her are sprung numerous spirits. They inhabit five different floors, into which the great coconut is divided. From certain of these spirits mankind is descended. The islanders, regarding themselves as the only real men and women, were formerly accustomed to regard strangers as evil spirits in the guise of humanity, whom they killed when they could, offering them as sacrifices.—Washington Star.

The Use of Glasses.

Those persons who find it necessary to hold any object nearer than 14 inches from their eyes, and who find that their eyes become dry and itching on reading, need glasses. Persons under 40 years of age should not wear glasses until the accommodating power of the eye has been suspended and the exact state of refraction determined by a competent optalmic surgeon. The spectacle glasses sold by peddlers generally are hurtful to the eyes of those who read much, as the lenses are made of inferior sheet glass, and not systematically ground. No matter how perfectly the lenses may be made, unless they are mounted in a suitable frame and placed before the eye, discomforts will arise from their prolonged use. Persons holding objects too near the face endanger the safety of their eyes and incur the risk of becoming near-sighted. The near-sighted eye is an unsound eye, and should be fully corrected with a glass, notwithstanding the fact that it may need no aid for reading. The proper time to begin wearing glasses is just as soon as the eyes tire on being subjected to prolonged use.—Detroit Free Press.

A Shrewd Dog.

A family let their house furnished, leaving in it a large dog. The tenant was an old lady who liked to sit in a particularly com-

fortable chair in the drawing-room, but as the dog was also very fond of this chair, she frequently found him in possession. Being rather afraid of the dog, she did not care to drive him out, and therefore she used to go to the window and call "Cats!" The dog would then rush to the window and bark, and the lady would take possession of the chair. One day the dog entered the room and found the old lady in the chair. He ran to the window and barked excitedly. The lady got up to see what was the matter, and the dog instantly seated himself in the chair.—Youth's Companion.

What a Comma Cost.

Let us not overlook the importance of trifles. In mental, spiritual and temporal life they make and unmake, advance and retard, carry forward to success or drag down to failure. As an example of what the insignificant may be worth in dollars and cents, the New England *Grocer* cites the instance of what a comma once cost our government: Possibly the smallest, and apparently the most insignificant, of all blunders was the most expensive one of the kind ever made. It occurred in a tariff bill more than twenty years ago. There was a section enumerating what articles should be admitted free of duty. Among the many articles specified were "all foreign fruit-plants," etc., meaning plants imported for transplanting, propagation or experiment. The enrolling clerk, in copying the bill, accidentally changed the hyphen in the compound word "fruit-plants," to a comma, making it read, "all foreign fruit, plants," etc. The consequence was that for a year—until Congress could remedy the blunder—all the oranges, lemons, bananas, grapes and other foreign fruits were admitted free of duty. This little mistake, which the most careful man might easily have made, cost the government about \$2,000,000.

"Widders Is Dangerous."

Farmer Jones sought an interview with Widow Brown. He had long prided himself upon his Shorthorn cattle as being the best for miles round; she was in her way as proud of her poultry and pigs.

"Widow Brown," said he, "I am a man of few words but much feeling. I possess, as you know, between three and four hundred head of cattle. I have saved up some eight hundred pounds or so, and I've a tidy and comfortable home. I won't you to become my wife. Now, quick's the word with me; I give you five minutes to decide!"

"Farmer Jones," said Widow Brown, solemnly, "I am a woman of few words—I'll say nothing of my feelings. I possess, as you know, between three and four hundred head of poultry, and about ten score of pigs. I have high upon twelve hundred pounds well invested—my late husband's savings and my own earnings—I tell you I wouldn't marry you if it were a choice between that and going to the scaffold. Sharp's my word, and I give you three minutes to clear off my premises!"—Ex.

Only Man Ever Killed by a Meteor.

To the writer's certain knowledge there is but one case on record where a human being has been killed by an aerolite or fall of meteoric stone. The fatality mentioned occurred in Whetstone township, Crawford county, Ohio, in 1875, and is recorded in the *Bucyrus Journal* as follows: "As David Misenenthal, the famous stockman of Whetstone township, was driving his cows to the barn about daylight this morning he was struck by an aerolite and instantly killed. It appears as if the stone had come down from a direction a little west of south, striking the man just under or on the right shoulder, passing obliquely through him from the right shoulder to just above the left hip, burying the greater portion of his body under itself in the soft earth. The stone is about the size of a wooden water bucket, and appears to be composed of pyrites of iron.—Philadelphia Press.

To Keep the Hands Soft.

A little ammonia or borax in the water just luke warm, will keep the skin clean and soft. A little oatmeal mixed with the water will whiten the hands.

Many people use glycerine on their hands when they go to bed, wearing gloves to keep the bedding from being soiled; but glycerine makes some skins harsh and red. Such people should rub their hands with dry oatmeal and wear gloves in bed.

The best preparation for the hands at night is white of egg, with a grain of alum dissolved in it.

"Roman toilet paste" is merely white of egg, barley, flour and honey.

They say it was used by the Romans in olden times. Anyway it is a first-rate

thing; but it is mean, sticky stuff to use, and does not do the work any better than oatmeal. The roughest and hardest hands can be made soft and white in a month's time by doctoring them a little at bedtime.

Lemon will remove stains from the hands. Manicures use acids in the shop, but the lemon is quite as good, and isn't poisonous while the acids are. You should have a nail brush, of course.—Farm and Field.

It Sulted the Caucus.

The politicians of the second ward were in convention to choose from among their ranks a man to represent the ward in the city council. Nominations were in order. P. Magnin arose, and upon receiving the attention of the chairman, slowly and with characteristic eloquence said:

"Gentlemen av this convention, Oi move that we nominate Patrick O'Hoolihan t' ripresent th' interists av th' Dimecrotic party av th' sicond ward in th' city council."

"Who's O'Hoolihan?" came a voice from the rear of the hall.

"He's a frind of moine," replied Politician Magnin.

"Whir is he?" came another voice from the same direction.

"He'll be over t' this country in about two months."

The reply was satisfactory to the convention, and O'Hoolihan was placed on the list of delegates.—Chicago Tub.

Oatmeal and Oranges.

No sort of food is better for the complexion than oatmeal and oranges. The finest complexions in the world are those of the Italian and Spanish ladies, who live largely on coarse-grained food and fruit, like the orange or banana. It is said that the fact is becoming appreciated, and that some ladies, to acquire and preserve a good complexion, are living almost entirely on oranges. Half a dozen for breakfast, with a cup of coffee; a dozen for lunch, with a glass of milk and a saucer of oatmeal, and a dozen more for supper, with a crust of bread and a sip of tea may not be high living in the proper sense of the word, but such a coarse of diet will bring a complexion of peach and ivory which will drive almost any belle out of her head with envy.—St. Louis Globe-Democrat.

One Way to Gratify a Toad.

There are few things more amusing than to watch a toad submitting to the operation of a back-scratching. He will at first look somewhat suspiciously at the twig which you are advancing toward him. But after two or three passes down his back his manner undergoes a marked change; his eyes close with an expression of infinite rapture, he plants his feet wider apart and his body swells out to nearly double its ordinary size, as if to obtain by these means more room for enjoyment. Thus he will remain until you make some sudden movement which startles him, or until he has had as much petting as he wants, when with a puff of regretful delight, he will reduce himself to his usual dimensions and hop away, bent once more on the pleasures of the chase.

To Cure Warts.

Pass a clean, bright, new pin through the wart, and then hold it so you can apply one end of the pin to the flame of a lamp; hold it there until the wart fries under the action of the heat. A wart so treated will take final leave. A wart with a slender root may be destroyed by fastening around it a silk thread or horsehair. After it drops off, the roots should be touched with caustic to prevent it growing again. Hard warts should be cut off smoothly with a knife or sharp scissors, and then caustic applied to their roots to destroy them. Warts may also be cured by touching repeatedly with lunar caustic, blue vitriol, or chloride of zinc.—Dr. George M. Beard.

A Sarcastic Tombstone.

An eighteenth century tombstone in the old Catholic burying-ground at Concord, Mass., proves that the best intended epitaphs may, with the lapse of time, take on an ironical significance. The stone stands awry, is fast crumbling, and shows the discoloration of a century's exposure and neglect, but it still bears in legible characters this now incongruous inscription: "This stone is erected, by its durability to perpetuate the memory and by its color to signify the moral character of Miss Abagail Dudley."

Finance.

"I made \$10 this morning, pa."

"That's right, my son. I'm glad to see that you recognize the advisability of being independent of parental assistance. How did you make it, my boy?"

"Borrowed it from ma."—Truth.

YOUNG HOLKS' COLUMN.

The Best Beauty.

I know a little fellow,
Whose face is fair to see,
But still there's nothing pleasant
About that face to me.
For he's rude and cross and selfish,
If he cannot have his way,
And he's always making trouble,
I've heard his mother say.

I know a little fellow,
Whose face is plain to see,
But that we never think of,
So kind and brave is he.
He carries sunshine with him,
And everybody's glad
To hear the cheery whistle
Of the pleasant little lad.

You see it's not the features
That others judge us by,
But what we do, I tell you,
And that we can't deny.
The plainest face has beauty,
If its owner's kind and true,
And that's the kind of beauty,
My girl and boy, for you.

—Selected.

Cut Up.

There was a man in our town,
And wondrous wise was he;
And with an ax and many whacks,
He once cut down a tree.

And, when he saw the tree was down,
With all his might and main
He straightway took another ax
And cut it up again.

—Indianapolis Journal.

The President and the Bootblack.

DURING the troubles in South America last fall, in which the United States of Colombia was involved, a dirty and ragged bootblack presented himself one day at the gate of the President's palace in Bogota. He was ordered to move on, but insisted with such ardor upon seeing the President that a messenger finally told that dignitary of the boy's request.

"Let him come in," was the order. "What do you want?" asked the President as the bootblack entered.

"Your protection, Mr. President," answered the boy.

"And protection for whom?"

"For myself and companions."

"But I do not know you, nor do I know who your companions are, nor what protection you seek."

"Mr. President," said the boy, posing in bold attitude, "I am a poor bootblack and my companions are of the same calling. We shine boots and sell newspapers, and with what we earn we feed and clothe ourselves, and, as far as we can, assist our families. At other times the same thing has occurred as to-day, but no one has dared to make a complaint, and if there was a newspaper that would do it the facts would be denied by some official; but to-day they can't deny what is taking place."

"And what is taking place?" interrupted the great man.

"We are being taken as recruits, Mr. President."

"But, my boy, there is no recruiting going on now."

"We are not recruited for the army, Mr. President, but we are tied and carried to work on coffee plantations. Even at this moment thirty of my companions are leaving Bogota under an escort of either Tolima or Fusagasuga."

The President made inquiries and immediately took steps to remedy the wrong.

This story reminds one of the Boston boys who called upon General Gage during the British occupation in 1768. They were in the habit of building snow forts on the Common, and the British soldiers smashed these toy fortifications in order to tease the boys. This interview is historic.

"We come, sir," said the spokesman of the party, "to demand satisfaction."

"What?" exclaimed General Gage, "have your fathers been teaching you rebellion, and sent you to exhibit it?"

"Nobody sent us," replied the lad, indignantly. "We have never insulted or injured your soldiers, but they have trodden down our snow-hills and broken the ice in our skating pond. We complained. They called us rebels, and told us to help ourselves if we could. They laughed at us. Yesterday our work was destroyed again, and we will stand it no longer."

General Gage was so pleased with the manly boys that he ordered the soldiers to cease molesting them, adding to an officer: "The very children here draw in a love of liberty with the air they breathe."—Harper's Young People.

DOMESTIC ECONOMY.

CORNSTARCH PIE.—Mix one tablespoonful of cornstarch and two tablespoonfuls of sugar and stir them into the beaten yolk of one egg; add the beaten white and one teaspoonful of vanilla and a pinch of salt and one pint of hot milk. Bake in an under-crust like a custard pie.

HOARHOUND CANDY.—Boil two ounces dry hoarhound in one and one-half pints of water for about half an hour, strain and add three and one-half pounds brown sugar; boil over a hot fire until sufficiently hard; pour out in flat, well greased tins, and mark in sticks or small squares with a knife as soon as cool enough to retain its shape.

SCALDED CORNMEAL CAKES.—Mix half a teaspoonful of salt and one teaspoonful of sugar with one cup of fine white cornmeal. Pour on boiling water enough to scald and swell the meal. When all moistened, add milk enough to make a thick batter that will not spread when dropped on the griddle. Cook slowly until one side is browned, then turn and cook the other side.

RICE CUPS.—Soak the rice all night in cold water, then strain it, and boil the rice in a little milk, so that it may be quite dry when done. Mash it fine, and while it is hot add a little butter, sugar and grated nutmeg to taste. Press the rice so prepared into small cups or ornamental tin molds; fill them full and press it solidly. When they are cold turn them out, place upon a dish, and pour an ordinary custard around them, and eat with sweetened cream.

BANANA FLOAT.—Take a small box of gelatine and dissolve it in a teacup of cold water for an hour. Boil three pints of sweet milk and two and one-half teacups of sugar together. Dip out a little of the boiling milk and stir it into the gelatine, then stir this into the rest of the milk and boil ten minutes. When cool, stir in six bananas that have been broken to pieces with a silver fork. Mix thoroughly, and set it on ice. The next day, an hour before serving, take a quart of rich cream, sweeten to taste, flavor with vanilla, and whip it well. Put the frozen bananas in a glass dish or bowl, with the whipped cream on top.

ORANGE PUDDING.—One of the most delightful orange puddings is a simple custard. Beat four eggs to a froth, add five tablespoonfuls of sugar and the yellow rind of one Mediterranean orange. Whip the mixture well with a pastry whip and add a pint and a half of rich milk, with half a teaspoonful of salt. Mix well. Pour this custard into little tin molds holding about a gill and a half. The molds should be buttered and then sprinkled with a little sugar before they are filled. Set the puddings in a pan of lukewarm water and put them in a moderately hot oven; cook them till they are firm in the center. It will take about 50 minutes. When they are done, make a sauce for them. Mix two well-beaten eggs with half a teaspoonful of flour and two teaspoonfuls of powdered sugar. Add a scant teaspoonful of cornstarch. Beat all these ingredients thoroughly together with a pastry whip, and add gradually a cup and a half of boiling hot milk. Continue to stir the sauce over the fire till it boils; then add a gill of good sherry. Stir again and pour the sauce over the puddings.



A cream of tartar baking powder. Highest of all in leavening strength.—*Latest U. S. Government Food Report.*

ROYAL BAKING POWDER CO., 106 Wall St., N. Y.

AGRICULTURAL NOTES.

CALIFORNIA.

Alameda.

Livermore Herald: Mr. McDonough has leased the James Whalen place on the Dublin road, about five miles from town adjoining the Valensin place, and intends making it a stock farm of the first-class order. He is the owner of Ormonde, the English running horse, for which the neat sum of \$105,000 was paid. This valuable horse will be kept on this place. He has leased the place with the privilege of buying it at \$200 per acre if he so desires.

Butte.

Oroville Register: Mr. C. N. Phillips of Wyandotte has his ground all ready to set out 1400 orange trees. They will be Washington Navels and Oroville Seedlings.

Register: There are ten teams plowing in Judge Gray's big olive orchard east of this town. The season is later than usual, and the work is being pushed with all dispatch.

Register: Calvin Yetter, two years ago, picked 1400 pounds from a single apricot tree. Desiring to test the weight of the green and the dried fruit, he, after drying the apricots, again weighed them and found that he had but 165 pounds.

Register: A lady who kept an account of her hens says that she had 18 during a period of 84 months, and that the feed for them was bought during that time. The hens laid 84 dozen eggs and 70 chickens were raised. The net proceeds were \$30 over all expenses.

Chronicle-Record: Quail may be plentiful in the valley, but many were frozen by the cold winter in the mountains, and it is a fortunate thing that they are amply protected by California laws. Mongolian pheasants are multiplying rapidly in some parts of the State. J. H. Rice, the cashier of the Bank of Dixon, recently received a brace from an Oregon friend.

Register: Nine years ago C. S. Yetter planted eight prune trees on some land owned by Judge C. F. Lott below town. The trees came into bearing when four years old, and two years ago they returned him 515 pounds of dried fruit which he sold at ten cents a pound, or \$51.50, which is \$6.43 per tree. Mr. Yetter has out 1900 trees, and says that his prunes and peaches do better than any other fruit that he has yet in bearing.

Gridley Herald: T. D. Hutchins of Central House will have this year 15,000 two-year-old and 6000 three-year-old peach trees, 2000 older peach trees, 1800 apricot trees, 250 French prune trees, 1000 Silver prune trees, 150 Bartlett pear trees and 18 acres of grapes, all of which will bear fruit this year. Most of these are upon his own land, but some are on land of Mrs. Hefner that he rented. This gives him 26,000 trees and 18 acres of grapes.

Register: J. A. Cleveland of Thermalito says the fruit trees of that district are looking exceedingly well. They are making a fine growth, and the ground is in good condition for working. The peach trees are well set with fruit and so are the apricots, nectarines and almonds, while the quince trees have but a partial crop. Many teams are at work, including Cleveland, 4; J. R. Preston, 4; J. B. Kiefer, 4; W. J. Austin, 4; O. K. Cleveland, 2; L. W. Boswell, 2; A. H. Sligar, 2; M. H. Eicher, 2; F. Fairchild, 1; W. A. Rogers, 1; J. D. Griswold, 1; Antone Christenson, 1; Alex. Bartley, 1; Citrus Association, 1, making 31 in all. If the weather continues favorable, the number will be rapidly increased.

Fresno.

Expositor: A good many of the orchardists east of Fresno are experiencing considerable trouble this spring from birds picking the bloom off their young fruit trees, especially the apricots. These same birds live on fruit when it gets ripe, and are very troublesome, especially to peaches, strawberries and blackberries. The farmers and vineyardists throughout the colonies have practically exterminated the jackrabbits, but from all indications they are likely to be bothered with a worse pest, so far as fruit raising is concerned, than the jackrabbit, for there is no means of fencing against the birds. There is no objection to poisoning them, as the birds are liable to get poison on their bills and then peck into fruit and poison any one who might eat it.

Los Angeles.

Azusa Pomotrophic: H. L. Macneil, of the State Fish Commission, tells us that a large number, 250,000, young *Salmo fontinalis*, the speckled or brook trout of the northern United States, will be liberated in the tributaries of the San Gabriel this season, making 60,000 of this favorite placed in our river.

Pasadena Star: The wildcat, or lynx, in Heiss Bros' window, was trapped by a 13-year-old La Canyada boy—David Veilex. He'll make a nimrod.

The Los Angeles Herald says that J. B. Lanckershim, one of our pioneer wheat-growers, says that for 20 years past his company has not lost a single grain crop from lack of rain. All the casualties have been caused by too much rain. We state this fact for the benefit of those who think Los Angeles is a dry county.

Pomotrophic: There is sure to be a good demand for choice apricots and peaches in this valley this season, and deciduous growers should begin work upon their orchards in time to secure the finest fruit. Thorough cultivation, thinning and proper irrigation are among the coming essentials. The pruning has already been attended to. If there is a dearth of fruit in the East, our slovenly fruit-growers may make money, but should there be a heavy crop of apples, peaches and pears in the East-

ern States, only fine canning and shipping fruit will bring a remunerative price in southern California. Then see to it that you produce the best. You will be safe then under any circumstances.

Mendocino.

Republican Press: One of the sales closed the past week by H. B. Muir, real estate broker and general business agent of this city, was the sale of the Coates ranch (160 acres) at the upper end of Little Lake valley. The purchaser was George Horst of Calpella.

Merced.

Modesto Herald: West Side farmers are happy in the contemplation of enormous crops this year. The outlook at this time is better than at even date in 1884, when a phenomenally heavy crop was harvested, according to all reports. On this side the outlook is very good, save in some of the sand districts, where in large tracts the grain has actually been blown out of the ground. The acreage, too, on this side is light, the frequent rains having prevented the cultivation of much of the heavy land east of this city.

Modoc.

The Alturas Herald says the loss of cattle in Modoc county will be great this season. Most of the stockmen are only feeding their stock half rations, and it is doubtful if they will have enough left to last by so doing.

Monterey.

Pajaronian: Santa Clara prune-growers claim that the market for prunes will be fully as good this year as it was last season. If this claim is going to be true the Pajaro orchardists ought to make another prune-killing this year, as at present the outlook is very favorable for a large crop in this section.

Pajaronian: W. V. McGaffey was over from the Moro Cojo ranch the latter part of the past week. He had just sold all of the cattle he had been fattening on the beet farm, and made a good turn. A San Francisco firm purchased the major part of the band. From the results of the beef-fattening campaign he intends to go into the business on a larger scale on the sand dunes on the line of the narrow gauge. It will then be possible for all of the pulp to be used near home, and the little road will do the freighting business.

Salinas Cor. to Bulletin: On a visit to the Moro Cojo ranch, the writer met W. V. McGaffey, who makes the raising of sugar beets a specialty. A hundred head of cattle, about to be shipped to San Francisco, were shown, that had been fed on beet pulp. The average weight of the cattle was estimated at 1300 pounds. They were certainly the fattest ever shipped from this county. Moffit, the butcher from San Francisco, was the purchaser, and the price paid was seven cents a pound. These were the first cattle fattened for the San Francisco market on sugar-beet pulp and certainly the experiment proves a great success. Moss landing is becoming a very important point. Thousands of tons of grain, potatoes, etc., are shipped hence annually. There are now about 3500 tons of grain on hand unsold.

Orange.

Blade: Although the five packing-houses of the city have been running at full capacity for some time, yet in a ride through the orange belt the orchards do not indicate that the crop has been disturbed, so full are the trees of the golden fruit.

Chino Champion: We are told on good authority that the Anaheim farmers will plant about 1200 acres of beets this spring, the crop of which will all be brought to Chino to be worked up. The Southern Pacific Company has made a further reduction in the rates for carrying them, making the tariff 75 cents per ton instead of 87 1/2 cents as before announced. This includes unloading the beets from the cars at the factory here by the railroad people. These rates are extremely liberal, and will place the Anaheim farmers on nearly an equal basis with the Chino people.

San Bernardino.

Citrograph: The Bear Valley Irrigation Company is now furnishing water on about 6000 acres of land. The land being irrigated comprises 2000 acres at Alessandro, 1000 at Perris, 2000 at Redlands and about 1000 at Highlands. Recently contracts have been completed to deliver water for the irrigation of fully 50,000 acres inside of a few years, 25,000 acres of which is located at Alessandro, 6000 at Redlands, 16,000 at Perris and 2500 acres in Highlands and vicinity.

Chino Champion: At the sugar factory preparations are being made for the work of enlarging the plant. Machinery is being taken apart and moved until some parts of the great factory are again labyrinths of castings, wheels and bolts. Everything is being put in readiness to receive and put in place the new machinery as soon as it arrives. That part of it of American manufacture is expected in a few days, while the parts being made in Europe will probably not arrive for several weeks yet. Manager Hamilton is still in Europe looking after its shipment and will hurry it forward as fast as possible.

Chino Champion: There are now about 3000 acres planted to beets on the ranch, of which a considerable portion are up. Thinning on a small scale commenced the first of this week and will be kept up continuously from now on. Next week quite a large force will probably be put on. The cold weather of the past few weeks has been favorable to the ravages of the wire worms, which have made it necessary to replant a number of fields. However, the ground is well filled with moisture, and it will be possible to plant seed much later than last season. If the weather continues clear now

and gets warm there will not likely be any further trouble with worms, and a good crop will be realized.

Sonoma.

Bennett Valley cor. to the Republican: The blue birds, the red-breasted birds, the doves and the swallows are here, but still it rains. We have asked ourselves several times during the past week, "How many song-birds does it take to bring gentle spring?"

Democrat: About a year ago 30,000 rainbow trout were planted in Santa Rosa creek by the Fish Commissioners, and this year an effort is being made to get the Commissioners to plant Eastern trout, and see if another variety cannot be added to the creek.

Sonoma Tribune: C. A. Reiners, of Dry Creek valley, is shipping directly to Chicago 10,000 gallons of choice Reisling wine, '92 vintage. His production has a ready sale in the East, and the prices he realizes are very profitable. Mr. Reiners is one of the most successful wine-growers in the State.

Democrat: A well-posted resident of Bennett valley sends us the following statistics of that section: There are 1420 acres of wine and table grapes in the valley, of which from 3000 to 5000 tons are wine grapes—350,000 gallons of wine are made yearly. Considerable quantities of wine grapes are sent out of the valley to other markets. Table grapes grow to perfection, and the last of last year's crop was shipped as late as the 10th of December. The orange, fig, pomegranate and loquat are grown for family use. The apple grows to perfection in Bennett valley, and to good profit. Late fall and winter apples of good variety, at the age of from 10 to 12 years, produce 10 boxes of marketable apples, worth from \$1.25 to \$2 per box.

Healdsburg Enterprise: Speaking of the fruit prospects for the coming year, J. C. Keene, the genial superintendent of Van Allen's cannery, and a gentleman thoroughly conversant and well informed on such topics, says: The time is now ripe for the croaker to crawl out of his shell and predict all kinds of calamities to the coming fruit crop. The fact, however, remains that the chances for a good and profitable fruit harvest have seldom been better than at the present time. Of course it is still early in the "game," and things may and may not happen, but we speak of things as they are. Cherry trees are loaded with blossoms to repletion and give the promise of an extraordinary crop. Bartlett pears are likewise loaded to their fullest capacity. Peaches seem lighter, but yet show enough fruit to require liberal thinning. The prune crop promises to be simply enormous. The prune trees are overloaded.

Sutter.

Farmer: From some of our prominent fruit-growers in this county we learn that the prospects generally for an average crop in Sutter county in the orchards this coming season is very good. While some varieties may not make a heavy yield the general average will be fair. Owing to the cold weather during the heavy blooming of the apricots many of the buds were killed, causing them to drop. Apricots will probably be a light crop. The peaches have bloomed very heavy and unless affected by the curl leaf will yield abundantly. Plums, pears, cherries and prunes will bear heavily, from the present prospects. Some reports give the almond crops as light, owing to the buds dropping.

Tulare.

Eight thousand lemon trees will be set out this spring on the Pogue ranch, east of Visalia. A. B. Butler, of Fresno, is to put up a large raisin packing establishment at Hanford for the coming season. Work will begin on the building immediately.

The Porterville Enterprise says that in that locality there have been 21,433 lemon and orange trees set out up to date, and that probably as many more will be planted.

Porterville Enterprise: Geo. McCalister has just finished putting out 5200 deciduous trees for the residents of the Jewish colony west of town. Quite a number of citrus trees have also been set out by the colonists.

Times: The Hudson ranch, consisting of 320 acres of bogwallow land, and situated six miles north of Visalia, was sold on Monday to a gentleman by the name of Neff, who came here recently from Kentucky. Six thousand four hundred dollars was the purchase price.

Grangeville cor. of the Delta: We hear the fruit-growers complain of the apricots dropping off. There does not seem to be any cause for it. Some of the growers are beginning to get frightened about it, while others think that the dropping off will thin the trees so that they will not break down with this season's crop.

Tulare Exchange: Fruit promises to yield abundantly this year, and the indications are that there will be a number of new buyers located in Hanford, Lemoore and Armona to struggle for the possession of the splendid fruits of Lucerne orchards and pay good prices therefor. The reports from the East are not flattering to the crop there, and altogether our growers have reason to expect a prosperous season.

Ventura.

Santa Paula Cor. of Express: During the past week this correspondent has met many of the largest fruit-producers in this county, and asked many questions regarding the apricot output for this year. Stephen Seeley, Mr. Thorpe, near Montalvo, and C. Harpold, three of the largest producers of this fruit in the county, think the crop will only be about two-thirds as much as last year's crop. Many smaller ranches that have different varieties of the same fruit claim a full crop. Mr. Seeley told the writer that last year he cleared about expenses a little over \$10,000. From the looks of the magnificent house he is building and the valley ranch he

owns, I have no reason to question his statement.

Ventura Observer: L. J. Rose, Jr., who owned, in conjunction with J. G. Hill and G. W. Christman, a 260-acre ranch south of Jerusalem, has purchased the two-thirds interest of the latter gentlemen for \$26,000. There are 200 acres in walnuts and 60 in alfalfa. Mr. Rose will build a large adobe house upon the premises and cover it with tiles.

Democrat: Our friend Mike Clark was in town the fore part of the week, and we learned from him that the outworm is doing and has done much damage to grain in the Ojai valley. In his own case the pests destroyed his entire crop of barley and wheat. He then sowed a second time, and the worms have about got away with his barley again, but haven't as yet attacked his wheat. It is the first time, we understand, that outworms have appeared in that section in numbers sufficient to accomplish much harm.

The Ojai acknowledges the receipt from Mr. J. B. Wickoff of some fine samples of the Jaffa orange, which is very similar to the Navel. One of the oranges measured 1 3/4 inches in circumference. The fruit has an exquisite flavor, and has a fine appearance when the skin is perfect; but its tendency to crack makes it a questionable fruit for the market. Mr. Wickoff says he has one row of the trees, and will experiment to see if the cracking of the skins cannot be overcome.

Yolo.

Capay Cor. to Democrat: Peach, pear, plum and prune trees are blossoming freely, and the trees in the valley that are old enough will bear heavily, unless there are late frosts, which is improbable. The condition of the apricot crop as reported almost everywhere else in the State can hardly be said to apply to this valley. So far as I can learn, the crop hereabouts will be an average one.

Yuba.

Several thousand orange trees are to be planted on the Bonanza ranch in Yuba county. The locality is an excellent one for the orange and olive.

Horticultural Commissioner Harney of Yuba quarantined, a few days ago, 3500 orange trees from Haywards, which were to be planted at the Excelsior Water Company's ranch. They were badly infested with black scale.

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We take pleasure in advising the readers of the Pacific Rural Press that the UNION PACIFIC is the most direct and quickest line from San Francisco and all points in California to the WORLD'S FAIR.

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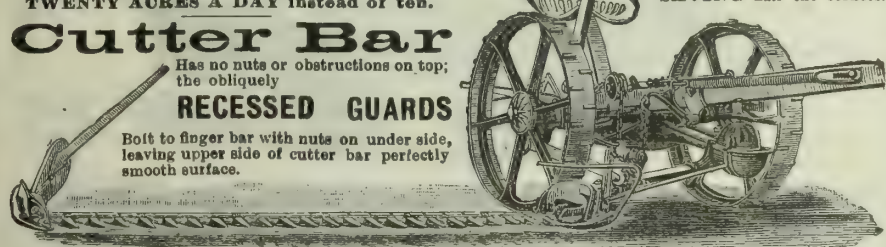
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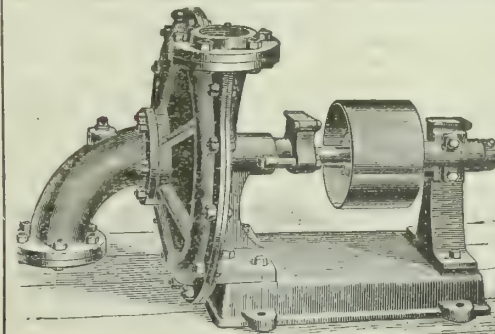
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Giant Eucalyptus Trees.

A recent article in *Science* repeats the old idea, which has been frequently refuted, that the *Sequoia gigantea*, or big tree of California, is the largest tree known. It has been shown many times that these trees are surpassed in both height and girth by the gum trees of Australasia. A large number of species is known, and many of them are mentioned in Baron von Mueller's "Extra Tropical Plants." An extract from this book will be of interest, as giving the dimensions of some of these immense trees. Of *Eucalyptus amygdalina*, it is said:

"In sheltered, springy, forest glens attaining exceptionally to a height of over 400 feet, there forming a smooth stem and broad leaves, producing also seedlings of a foliage different from the ordinary form of *E. amygdalina*, which occurs in more open country, and has small narrow leaves and a rough brownish bark. The former species or variety, which has been called *Eucalyptus regnans*, represents probably the loftiest tree on the globe. Mr. J. Rollo, of Yarragon, measured a tree which was 410 feet high. Another tree in the Cape Otway ranges was found to be 415 feet high and 15 feet in diameter where cut in felling, at a considerable height above the ground. Another tree measured 69 feet in circumference at the base of the stem; at 12 feet from the ground it had a diameter of 14 feet; at 78 feet a diameter of 9 feet; at 144 feet a diameter of 8 feet, and at 210 feet a diameter of 5 feet. Thus, at a height in the air exceeding the height of almost every North American forest tree, this specimen had a diameter equal to most of our largest forest trees at the ground. Other trees are known with a stem circumference of 66 feet at five feet from the ground. Prof. Wilson and Colonel Ellery obtained at Mount Sabine a measurement of 21 feet 8 inches in diameter of a stem, where cut, the length being 380 feet. Col. Ellery had repeatedly reports of trees seven ax handles in diameter, and he met a tree on Mount Disappointment with a stem diameter of 33 feet at about four feet from the ground. Other species also attain enormous size. *Eucalyptus diversicolor* is known to grow 400 feet high, and trees have been measured 300 feet long without a branch! Boards 12 feet wide can frequently be obtained. *E. globulus* grows 300 feet high and furnishes ship keels 120 feet long. *E. obliqua* also attains 300 feet in height and 10 feet in diameter. A note in a recent number of *Garden and Forest* mentions a tree in Victoria 471 feet in height.

The colossal size of the trees of this genus is not the only peculiar feature they possess. Some are of exceedingly rapid growth, and are at the same time very durable. *Eucalyptus amygdalina*, for example, grew to a height of 50 feet in eight years in the south of France. *E. citriodora* grew 20 feet high in two years in a district subject to protracted drought, and a trunk 40 feet long and 20 inches in diameter only broke after a flexion of 17 inches, under a pressure of 49 tons. *E. corymbosa* is very durable, fence posts that had been in the ground for 40 years showing hardly any decay. *E. globulus* grew 60 feet high in eleven years in California, and in Florida 40 feet in four years, with a stem a foot in diameter. The writer has seen trees in California, two years after planting the seed, 20 feet high; and the wood, although easily cut when green, becomes almost as hard as iron when dry. In Guatemala it grew 120 feet in twelve years and had a stem diameter of 9 feet. Railway sleepers made of *E. leucoxylon* were quite sound after being laid 24 years. Piles driven for a whaling jetty in 1834 were taken out in 1877 perfectly sound, although the water swarmed with teredo. This was *E. marginata*. Still more remarkable is the fact that some species withstand excessive heat and also a considerable cold. *E. microtheca*, for example, resists a temperature of 18° F. in France and 154° F. in central Australia. Besides serving as a timber tree, many species of eucalyptus are used medicinally, producing a volatile oil very useful in treating various infectious diseases, like scarlet fever, especially when applied externally. Grown in malarious districts, they possess the power of purifying the air. Altogether, the genus may be classed as one of the most remarkable in the whole world.—Joseph F. James, M. Sc., in *Science*.

Occupations and Length of Life.

"What occupation tends most to prolong life?" asked a reporter of the chief mathematician for one of the great life insurance companies.

"That is a difficult question," he replied. "I can only answer it by referring to the occupations of persons whose lives are and have been insured by us. Inasmuch as they number several hundreds of thousands, they

will afford a pretty good basis from which to draw conclusions on the subject. According to this evidence, it appears that commercial travelers and agents live longer than men in any other kind of business, notwithstanding the hazards which attend transportation by rail and water. Next to them come dentists, teachers and professors, including music teachers."

"And who after them?"

"Next to them in point of longevity are hatters, clergymen and missionaries. The last may occasionally furnish food for the larder of untutored savages, but they are a first-rate risk nevertheless. Next come bankers and capitalists, who seem to live just a trifle longer than butchers and marketmen. Lawyers and jewelers follow, and they are succeeded on the list by merchants, peddlers, milkmen and pawnbrokers. Then come gardeners, laborers, civil engineers and canvassers. Perhaps the treatment which canvassers are apt to receive in ordinary course of their business shortens their lives."

"Where do newspaper men come?"

"O, they don't live as long as any people I have mentioned. Even bookkeepers and bank cashiers, as well as artists and architects, are ahead of them. They come in next, with the printers, physicians, and the gentlemen who are not engaged in any active employment. They follow the apothecaries and photographers, and after them, in order, bakers, cigarmakers, real estate agents, army officers and soldiers, liquor dealers, marines and naval officers. Shortest lived of all seem to be the auctioneers, boardinghouse keepers, barbers and drivers."

"Do you take into consideration the question of a customer's occupation in granting a policy?"

"Not unless it is more hazardous than any of those I have mentioned, though if I were in doubt about accepting the man at a risk for other reasons, such a point might turn the scale."—Washington Star.

The Career of the Malaria Germ.

The malaria germ is an animal parasite. It belongs to the lowest grade of animal life, being a protozoan, and is of microscopic size. It seems to make its home ordinarily in the soil. It is plentiful in swamps. Entering the human body through the lungs, the parasite seeks a home in one of the red corpuscles of the blood. These corpuscles are in shape flat, round disks, bearing a curious resemblance, under the microscope, to pieces of money. How essential their well being is to health everybody knows. The parasite, taking up his residence in one of the corpuscles, proceeds to multiply, forming a little colony. The colony feeds upon the material of the corpuscle, which thus becomes disorganized and is finally destroyed, so that the hostile germs are set afloat in the blood. At the beginning, they were merely bits of protoplasmic jelly, without any particular shape; but now they become free swimmers and have developed long, hair-like paddles. Each one has three such oars radiating from its body. Thus they make their way through the veins and arteries, following the tide of the circulation. This cannot go on to any considerable extent without seriously affecting the health of the individual. The latter is attacked by chills, alternating with fever. Quinine and other remedies destructive to the parasites relieve these symptoms. However, if the patient continues to be exposed to the absorption germs in a malarious region, medicines will cease to have effect. The blood, invaded by hordes of parasites, becomes filled with disorganized red corpuscles, and nature gives up the fight, death ensuing. Now that medical science knows precisely what it has to contend against in the treatment of this hitherto mysterious disease, it may be able to find more effective remedies. Already the discovery has enabled physicians to correctly diagnose many malarial cases which have a way of counterfeiting typhoid fever and other troubles. In such instances the presence of the parasites in the blood, readily ascertained by the microscope, settles the question.—New York Ledger.

SINGING is for the purpose of removing the fibrous down or nap from the surface of the goods, and is accomplished by rapidly drawing the cloth over a red-hot cylinder or over a cylinder from which jets of flame are issuing. In this way all the long, loose and weavy filaments are burned off the surfaces of the cloth.

BLOOD POISONING was caused recently by using cobwebs to stanch the bleeding of a cut on the hand. Some dirt in the cobweb (and if there was ever anything which infallibly accumulated all the dirt and germs in the air it is a cobweb) was taken up by the blood, and, as a result, the woman died.

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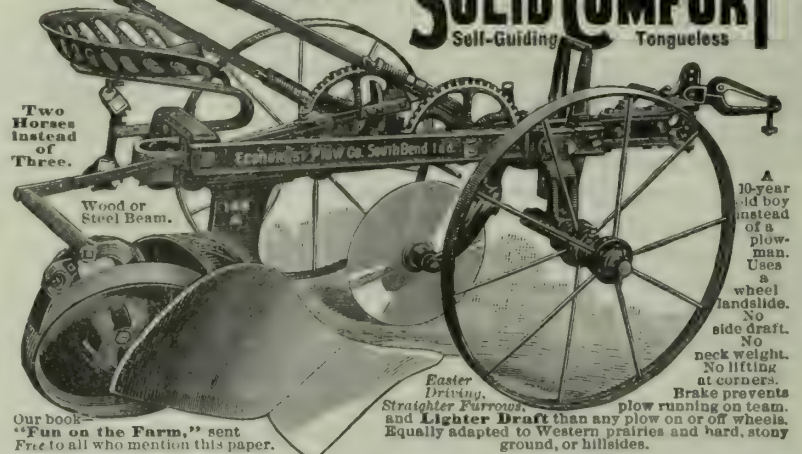
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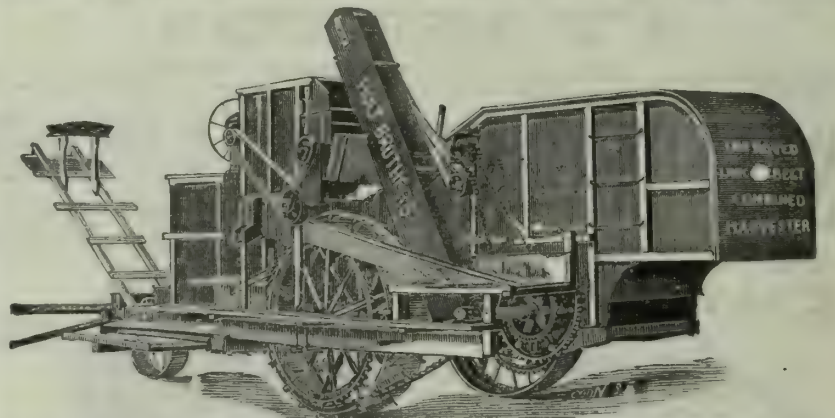
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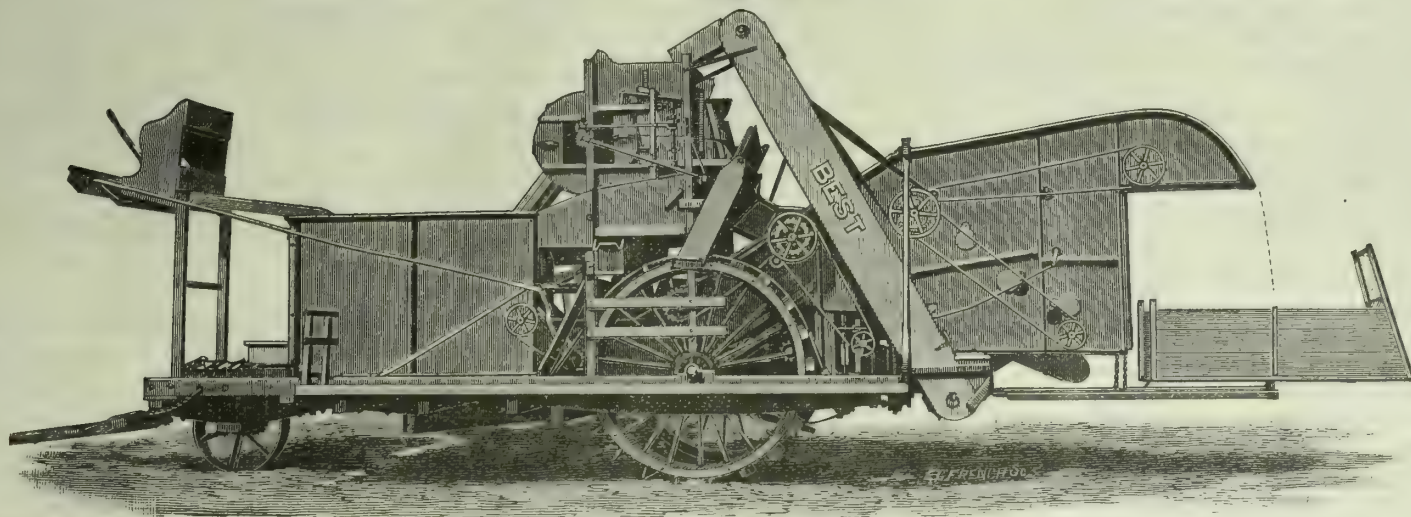
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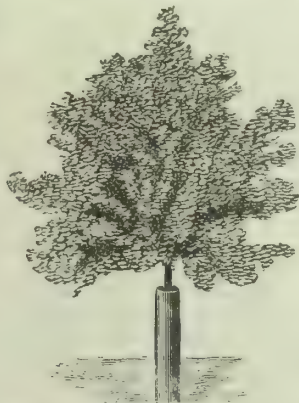
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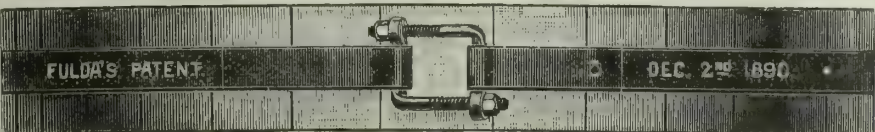


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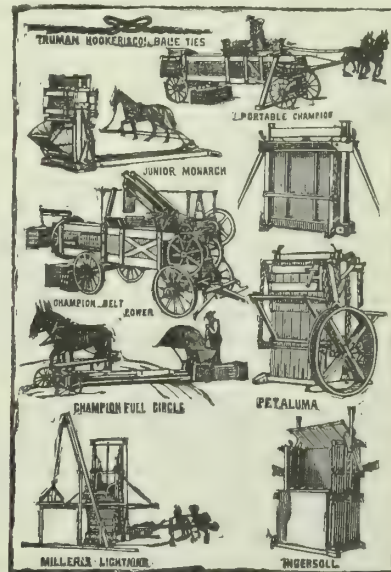
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PATRONS OF HUSBANDRY.

The Grange Department.

To get a steady and satisfactory stream of Grange correspondence has been the constant effort of the management of the *RURAL* for the past six months, but the success has been only partial. The Worthy Master of the State Grange has been faithful and from time to time we have heard from other of the State officials, but from the great body of the subordinate Granges we have had small returns or none at all. This is certainly not satisfactory to the editor; and not less so to the Grange readers.

Last week we sent out to the several Granges of the State a letter inviting each to name a regular correspondent whose duty it shall be to report once every month or oftener, the conditions and doings of his or her Grange. Already we have had most gratifying responses to this invitation. On Saturday last Merced Grange appointed Bro. E. S. Spinks to act as correspondent and on the same day Stockton Grange appointed Sister Lou E. Overhiser to the same duty. We learn also that Waterloo Grange has also appointed a correspondent whose name is not yet reported.

We trust that every Grange in the State will fall into line and that before the end of next month the Grange department will be made a model of completeness and a constant source of interest not alone to Patrons but to all who appreciate the value of organized effort in its relations to rural life.

From the Worthy Master.

New York State Grange has a State Reading Circle, and most excellent work is being done, and very satisfactory results are announced. Why not California have the same or something like it? Let the State Grange, at its next session, take some action in this direction.

Active work, looking toward the financial, social, educational and business co-operation of the Patrons of Iowa, Missouri, Kansas and Nebraska, is being done. The effort is sure to be a success, and will, no doubt, largely increase the influence and numbers of the Order in those States. California sends her greetings and God-speed to the Patrons across the mountains.

Let the Lecturer read, or cause to be read, as often as once a month, some parts of our noble Declaration of Purposes. It will do the old as well as the new members good to hear such words as: "United by the strong and faithful tie of agriculture, we mutually resolve to labor for the good of our Order, our country and mankind." "In essentials, unity; in non-essentials, liberty; in all things, charity," and other selections just as good.

Bro. Noyes of Stockton Grange has our thanks for his prompt response. Keep on in the good work, my brother! Try to stir up all of San Joaquin with that pen of yours. What is the matter with Waterloo, Lockeford, New Hope, Lodi, Woodbridge, West San Joaquin and Farmington?

Glad to hear from Sacramento, too, and to know that the Patrons up there are having plenty of fun "fishing." Sacramento county is well supplied with Granges. Why don't we hear from Florin, Elk Grove, American River, Washington, Franklin and Roseville? They are live Granges and have plenty of literary talent.

The duplicate charter—original lost—for Petaluma Grange has arrived from Washington, D. C., and has been duly signed and forwarded to the Patrons who are to entertain the next session of the State Grange. Patrons who visit Petaluma this coming October will have a good time, for the members of the Order at Two Rock and Petaluma know how to entertain.

The Fifty-second Congress did what for farmers of the nation? There are no less than four members from California who represent an agricultural constituency. For the benefit of the farmers won't some one of them tell us what they did for the benefit of agriculture.

Much complaint was made by the Democrats about "Tom Reed's Rules" for the Fifty-first Congress, whereby a member of that body had to be considered *present* when sitting in his seat. Now they find the "Crisp Rules" worse than the "Reed Rules," and a Virginia Democrat utters these stinging words on the subject: "Tom Reed's Rules

were badly cursed by the people and the Democrats, but experience proves that they at least allowed the rule of the majority, while the 'Crisp Rules' enforced the power of the minority." Let the farmers of the nation study these things. Let the truth, and the whole truth be told, and some of these days there will come a reckoning. Know what is right and then strive faithfully and independently to accomplish what you know will bring the best results for the most people.

Eden, San Jose and Temescal Grangers are going to picnic at Alvarado on Saturday, May 13, 1892. The Master is sorry he cannot accept the invitation to be present, but as he is to be at Concord, Contra Costa County, on that date, to help the grangers of that section to eat chicken and other "goodies," he could not attend. The State Grange will be duly represented, however, for the Worthy Secretary has promised to be at Alvarado. Thanks, good members of Eden, the Master "will see you later."

How much good do you think the legislation of the past two or five years has brought to the farmers of the nation? We have had sessions of Congress and the State Legislature, but somehow the work of those bodies has been more in the interests of corporations and bondholders than in the interests of mechanics, producers and toilers at the forge. A large percentage of voters in this country earn a living in the sweat of the face, and yet this large class of people find no recognition at the hands of the law-making bodies of the country. Isn't it time to call a halt on this method? Why not let a few laws be made in the interests of the producers?

Let no subordinate grange in California fail to do something for the Grange Temple. It is not necessary for any proclamation from the Master. Nor is it necessary for uniformity of plan or action. Each grange is its own best judge of what it can raise, and how the money can most easily be secured. If every member of the Order will give ten cents, and many will give as many dollars, there will be erected such a temple to agriculture as has not been built since the fabled days of Ceres' reign on Mount Olympus. I earnestly hope each subordinate grange in California will select its own time and way of raising a fund for a National Grange Temple. Send the money to "John Trimble, Sec'y Nat. Grange, P. O. H., 514 F street, Washington, D. C.," stating the grange from which it is sent and that it is for the "Temple Fund." In due time you will get a receipt for the money. "Let all labor and all time tend to improvement," and let us help build a home for the parent of agricultural organizations, and the one fraternity that knows neither section nor sex—the Order of Patrons of Husbandry.

From Yuba City Grange.

TO THE EDITOR:—Our Grange held an interesting and animated meeting on Saturday last.

The committees on the coming picnic reported progress, and it is already apparent that no effort will be spared to make it a notable success. Col. John P. Irish will be the orator, with other speakers who will be present.

More applications were recorded, and will receive due attention.

The deliberations were interspersed with music—vocal and instrumental—essays and recitations. Short discussions on various topics were indulged in which were both amusing and instructive, and showed that we were well up on points of order.

The committee on grounds for the picnic is still undecided as to location. This will be decided in a few days, when the *RURAL* will be duly informed. The date as already announced remains unchanged, viz., May 11th, at which time it is hoped the central and southern sections will contribute liberally of their beauty, wisdom and talent toward this northern aggregation of the tillers of the soil. Fraternally,

GEORGE OHLEYER.

Yuba City, April 16, 1893.

Timely Note from an ex-Granger.

TO THE EDITOR:—In your issue of April 8th I find, among the items by the W. M. of the State Grange, this question asked: "What is the greatest need of each subordinate Grange?" As the request was so general, and my having been a pioneer Granger of this county and a farmer for over 40 years, I venture to answer the question partially. I say partially because I have only been a member of two Granges (and am "out" now for the past three years), and to know what is the need of each subordinate Grange would require a visit to each and much study. My Granges' first need would be for the State and National Grange to

recognize that "We are the people." Next it must be consistent with its teachings not to fritter away the time of its members by useless ceremonies, which, in this utilitarian age, repel instead of attract, or falsely assure candidates there is nothing to conflict with their belief or politics. My Grange would invite both sexes into the Order with eyes wide open and teach that "faith" in persistent work made ("good") better Patrons than faith in forms, creeds or Gods. In fact, the great need is a free application of the pruning-knife. The dead forms and degrees should fall back to where they belong. Give us the obligation (given on the honor of the candidates) and the declaration of purposes; no one can object to them. Then show to the public that the Order intends to make straight furrows and be one of the best weed-cutters in the land, then suspicion will gradually give way to confidence and a desire to help the good work along.

In turn I ask two questions: Why is it so many old members remain out of the Grange? and, Why the necessity of secrecy in an Order like the P. of H.? Hoping the above will create thought on the "needs" of the Order. Respectfully, A. R. W.

Santa Clara, April 15, 1893.

[We trust that somebody will answer the questions propounded by this correspondent. The more answers, the better.—ED. PRESS.]

Notes.

American River Grange gave an entertainment on the evening of the 3d of February for the benefit of the Temple Fund. The night, unfortunately, was very stormy, but despite this fact, a large number was present and the receipts netted twenty dollars.

The picnic committee of Sacramento County Pomona Grange has selected Saturday, May 6th, as the date for the annual picnic, and it will probably be held in Graham's Grove.

RE-UNION AT ENTERPRISE GRANGE.

Nine miles east of Sacramento is located the hall of Enterprise Grange No. 129, and here on April 14th was held the annual re-union. For years this occasion has been looked forward to by neighboring Granges as a field day; this year the weather has been unpropitious and the spring work has been so delayed that many were kept at home, busy in field, orchard, garden or household.

Large delegations were present from Sacramento and American River Granges.

A closed session was held in the forenoon, and the usual order of business disposed of. A committee on memorial on the death of Sister E. B. Plummer, consisting of Sister J. H. Simon, Bros. J. H. Adkins and Geo. Wilson, reported a series of resolutions and they were adopted. Sister Plummer was an active member of the Order and especially faithful in her own Grange, which will long deplore the loss it has sustained.

After the fine dinner, which was served in the lower or banquet hall and a season of social converse, a number of singers gathered about the organ and the audience listened to melodies that stirred anew the fire of Grange enthusiasm.

The afternoon meeting was open and every seat in the hall was filled; a charming feature was the presence of so many rosy-faced, bright-eyed children who are being brought into the Grange hall at a tender age and who thus familiarized with Grange life, become identified with it later on, as many of those who are now officers in this Grange have done.

The committee was disappointed in securing speakers, but the time was very acceptably occupied by G. W. Hancock on the silver question; J. H. Simons on the benefits to be derived by the farmers through affiliation with the Grange and Alliance; and others.

As the rays of the setting sun warned our party of the approach of night, we reluctantly took our departure, while a good brother's words, "we, the people are the government," sounded in our ears, and we wished that "we, the people," might be so aroused, as to govern some of the local evils before attempting to correct those more distant. The day was perfect and nature had with generous hand carpeted the fields with a covering of varied hues, the air was filled with the odor of wild flowers and we rejoiced that our lot was cast with the tillers of the soil, that we might enjoy such days where interchange of fraternal greetings and sociability could be enjoyed in the midst of rural pursuits. H. E. J.

INDEPENDENT GRANGE.—April 3d, the Secretary of this Grange writes that changes have been made in the list of officers by the recent election and installation of A. J. Drace, Stew.; H. H. Fine, Sec'y, and Mrs. Mary Elliott, Pomona.

The Secretary's Column.

By A. T. DWYER, Secretary State Grange of California.

GRANGE PICNIC ANNOUNCEMENTS.

Selma Grange, Saturday, May 6th.
Contra Costa Co. Granges at Concord, May 13th.
Alameda Co. and San Jose Granges at Alvarado, at 10 o'clock A. M., Saturday, May 13th. The Pioneer associations of Alameda Co. have also been invited to participate.

TO CORRECT an error of the printer, we here state that Bro. Glenn Murdock is now the Worthy Secretary of Santa Rosa Grange.

PAST MASTER OVERHISER, who latterly has been detained by home duties, promised to visit Farmington on Thursday, with a view to work up Grange interest in that section. He will likely continue in active service awhile.

A. D. LOGAN, President of the Grangers' Bank, has visited portions of the State from his home near Antelope valley, in Colusa county, to Tulare county, in connection with the warehouse business of the bank. He reports fine prospects for grain crops in most parts, and will not be surprised if the good season of 1880 should be surpassed as to general yield.

THE Executive Committee, at its April session, voted that Thursday evening be set apart for conferring the degrees of Pomona and Flora. Worthy Master Davis was requested to confer with the Masters of Petaluma and Two Rock Granges a month before the annual meeting of the State Grange to arrange a program, so that the social appointments may not conflict with the business of the session. The Executive Committee transacted but little business of general interest.

WORTHY MASTER TUOHY, of Tulare Grange, in a late letter, mentions a fair attendance at the meeting of the 15th. An invitation was accepted to attend a Farmers' Alliance picnic on Saturday, May 13th. The subject of Children's Day was brought before the Grange and will receive action later. Sister Jones' communication on Grange Temple, etc., was referred to the Committee on Woman's Work. Bro. J. W. Mackie was elected to make monthly reports of the Grange proceedings for the *PACIFIC RURAL PRESS*. Sister C. E. Kinney has written that she will be in Tulare on Saturday, April 22d, and attend an Alliance meeting on that date.

THE ASSISTANT STEWARD VISITS SELMA. E. C. Shoemaker, A. S. of the S. G., surprised Selma Grange with a visit April 15th, and reports the following: "I found them enjoying one of their notable feasts, with tables heavily laden with everything which would cause an old Granger's mouth to water. The literary exercises were ably rendered by the tried and true of Selma. Sister Castle, of Stockton, spoke strong for the Grange. The undersigned upheld the Trade Card system. It was a most pleasant meeting. Selma Grange is growing. It will hold a picnic on May 6th." This Grange reports eight new members and a number of suspensions for last quarter.

TEMPLE OF CERES QUESTION.

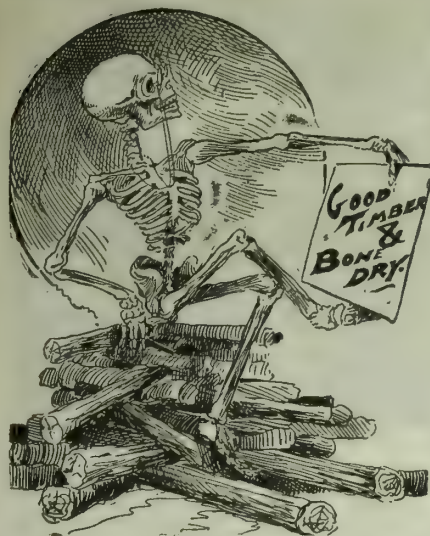
Dear Brother:—Several items have been published in the *PRESS* regarding the erection at Washington, by the Patrons of Husbandry, of a building which was at first referred to as the "Temple of Ceres." Will the building, when completed, be used for the annual meetings of the National Grange? I have asked prominent members of various Granges but have found they, too, would like to know. Please give an official answer in the Secretary's Column for the "Good of the Order." MATRON.

Florin, April 4, 1893.

We will state, unofficially however, that one of the primary arguments put forth for building the temple, by its advocates, has been that of having a permanent place for holding the annual sessions of the National Grange. There has been no action of the National Grange, however, to do away with the National Grange visits to different sections of the Union. Holding meetings in different State jurisdictions has proved very beneficial in reviving, enlivening and stimulating the growth of the Order, and we doubt if the National Grange will readily give up its pleasant and evidently beneficial system of visiting different parts of the national field.

WATSONVILLE GRANGE.—Sec'y Cromarty, in the quarterly report of this Grange, under the heading "Remarks," gives the following information: "Our new quarters, Masonic Hall, have been duly occupied and our Harvest Feast, April 4th, was much enjoyed. Over 100 invitations to the Feast were extended. Our open meeting in the afternoon was largely attended and made most interesting by an excellent program including several fine solos of the voice and cornet, excellent vocal duet with organ accompaniment. The remarks by the visiting brothers, Huffman and Adams, were forcible

Continued on page 366.



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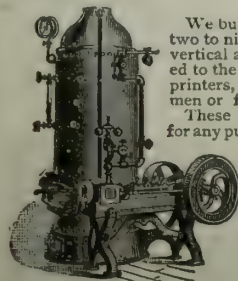
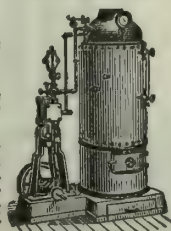
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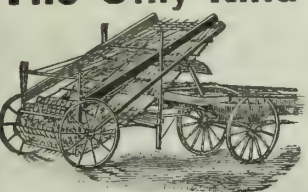
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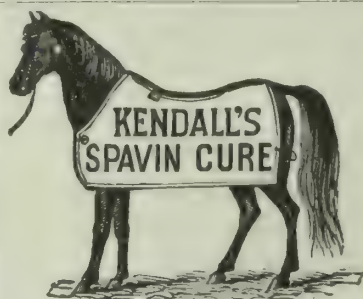
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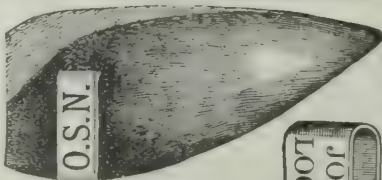
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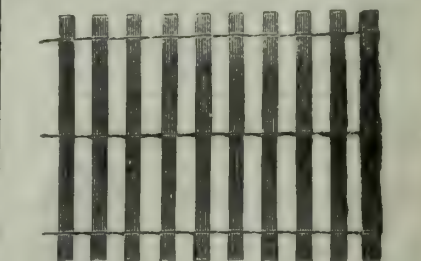
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S. F. MARKET REPORT

Market Review.

SAN FRANCISCO, April 19, 1893.

The wheat market has suffered a reaction from its decidedly bullish aspect of last week, following the Government crop report indicating a heavy shortage in the United States yield for 1893. The collapse of the corner in May wheat at Chicago has also had the effect of demoralizing the situation and contributing to uncertainty and lack of confidence. Under the manipulation of a powerful bull clique, the May market rapidly advanced in Chicago and at one time reached 90 cents. The purpose seems to have been largely to squeeze Partridge, the p'unger, who was "short" on May several million bushels. That is, he had agreed to deliver an enormous amount of wheat in May at a certain price, and he expected the market to recede and allow him to buy lower than he sold, in time for delivery, and make a handsome margin. Instead, the price rapidly advanced because of the corner, and Partridge was forced to settle at heavy losses. He is a persistent bear, and while the methods pursued by the bulls are questionable, there is no sympathy for Partridge.

As we have frequently pointed out, the most depressing factor of the wheat situation is the enormous stocks on hand. These do not seem to suffer much diminution. Reports to Bradstreet's show that while domestic and Canadian wheat stocks decreased 2,500,000 bushels last week, European and afloat stocks increased about 2,800,000 bushels, the world's available supplies being 300,000 bushels heavier than on April 1st. In wheat (including flour) the domestic exports for both coasts during the week equal 2,948,000 bushels against 3,635,000 bushels last week and 2,910,000 bushels in the week one year ago. The slowness with which stocks are decreasing has exceeded all expectation. A determining factor in future prices will be the coming crop, which will be short, but just how much is of course yet very uncertain.

Locally the situation does not at present show encouraging features. On change yesterday a round lot of wheat was offering at current rates, which has been held since 1891. There have been times when the same lot could have been disposed of at \$1.75 per cental or more. About the only demand at present of any regularity is from millers, and they are buying sparingly. On Call Board, feeble efforts are made from day to day to infuse some life into the market, but these operations are mainly confined to a limited circle, and are not of particular benefit to the trade generally.

The Wheat Surplus.

The Chicago Trade Bulletin of April 13th says: The general estimates of the supplies of wheat in all hands on July 1, 1892, approximated 70,000,000 bushels. Estimating the present crop at 516,000,000 bushels, the available supply for all purposes during the crop year may be estimated at 586,000,000 bushels. Allowing a domestic consumption of 25,000,000 bushels per month—the quantity stated by the agricultural department—and the aggregate would be 300,000,000 bushels, and quantity required for seedling 54,000,000 bushels. Deducting these estimates from the aggregate, and the quantity available for export and surplus would be 232,000,000 bushels.

Allowing 50,000,000 bushels as a surplus on July 1, 1893, and the quantity available for export would be about 182,000,000 bushels. The exports during the past nine months were about 148,000,000 bushels, consequently there remains on hand for three months' exports approximately 34,000,000 bushels—equal to about 11,330,000 bushels per month. The average monthly exports during 1891-2 were about 18,800,000 bushels per month.

It is evident, however, that the surplus on July 1st will greatly exceed 50,000,000 bushels, as the department of agriculture estimates that the last two crops were underestimated 30,000,000 to 35,000,000 bushels. There is no doubt but the stocks reported in farmers' hands included a good proportion of the stocks held by millers and at interior elevators.

Wheat Fleet for 1892-93.

The two wheat cargoes cleared Monday make nine for the month and 185 since July 1st. At least 15 more will probably be cleared before the end of the cereal year on June 30th, though at present only six are under engagement for that purpose. One of these is loaded. This is the large ship Milton Stuart, which was loaded by G. W. McNear. The same gentleman is now loading the Colina at Port Costa and the Scottish Wizard at the seawall. The latter will take considerable miscellaneous freight. Eppinger & Co. are loading the Airline at Port Costa and the Emanuel Accame at Green-street wharf. Balfour, Guthrie & Co. are loading the Eudora at Benicia. It is expected that all these ships will be loaded and cleared by the 1st of May. This would make 191 for the season, and there will likely be enough more loaded in May and June to swell the fleet for the year to a round 200 vessels.

Other Cereals.

Barley has been weaker and slower, and prices have suffered a decline. Brewers are demanding less, and very little is doing for export. Millers are not taking much, and other outlets are restricted.

Oats are firm for really choice stock, which is not more than enough to meet demands. For common the feeling is not so good.

The corn market is inactive, but prices remain unchanged.

India Wheat Exports.

The quantity of wheat shipped from India during the last week in March was 180,000 bushels. This closes the business for the cereal year. The ship-

ments from India to Europe for the past two cereal years compare as follows:

	1891-92	1892-92.
United Kingdom.....	26,040,000	17,668,000
Continent.....	26,320,000	11,260,000
Total.....	52,360,000	28,928,000

The shipments for 1891-92 were unusually large, and the wheat sold at fairly good prices. France being a strong competitor with England for the supply. For the year just closed there was an absence of this competition and prices were much lower. There was also a very large decrease in the quantity shipped, incident to a partial failure of the crop. New wheat commenced going forward from India about the 1st of this month. The crop promises fairly well.

Oranges.

The orange-growers of southern California seem to have formulated a plan of organization that promises success. It is set forth in detail on another page of this issue. In brief, it provides for the organization of local associations in defined districts, which shall have a manager and executive board, who shall control the marketing of fruits in their districts. That is, they shall send forward shipments of oranges as they see fit, having due regard, of course, to the condition of the fruit and interests of the separate growers.

For the present season all attempt at systematic marketing has been abandoned, and matters are allowed to take care of themselves as best they can. Eastern markets are in about the same condition, except that a better demand for California fruits is noted as the Florida product disappears. The supply, however, fully keeps pace with requirements.

Locally, a somewhat better tone has prevailed, though supplies are more than ample. Consumption now is quite heavy, stimulated by low prices. Choice fruit is not as plentiful as it might be, and first-class varieties find quick sale at ruling figures.

Higher quotations are made on good lemons, the demand being better. Limes are in ample supply. Strawberries are beginning to appear freely and are now displayed in restaurant windows. The market will soon be well stocked, the weather being highly favorable.

Good apples are, as usual, in excellent demand.

Dried Fruits.

The market is totally inactive, inasmuch as stocks are very light and are entirely out of the hands of first holders. A local authority says: "Prunes, raisins and peaches have practically all been moved, and quotations on these goods in car lots are difficult to obtain. The market is dull East and in the absence of even inquiries from that point but little can be expected in the way of business in this line here. The prospects for a good crop for the coming season are bright and dealers are not worrying over the dull business they are now experiencing, as it is to be expected at this season of the year."

Wool.

Arrivals of the spring clip are becoming quite general, though the trade movement cannot be said to be fairly begun. The weekly report of Thomas Denigan, Son & Co., says: "There is a fair trade for the very best parcels of year's wool for scouring purposes, but the heavy lots are hard to move. This may also be said as to short wool. The parcels in good condition and free from defects are readily placed for shipping, but shrunken kinds don't go off. As a whole, trade is quiet, and it is probable that the season's business will be of the same character."

At the same time, market conditions are good and ought to be improved if the threatened rate war between the Panama railroad, with allied steamships, and the Southern Pacific takes place. The latter has announced its intention of making material reductions in through East-bound business, in certain lines, among which are greased wool and scoured wool.

Provisions.

The market is fairly firm at unchanged prices. According to the Cincinnati Price Current Western packing has been 160,000 hogs the past week, compared with 150,000 the preceding week, and 185,000 for the corresponding time last year, making a total of 735,000 since March 1, against 915,000 a year ago—decrease, 180,000 hogs. The Chicago Breeders' Gazette has this to say: "One week ago to-day, April 12, \$6.50 was the top of the market for light hogs and \$6.75 was an outside quotation for heavy weights. Yesterday the former sold as high as \$7.35, and there were a number of sales of heavy hogs at \$7.50@7.55. From these figures it will be seen there had been an advance within the week of 80¢@85c. per 100 lbs. This is not quite equal to the decline that prices suffered during the previous week, but is a more radical change than is often experienced within the space of six days. The quick reaction simply confirms what was said in this column last week, that the break of 90c. per 100 lbs. then noted, was the result of a combination of buyers. The last week's receipts were the smallest recorded since 1888, amounting to barely 70,000. Of that number local packers secured about 30,000, which in ordinary times would be little more than one day's killing. The quality was good, about the best of the season so far, the proportion of light weight being small."

Vegetables.

Potatoes have declined from the maximum attained about ten days since, when \$2.20 per cental was the top figure, and Oregon Burbanks now sell for \$1.50 and less. Holders can find no serious complaint at these figures, which still leave a very satisfactory margin for profit. Moore, Ferguson & Co. have been holding a consignment of 2000 centals from an Oregon consignor, whom they instructed as to the condition of the market, and advised to sell at \$2.10. He refused. Potatoes dropped, and he instructed them to sell at \$1.50. Meanwhile the spuds had sprouted badly, and they could not realize that amount. The Oregon man now is willing to sell for what he can get. All of which illustrates the folly of holding on too long. The trouble is, however, that no one can tell just how long is too long. The recent high prices attracted esculents from unexpected sources, shipments coming from as far as Wisconsin. When such articles reach a certain maximum, it can be pretty safely depended on that dealers will find some remote source of supply from which they can afford to pay high freight charges. Asparagus has been arriving with great freedom, A

part of the stock has been disposed of by the canning demand. Prices have not materially declined. Rhubarb and peas are lower, being more plentiful.

Poultry and Eggs.

One or two carloads of poultry have come in and lowered prices a little in one or two lines. But the general range is still high, and does not seem in danger of collapse.

Choice eggs are firm and the market is considerably improved over its condition several weeks since.

Butter and Cheese.

Butter is still weak, the market being in abundant supply. Choice brands, however, are fairly well sustained. Cheese comes in freely and prices are weaker.

Miscellaneous.

Pork is a little easier and spring lamb is lower. Beef is unchanged.

Choice wheat hay is scarce and full prices are obtained for desirable lots. Other descriptions come in for fair share of attention, with receipts ample to meet all demands.

Beans are slow and trade is light. There is no change in quotations.

Hops are unchanged.

During the week bran and middlings were further advanced, and these articles rule very firm under moderate supplies and a good demand. Otherwise there have been no quotable changes for a long time.

Sheep.

The Chicago Breeders' Gazette of April 12th has the following: "The sheep market continues to display astonishing firmness. Although the arrivals 'or the last six days aggregate 56,000 head, the supply did not appear to be excessive, for every carload was readily placed and at the best prices of the year. Sheep have advanced to \$4.50@6.10 for poor to extra qualities, and the present quotations for yearlings are \$5.25@6.65. These are good prices. They are not quite as high as those ruling at this time last year, but the supply is much greater than then. Westerns continue to make up the major part of the current arrivals, but Texas is now sending in a good many sheep, and that State will cut a considerable figure in the receipts for some time to come. The bulk of the last week's receipts went out of salesmen's hands at \$4.75@5.50 for common to good sheep and at \$6@6.50 for lambs."

The Freight War.

The Southern Pacific Company, in its fight against the Panama rail and North American Navigation Company, has made a big cut in rates on eastbound business from California to the Atlantic seaboard. The cut affects five very important commodities, as follows, in dollars and cents per 100 pounds: Greased wool, 75 cents; scoured wool, \$1.10; borax and wine, 30 cents; rags, 65 cents. The old rate on greased wool was \$1; scoured wool, \$1.50; borax and wine, 50 cents; rags, \$1. Three months ago the Southern Pacific charged on greased wool \$1.50 and on scoured wool, \$2.50. About six months ago the rate on borax, wine and rags was \$1. To show the meaning of the reductions in another way, it can be stated that today it costs the merchant \$50 less a carload of 20,000 pounds to ship greased wool from here to the Atlantic seaboard than was the case on last Tuesday; \$80 less for scoured wool; \$40 less for wine and borax and \$65 less for rags.

The reductions from the rates of six months ago are respectively per carload \$150 on greased wool, \$280 on scoured wool, \$140 on borax and wine and \$70 on rags.

When the North American Navigation Company was accepting freight for its first steamer, the St. Paul, it took greased wool for 75 cents; scoured wool, \$1.50; wine, 50 cents; borax, 40 cents; rags, 50 cents. On the steamers Mexico and Keweenaw wine was taken for 40 cents, greased wool for 80 cents, and about the same rates were made on all the other commodities as with the St. Paul's shipments.

Markets by Telegraph.

California Fruit at Chicago.

CHICAGO, April 18.—California Dried Fruits—There has been but a dull trade all the week. Distributors report smaller orders from the country. The presumption is that country merchants have become pretty well supplied, there having been a good demand from this source for some time. The holders of fruit are not pressing sales. There has been a decline in prices recently and they claim there is no good reason for a further reduction, hence they adhere to late prices. The current range is as follows: Raisins—London Layers, 3-crown, \$1.40@1.60; fancy, \$1.75@1.85; Loose Muscates, 3-crown, according to quality, \$1.25@1.35; 4-crown, sacks, \$1.50@1.60; 3-crown, 5@5½¢; 2-crown, 4½¢; Seedless, according to condition and quality, 4½¢@5c. Prunes—40 to 50 to the lb, in sacks, \$1.12½@1.25; 50 to 60, 11½¢; 60 to 70, 11c; 70 to 80, 10½¢; 80 to 90, 10c; 90 to 100, 9½¢; 100 to 120, 9c. Apricots—New choice to fancy, in sacks, \$1.16@1.70; fair to good, 16@16½¢. Peaches—Peel, 25-lb boxes, \$1.16, 22@24c; sacks, 21@22c; unpeeled, 11@12c. Nectarines—Red, in sacks, \$1.16, 11@12c; White, 12@13c.

Oranges—California Seedlings are ruling easy; they are quite plentiful and the condition of many of them is common; in consequence of the latter fact holders are rather anxious to sell, while buyers are backward. Navel oranges are quoted steadily with a fair demand. California Oranges, sound. Seedlings, 128 to 216 to the box, \$1.60@1.60; 250 to 300, \$1.50@1.60; Riverside Seedlings, 128 to 216, \$2.25@2.50; 250 to 300, \$1.50@1.90; unround, 60c@1.25; Navel, 96 to 112, \$2.25@2.50; 128 to 200, \$2.75@3c; fancy to extra, \$3@3.50.

California Products and Prices.

New York, April 16.—The spring trade opens slowly, but the outlook is rather more promising of activity than for several weeks past. Canned Fruits—A better tone prevails for standard apricots and peaches, the result of considerable recent sales to retailers to whom the late low prices was an inducement. Moderate lots of yellow Crawford peaches are now quoted at \$1.65; apricots, \$1.40, and pears, \$1.55. Pears have never been overpopular here, and a block of 7000 cases now in stock is not regarded with strong confidence. Dealers hesitate while sending out these new prices, as supplies are not worked down to a buoyant condition. Prunes remain quiet at full prices. Boxes do not sell above bags. Peaches continue weak. Plenty are offered from Chicago if the market should brighten up. Best New York bids are 9@10c. Raisins—For trade purposes at the moment, Valencias outsell coast bags. They are not in formidable quantity, however, and the cornered Cali-

fornia are likely to prove a good venture later on. Two-crowns quoted at 4½¢; three-crowns, 5c for new arrivals. Few boxed loose remain on hand. Layers are in moderate demand.

Apricots—Fine are well out of stock. Strictly fancy would bring 17½¢ if here. Our remnants of fair are worth 16@15½¢.

Wool—There is little to work with in this city, or elsewhere for that matter. Manufacturers show no pressing wants, and the disposition is quite general to close out last clips of unwashed at late prices, if not in instances on softer terms. This is because holders want to clean up stock that might suffer in comparison with the soon expected new clips. From current accounts, growers expect to realize at least last year's prices, but buyers are not as pressed for material as was expected at this date, and it does not look as if anybody intends to load up heavily in the start. A stiff foreign market favors producers. Kentucky wool is reported sold on sheep's back at 24@25c.

Wool—Sales at New York, 189,000 lbs. domestic; 383,000 lbs. foreign.

Boston sold only 1,708,000 lbs. domestic, more than a third of which was Territory, quoted at 14@21c, and 757,000 lbs. foreign, chiefly Australian.

Lima beans—With plenty here and to come, and the dull season approaching, prices are weak—\$2.15 for spot.

Hops—Prices are unchanged, with little movement. The State Growers' Combine has tied up some important lots. This has exasperated the brewers, and they give the market as little support as they can. Opportunities for export are poor; good German hops are freely offered cheaper than American in London. Exports for the week, 600 bales.

Visible Supply of Grain.

New York, April 17.—The visible grain supply is as follows: Wheat, 76,008,000 bushels, a decrease of 1,195,000; corn, 13,806,000 bushels, a decrease of 1,109,000; oats, 14,189,000 bushels, a decrease of 181,000; rye, 837,000 bushels, a decrease of 32,000; barley, 707,000 bushels, a decrease of 89,000.

British Grain Trade.

LONDON, April 17.—The Mark Lane Express says: English wheat is in small supply, and prices have advanced. Foreign wheat is the subject of speculation, and trade on Tuesday and Saturday last was exhausted and the market flat. Surplus stocks were not worked. The overstock amounts to 243,000 quarters. It is feared that the market at leading ports will be depressed by excessive offers. Total imports of wheat thus far amount to 334 030 quarters.

Grain Futures.

Liverpool.

The following are the closing prices paid for wheat options per cwt. for the past week:

	April.	May.	June.	July.	Aug.	Sept.
Thursday.....	5609d	5609d	5611d	5611d	5600d	5601d
Friday.....	5609d	5610d	5610d	5611d	5611d	5600d
Saturday.....	5609d	5609d	5610d	5610d	5611d	5600d
Monday.....	5609d	5608d	5609d	5609d	5610d	5611d
Tuesday.....	5608d	5608d	5609d	5609d	5610d	5611d

The following are the prices for California cargoes for off coast, nearly due and prompt shipments for the past week:

	O. C.	P. S.	N. D.	Market for P. S.
Thursday.....	306d	315d	306d	Steady
Friday.....	306d	315d	306d	Quiet
Saturday.....	306d	306d	306d	Slow
Monday.....	306d	306d	306d	Weaker
Tuesday.....	306d	306d	306d	Inactive

To-day's cablegram is as follows: LIVERPOOL, April 17.—Wheat—Quiet but steady. California spot lots, 5s 11d; off coast, 29s9d; just shipped, 30s 3d; nearly due, 29s9d; cargoes off coast, slow; on passage, not much inquiry; Mark Lane wheat, steady; French country markets, quiet; wheat in Paris, quiet; flour, rather easier; weather in England, very warm.

Eastern Markets.

The following shows the closing prices per bushel of wheat for the past week at

New York.

Day.	April.	June.	Aug.
Thursday.....	75½	78½	80½
Friday.....	77	78½	80½
Saturday.....	76½	77½	79½
Monday.....	77	78½	80½
Tuesday.....	74½	76½	78½

Chicago.

Day.	May.	July.	Sept.
Thursday.....	80½	75½	76
Friday.....	79½	74½	75
Saturday.....	78½	73½	74
Monday.....	76½	73½	74½
Tuesday.....	75½	73½	74½

WHEAT.

	March	May
Thursday, highest.....	\$1.32½	\$1.27
" lowest.....	1.27½	1.26½
Friday, highest.....	1.31½	1.26½
" lowest.....	1.26½	1.25½
Saturday, highest.....	1.31½	1.25½
" lowest.....	1.25½	1.25½
Monday, highest.....	1.31½	1.25½
" lowest.....	1.27½	1.25½
Tuesday, highest.....	1.31½	1.25½
" lowest.....	1.26½	1.25½

†Milling.

The following are to-day's recorded sales on Call: Wheat—Morning—Informal Session—May, 100 tons, \$1.25½; 400, \$1.25½. December—300 tons, \$1.31½@1.32c. Regular Session—December, 1100 tons, \$1.31½; 600, \$1.31½. May, 100 tons, \$1.25½ @ c. Afternoon—May, 1600 tons, \$1.25½. December, 200 tons, \$1.31½ @ c.

BARLEY.

	March	May
Thursday, highest.....	83½	85½
" lowest.....	83½	84½
Friday, highest.....	83½	84½
" lowest.....	83½	84½
Saturday, highest.....	83½	84½
" lowest.....	83½	84½
Monday, highest.....	83½	84½
" lowest.....	83½	84½
Tuesday, highest.....	83½	84½
" lowest.....	83½	84½

*Brewing. The following are to-day's recorded sales on Call: Barley—Regular—Seller 1893, new, 200 tons, 83c. May, 400 tons 83c; 200, 83c; 200, 83c. December 300 tons, 88c @ c. Afternoon—December, 1100 tons, 86c. May, 800, 83c. Seller 1893, new, 100 tons, 83c @ c.

Fruits and Vegetables.

Choice selected, in good packages, fetch an advance on the quotations, while very poor grades sell less than the lower quotations. APRIL 19, 1893.

Limes, Mex....	3 75 @ 4 00	Parmips, cts....	1 00 @ 1 25
Do Cal.....	75 @ 1 00	Peppers, dry, lb	5 @ 6
Lemons, box....	2 50 @ 3 50	Turnips, cts....	— @ 70
Do Sicily choice 4	50 @ 5 00	Cabbages, 100 lbs	65 @ 75
Apples.....	35 @ 65	Garlic, 3 lb....	13 @ 2
Do Good.....	75 @ 1 25	Onionflower.....	40 @ 50
Do Extra choice 1	50 @ 2 00	Celery.....	50 @ 60
Perimmons.....	50 @ 1 00	Mushrooms, 1 lb	— @ 12
Oranges, pr bx..	2 00 @ 2 25	Do, Common.....	8 @ 12
Navel, River de 2	00 @ 2 25	Do, Button.....	12 @ 15
Do, Butte Co....	— @ —	Tomatoes, box..	— @ —
Seedling, River de	1 25 @ 1 50	String Beans....	8 @ 12
Do, Fresno.....	1 25 @ 1 50	Rhubarb, bx....	75 @ 1 25
Do, Butte Co....	— @ —	Green Peas.....	3 @ 5
Extra choice fruit for special		Asparagus, box.	1 @ 200
purposes sells at an advance		Cucumbers, doz	40 @ 75
on outside quotations		New Potatoes..	1½ @ 2½
Beets, sk.....	— @ 70	Artichokes, doz	50 @ 60
Carrots, sk.....	40 @ 50	Garlic, 3 lb....	15 @ 20
Okra, dry, lb....	15 @ —		

(Continued on next page.)

General Produce.

Extra choice in good packages fetch an advance on top quotations, while very poor grades sell less than the lower quotations.

BEANS AND PEAS.		Foothill, good to choice.	
Bayo, cal.	2 97 @ 3 00	choice.	14 @ 17c
Butter.	2 75 @ 3 00	BAGS.	
Pea.	2 75 @ 3 00	Standard Calc Grain.	
Red.	2 75 @ 3 00	Spot.	74 @ 64c
Pink.	2 75 @ 3 00	June & July delivery	64 @ 64c
Small White.	2 65 @ 2 80	Potatoes, granules.	14 @ 15c
Large White.	2 70 @ 2 85	Wool, 3 lb.	30 @ —
Lima.	3 20 @ —	Wool, 4 lb.	38 @ —
Fid Peas, blk eye	1 10 @ 1 65	HOPS.	
Do green.	2 00 @ 2 25	1892, fair.	15 @ —
Split.	2 00 @ 5 50	Good.	17 @ —
BUTTER.		Choice.	18 @ —
Cal. poor to fair.		FLOUR.	
Do fair to choice	15 @ 17	Extra, city mills	3 90 @
Do Giltedged.	16 @ 17	Do country mls.	3 90 @
Do Creamery.	17 @ 18	Superfine.	2 50 @ 3 00
Do do Giltedged.	21 @ 22	NUTS—JOBBER.	
Do do Giltedged, ladle.	15 @ 16	Walnuts, hard	6 @ —
Cal. Pickled.	16 @ 17	Soft shell, Cal. D.	5 @ —
Cal. Keg.	15 @ 16	Do soft shell.	10 @ 12
Eastern Creamery.	18 @ 19	Do paper shell.	12 @ 13 1/2
CHEESE.		Almonds, split	12 @ 13
Cal. choice	11 @ 12	Paper shell.	13 @ 15
Do fair to good.	10 @ 11	Hard shell.	7 @ 8
Do Giltedged.	13 @ —	Brazil.	8 @ 10
Do Skim.	5 @ 6	Pecans, small.	8 @ 10
Young America.	11 1/2 @ 12 1/2	Do large.	14 @ 16
EGGS.		Peanuts.	34 @ 64
Cal. "as is," doz	10 @ —	Filberts.	10 @ 12
Do shaly.	10 @ —	Hickory.	7 @ 8
Do candied.	20 @ —	Chestnuts.	8 @ 10
Do choice.	20 @ —	ONIONS.	
Do fresh laid.	20 @ —	Silverskin.	2 00 @ 2 25
Do do white.	20 @ —	POTATOES.	
Do do white.	20 @ —	River Reds.	1 25 @ 1 40
Do do white.	20 @ —	Early Rose, chl.	1 25 @ 1 40
Do do white.	20 @ —	Peelers.	1 40 @ 1 50
Do do white.	20 @ —	Do do Oregon.	1 40 @ 1 50
Do do white.	20 @ —	Sweet.	2 00 @ 2 50
Do do white.	20 @ —	Oregon Burbank.	1 40 @ 1 50
Do do white.	20 @ —	Extra choice sell for more money.	
FEED.		POULTRY.	
Barley, ton.	17 00 @ 17 50	Hens, doz.	6 50 @ 7 00
Feedmeal.	25 00 @ 26 00	Roosters, old.	6 00 @ 6 50
Gr'd Barley.	21 00 @ 23 00	Do young.	7 50 @ 9 00
Middlings.	19 50 @ 22 00	Broilers, small.	4 50 @ 5 00
Oil Cake Meal.	— @ 35 00	Do large.	6 00 @ 7 00
HAY.		Fryers.	6 00 @ 8 00
Compressed.	7 00 @ 10 00	Ducks.	7 00 @ 7 50
Wheat, per ton.	8 00 @ —	Do large.	8 00 @ 10 00
Do choice.	— @ 12 00	Geese, pair.	1 75 @ 2 25
Wheat and oats.	7 00 @ 9 00	Turkey, gobler.	20 @ 21
Wild Oats.	7 00 @ 9 00	Turkey, hen.	20 @ 21
Cultivated do.	6 00 @ 9 00	Do dressed.	20 @ 22
Barley.	7 00 @ 9 00	All kinds of poultry, if poor or small, sell at less than quoted; if large and in good condition, they sell for more than quoted.	
Alfalfa.	8 00 @ 10 00	FROM SACRAMENTO GRANGE.	
Clover.	7 00 @ 9 00	With an order for manuals, the W. M. writes from Sacramento, April 10th, as follows: "Our Grange is progressing. Last Saturday we conferred the third and fourth degrees on 12. Then we had one of our old-fashioned harvest feasts. The meeting and feast were well attended. In the afternoon our open meeting was largely attended by a class of citizens who are inquiring and anxious to know about our Order. The W. L., Sister Williams, had a fine program prepared, consisting of music, recitations and extempo speech-making. Bro. D. Flint gave us an able, interesting and instructive lecture on "Courtesy." Many of the sisters as well as brothers, are well up in oratory. We will commence right away for another class.	
Straw, bale.	35 @ 60	The young folks in Sacramento are especially wide awake. For our next meeting, they have planned to have a fine literary program and social.	
GRAIN, ETC.		The committee will meet next Saturday to arrange for our annual picnic and we are all looking forward to having a good time. By the way, what is the matter that none of the State Grange officers visit Sacramento Grange? We would treat them well if they would come. Fraternally, E. GREER, M.	
Barley, feed, chl	80 @	STOCKTON GRANGE VS. CAPITAL REMOVAL.	
Do good.	82 1/2 @	A. T. Dewey, Sec'y State Grange:—At the regular meeting of Stockton Grange No 70, held on the above date, the following resolutions were adopted:	
Do choice.	85 @	WHEREAS, The action of the last legislature in submitting to the people the question of the removal of the State Capital was, in our opinion, hasty, undignified and uncalled for by any exigency or general expression from the people, and if confirmed by the people would inflict millions of dollars of additional and needless taxation, and also the results of more than twenty years of time in beautifying and perfecting the capitol grounds will be thrown away; and	
Do brewing.	90 @	Whereas, The Master of the State Grange is reported to have said at a harvest feast at San Jose: "I was going to say something about the State Capitol—I did not bring it with me, but I did bring a vote to have it removed to San Jose at the earliest opportunity"—which may be thought by many to express the views of the Patrons of Husbandry generally on the proposition of the State Capital removal; Therefore	
Do Oatmeal.	90 @	Resolved, By Stockton Grange No. 70, Patrons of Husbandry, that we are earnestly and emphatically opposed to the removal of the State Capital and appeal to all Patrons of Husbandry to help defeat a project that would inflict millions of dollars of needless taxation upon the people.	
Do do Giltedged.	1 15 @	N. T. ROOT, Sec'y.	
Buckwheat.	1 75 @ 2 00	Stockton, April 15th, '93.	
Corn, white.	1 05 @ 1 07 1/2	STOCKTON GRANGE VS. CAPITAL REMOVAL.	
Yellow, large.	1 12 1/2 @ 1 15	A. T. Dewey, Sec'y State Grange:—At the regular meeting of Stockton Grange No 70, held on the above date, the following resolutions were adopted:	
Do small.	1 12 1/2 @ 1 15	WHEREAS, The action of the last legislature in submitting to the people the question of the removal of the State Capital was, in our opinion, hasty, undignified and uncalled for by any exigency or general expression from the people, and if confirmed by the people would inflict millions of dollars of additional and needless taxation, and also the results of more than twenty years of time in beautifying and perfecting the capitol grounds will be thrown away; and	
Oats, milling.	1 40 @ 1 50	Whereas, The Master of the State Grange is reported to have said at a harvest feast at San Jose: "I was going to say something about the State Capitol—I did not bring it with me, but I did bring a vote to have it removed to San Jose at the earliest opportunity"—which may be thought by many to express the views of the Patrons of Husbandry generally on the proposition of the State Capital removal; Therefore	
Feed, choice.	1 40 @ 1 45	Resolved, By Stockton Grange No. 70, Patrons of Husbandry, that we are earnestly and emphatically opposed to the removal of the State Capital and appeal to all Patrons of Husbandry to help defeat a project that would inflict millions of dollars of needless taxation upon the people.	
Do good.	1 37 1/2 @	N. T. ROOT, Sec'y.	
Do fair.	1 30 @	Stockton, April 15th, '93.	
Do common.	1 25 @	STOCKTON GRANGE VS. CAPITAL REMOVAL.	
Surprise.	1 09 1/2 @	A. T. Dewey, Sec'y State Grange:—At the regular meeting of Stockton Grange No 70, held on the above date, the following resolutions were adopted:	
Black feed.	1 25 @ 1 30	WHEREAS, The action of the last legislature in submitting to the people the question of the removal of the State Capital was, in our opinion, hasty, undignified and uncalled for by any exigency or general expression from the people, and if confirmed by the people would inflict millions of dollars of additional and needless taxation, and also the results of more than twenty years of time in beautifying and perfecting the capitol grounds will be thrown away; and	
Gray.	1 10 @ 1 13	Whereas, The Master of the State Grange is reported to have said at a harvest feast at San Jose: "I was going to say something about the State Capitol—I did not bring it with me, but I did bring a vote to have it removed to San Jose at the earliest opportunity"—which may be thought by many to express the views of the Patrons of Husbandry generally on the proposition of the State Capital removal; Therefore	
Rye.	1 10 @ 1 13	Resolved, By Stockton Grange No. 70, Patrons of Husbandry, that we are earnestly and emphatically opposed to the removal of the State Capital and appeal to all Patrons of Husbandry to help defeat a project that would inflict millions of dollars of needless taxation upon the people.	
Wheat, milling.	1 30 @	N. T. ROOT, Sec'y.	
Giltedged.	1 30 @	Stockton, April 15th, '93.	
Shipping choice.	1 32 1/2 @ 1 35	STOCKTON GRANGE VS. CAPITAL REMOVAL.	
Off Grades.	1 12 @ 1 13	A. T. Dewey, Sec'y State Grange:—At the regular meeting of Stockton Grange No 70, held on the above date, the following resolutions were adopted:	
Onora.	1 20 @ 1 30	WHEREAS, The action of the last legislature in submitting to the people the question of the removal of the State Capital was, in our opinion, hasty, undignified and uncalled for by any exigency or general expression from the people, and if confirmed by the people would inflict millions of dollars of additional and needless taxation, and also the results of more than twenty years of time in beautifying and perfecting the capitol grounds will be thrown away; and	
WOOL.		Whereas, The Master of the State Grange is reported to have said at a harvest feast at San Jose: "I was going to say something about the State Capitol—I did not bring it with me, but I did bring a vote to have it removed to San Jose at the earliest opportunity"—which may be thought by many to express the views of the Patrons of Husbandry generally on the proposition of the State Capital removal; Therefore	
Nevada, per lb.	16 @ 18c	Resolved, By Stockton Grange No. 70, Patrons of Husbandry, that we are earnestly and emphatically opposed to the removal of the State Capital and appeal to all Patrons of Husbandry to help defeat a project that would inflict millions of dollars of needless taxation upon the people.	
San Joaquin and Southern.	10 @ 13c	N. T. ROOT, Sec'y.	
Year's staple.	12 @ 15c	Stockton, April 15th, '93.	
Short Wool.	12 @ 15c	STOCKTON GRANGE VS. CAPITAL REMOVAL.	
Do and very poor.	9 @ 11c	A. T. Dewey, Sec'y State Grange:—At the regular meeting of Stockton Grange No 70, held on the above date, the following resolutions were adopted:	
Do and shrinky.	9 @ 11c	WHEREAS, The action of the last legislature in submitting to the people the question of the removal of the State Capital was, in our opinion, hasty, undignified and uncalled for by any exigency or general expression from the people, and if confirmed by the people would inflict millions of dollars of additional and needless taxation, and also the results of more than twenty years of time in beautifying and perfecting the capitol grounds will be thrown away; and	

Live Stock.

BEEF.		MUTTON.	
Stall fed.	6 1/2 @	Wethers.	7 @
Grass fed, extra.	6 1/2 @	Ewes.	7 @
First quality.	6 @ 6 1/2	Do Spring.	8 @ 9
Second quality.	5 @ 6	HOGS.	
Third quality.	4 1/2 @ 5	Light, 3 lb. costs.	6 1/2 @
Bulls and thin Cows.	2 @ 5	Medium.	7 @
VEAL.		Heavy.	7 @
Range, heavy.	5 @ 7	Soft.	6 @
Do light.	7 @ 8	Feeders.	6 1/2 @
Dairy.	7 @ 8	Stock Hogs.	5 1/2 @
		Dressed.	9 1/2 @ 10

Beet Sugar.

The growing of beets for making sugar has become one of the great industries of California. It has passed through the experimental stage, and it has become a settled question that our country will, like Germany, use more sugar made from beets than that imported or made from sugar cane. In view of the interest manifested in this branch of farming, the enterprising firm of Allison, Neff & Co., of this city, has just imported a line of implements especially adapted to beet raising, consisting of the Moline Beet-Seeder and the Moline Beet-Cultivator. This seeder seems to be complete and just the thing desired for planting beets. It plants four rows at a time and the seed lifted by a mechanical device drops from the hopper and finds its way to the soil by gravity. It seems as if this is the only method by which beet seed in its rough state can be planted by machinery. A clever auxiliary is a marker which is always within reach of the operator, while on the seat, and lays out the line for the next four rows. It has been highly endorsed by those who have used it, and several orders have been placed for machines for this season.

The Moline Beet-Cultivator is gotten up expressly to follow the Moline Beet-Seeder. It is light, strong and compact, and one horse handles it with ease. Each section is provided with a bang-up device which is easily operated, and is also equipped with a spring to assist in lifting. The cutters are adjustable to cultivate from 16 to 20 inches broad, also to cultivate distant rows. This, as well as the beet-seeder, has been very successful during the past season, and has received the hearty endorsement of those who have used it, and, as we understand, it has been used exclusively at the Chico beet farm, in Los Angeles county. Any one desiring further information can obtain it by addressing Allison, Neff & Co., San Francisco.

CALIFORNIA FRUITS AND HOW TO GROW THEM.

A practical, explicit and comprehensive book embodying the experience and methods of hundreds of successful growers, and constituting a trustworthy guide by which the inexperienced may successfully produce the fruits for which California is famous. 600 pages. Fully illustrated. Price \$3. Postpaid. Send for circular. DEWEY PUBLISHING CO., Publishers, 220 Market Street, San Francisco, Cal.

The Secretary's Column.

(Continued from page 362.)

and concise. Perfect good-feeling was everywhere manifested. Our Grange is just now agitating the method of establishing a cannery here, which is much needed." This Grange reports an increased membership of 62 sisters and 32 brothers—94 in all.

TULARE, FRESNO AND KERN CO. CANVASS.

A Grange canvass will soon be undertaken in Tulare county by Frank S. Chapin, an old correspondent of the RURAL PRESS. Bro. Chapin is an interesting speaker and thoroughly imbued with the spirit of advancement, which our agricultural population needs to adopt for its own protection and progress. He will be supported in his work by District Deputy John Tuohy. All parties interested in the revival of old Granges, and the formation of new ones, in Tulare, Kern and Fresno counties, should address Bros. Tuohy and Chapin, Tulare City. Are there not some Patrons or farmers who will volunteer to canvass a few days with Bro. Chapin, or otherwise assist him in forwarding the work. It is hoped that the farmers will organize or reorganize at Hanford, Lindsay, Visalia, Porterville, and a number of other towns and rural districts. Now is the time for every Patron and friend of the Order in the counties named to put their shoulders to the wheel in forwarding the work. Able speakers from abroad will visit the county whenever the cause demands it. No part of the State is suffering more from the want of co-operation and united action on the part of the agricultural community than the section mentioned.

FROM SACRAMENTO GRANGE.

With an order for manuals, the W. M. writes from Sacramento, April 10th, as follows: "Our Grange is progressing. Last Saturday we conferred the third and fourth degrees on 12. Then we had one of our old-fashioned harvest feasts. The meeting and feast were well attended. In the afternoon our open meeting was largely attended by a class of citizens who are inquiring and anxious to know about our Order. The W. L., Sister Williams, had a fine program prepared, consisting of music, recitations and extempo speech-making. Bro. D. Flint gave us an able, interesting and instructive lecture on "Courtesy." Many of the sisters as well as brothers, are well up in oratory. We will commence right away for another class.

The young folks in Sacramento are especially wide awake. For our next meeting, they have planned to have a fine literary program and social.

The committee will meet next Saturday to arrange for our annual picnic and we are all looking forward to having a good time. By the way, what is the matter that none of the State Grange officers visit Sacramento Grange? We would treat them well if they would come. Fraternally, E. GREER, M.

STOCKTON GRANGE VS. CAPITAL REMOVAL.

A. T. Dewey, Sec'y State Grange:—At the regular meeting of Stockton Grange No 70, held on the above date, the following resolutions were adopted:

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Resolved, By Stockton Grange No. 70, Patrons of Husbandry, that we are earnestly and emphatically opposed to the removal of the State Capital and appeal to all Patrons of Husbandry to help defeat a project that would inflict millions of dollars of needless taxation upon the people.

N. T. ROOT, Sec'y.

Stockton, April 15th, '93.

Suggestions for Flora's Day.

Mrs. E. W. Davis, member of the National Committee on Woman's Work, has, at the suggestion of the Chairman of the National Committee, issued a circular offering a few suggestions for the celebration of Flora's Day. From this circular we take

THE HAGGIN SALE



Draft, Harness and Work Horses

—WILL TAKE PLACE—

THURSDAY AND FRIDAY, MAY 4TH AND 5TH,
At Sales Yard,
CORNER MARKET ST. AND VAN NESS AVE.
KILLIP & CO., Auctioneers.

the following, which embodies all of Mrs. Davis' suggestions:

The Committee on Woman's Work of the National Grange has thought it for the good of the Order to request each subordinate Grange in the United States, in view of the fact that all love flowers, to set aside the regular meeting in June, 1893, as "Flora's Day." They would recommend that it be made a public meeting (in the afternoon or evening) as soon as the secret business of the regular meeting is finished. That Flora of each Grange should have charge of the meeting, and that a program, suitably arranged, should be prepared. As a guide, and not to be followed when any better program can be prepared, or where local conditions are not favorable, the following is submitted: 1, Song, America; 2, Reading (a poem by H. W. Longfellow, America's own poet), subject, "Flowers;" 3, Preparing a bouquet, each one donating, to have a short verse about the flower or grass or leaf given; 4, An original essay, not to exceed five or seven minutes in length, subject, "The Grange as Seen Through Flowers," by Flora of the Grange; 5, Grange song; 6, Short address by the Worthy Master of the Grange, followed by taking up of a collection for the Grange Temple fund; 7, Social meeting for good of the Order and securing applications for membership.

SPECIAL ANNOUNCEMENT.

We have made arrangements with Dr. B. J. Kendall Co., publishers of "A Treatise on the Horse and his Diseases," which will enable all our subscribers to obtain a copy of that valuable work free by sending their address (enclosing a two-cent stamp for mailing same) to Dr. B. J. KENDALL CO., ENOSBURGH FALLS, VT. This book is now recognized as standard authority upon all diseases of the horse, as its phenomenal sale attests, over four million copies having been sold in the past ten years, a sale never before reached by any publication in the same period of time. We feel confident that our patrons will appreciate the work, and be glad to avail themselves of this opportunity of obtaining a valuable book.

It is necessary that you mention this paper in sending for the "Treatise." This offer will remain open for only a short time.

MR. WILLIAM STAHL, of Quincy, Illinois, the well-known manufacturer of spraying outfits, as advertised in these columns from time to time, has published a number of neat little pamphlets on subjects connected with spraying, among them being "Spraying Fruits, how, when, where and why to do it." "Spraying Apple Orchards." "How to prevent and destroy diseases and insects affecting grapes." "Insects and fungus diseases affecting all varieties of small fruit and vegetable crops." "Full directions for spraying fruits, vegetables and flowers," etc. Any or all of these little books are sent free of charge to any one who will ask for them, and each and every one of them contains much valuable information on the subject treated, and information, too, that should be in the hands of every farmer and fruit-grower in the land. Write for them to William Stahl, Quincy, Illinois.

Much amusement is afforded to small children by running a stick through an orange and putting it into the neck of a wine bottle; then a face is cut out from the peel of the orange, more or less funny, according to the skill of the maker. From a piece of brown paper a cloak and hood are improvised, and behold! a yellow-faced, little bottle-bodied woman.

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BUSINESS COLLEGE,

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FOR SEVENTY-FIVE DOLLARS THIS College instructs in Shorthand, Type Writing, Book-keeping, Telegraphy, Penmanship, Drawing, all the English branches, and everything pertaining to business for six full months. We have sixteen teachers, and give individual instruction to all our pupils. Our school has its graduates in every part of the State.

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E. P. HEALD, President

O. S. HALEY, Secretary.

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Jewels, Badges, Working Tools, Seals, Etc.,

GOLD AND SILVER TRIMMINGS.

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Seeds, Plants, Etc.

TREES! TREES!

IT HAS BEEN DEMONSTRATED IN THE PAST FEW years by the large number of trees sold by me that nursery stock grown on the river bottom of Sutter county is far superior to any grown in the State. I am prepared to supply in large or small quantities:

Bartlett Pears, Plums and Prunes
On Myrobalan Plum Roots.

—ALSO—
Cherries, Peaches, Apricots, Apple, Almond
Trees, Etc.

Special Rates on Large Orders.
Send for Price List for 1893-94.

James T. Bogue, Marysville, Cal.

OLIVE TREES.

ALL KINDS OF
Nursery Stock.

Send and get book on Olive Culture.

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Pomona, Cal.

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ESTABLISHED 1869.

A Large and Extra Choice Stock of
Fruit, Shade and Evergreen Trees
and Flowering Shrubs.

—ALSO—
The Largest and Best Stock of Camellias,
Azaleas and Rhododendrons, consist-
ing of the Best European Sorts.
Nurseries at Millbrae. Greenhouses and Office and
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ADDRESS

F. LUDEMANN, Pacific Nursery,
Baker & Lombard Sts., San Francisco, Cal.
Send for Price List.

Thomson's Improved Navel.

I have for sale this year about 2000 Thomson's
Navel orange trees, one-year-old bud, three-year-
old roots, in fine shape for planting this spring.
Parties intending to purchase trees, who cannot
visit the orchard and see said oranges growing
on trees, may receive samples by mail upon ap-
plication. I have now about 20 trees of this
variety in bearing.

A. C. THOMSON, Duarte, Cal.

Burpees' Bush Lima Beans

—FOR SALE BY—

JAMES H. LEGGETT,
Oroville, Cal.

AT 50c A POUND, POSTPAID.

Seed grown on as fine bushes as on which I took the \$100
premium.



HEADQUARTERS

For Rare new Tropical fruit
and ornamental plants and
trees. Palms, Ferns, Orange
Trees, Pineapples, Bamboos,
Aquatics, Etc.

Plants safely shipped every-
where. Send stamp for new
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all about this subject.

REASONER BROS
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4000 to 6000 healthy unirrigated

Peach Seedlings!

Must be sold for land clearing. Address

Look Box 994, Winters, Yolo County, Cal.

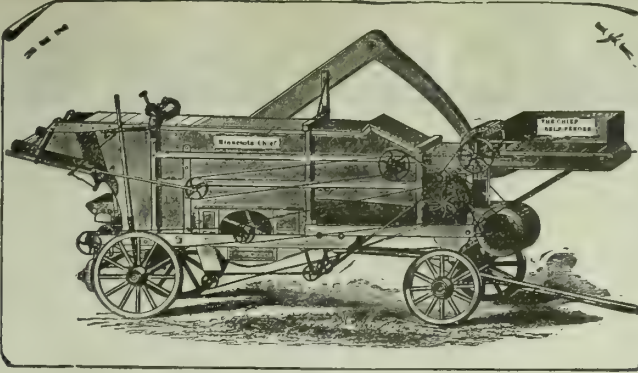
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Open All Year.

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\$25; Blowpipe Assay, \$10. Full course of assaying, \$50.
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EXTRAS always in stock.

Repairing and Machine Work of all descriptions.

OFFICE, FACTORY AND SALESROOMS:

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OAKLAND, CAL.

ORANGE TREES.

Clean, Well-Rooted Trees, True to Name.

MED. SWEETS AND WASH. NAVELS—25c to \$2, \$3 and \$5 each.

CALIFORNIA FAN PALMS.

Adapted to most sections of the State.

50c will pay for a good specimen.

Home-grown Citrus Trees, being acclimated, will succeed better than imported stock,
and are worth more than foreign-grown trees, but you can get
Orange and Lemon Trees grown at

PENRYN, PLACER COUNTY, CALIFORNIA,

For Less Money than you pay for the imported trees, and the home-grown trees are
free from all suspicion of insect pests.

ALOHA ORANGE NURSERIES,

PENRYN, PLACER COUNTY, CAL.

MRS. N. M. FRASER, Proprietor.

FRED. C. MILES, Manager.

ESTABLISHED 1863.

THOS. MEHERIN, NURSERYMAN AND SEEDSMAN.

AGENT FOR THE CALIFORNIA NURSERY CO.

LARGEST AND MOST COMPLETE STOCK OF FRUIT, SHADE AND ORNAMENTAL
TREES ON THE PACIFIC COAST.

Apples, Almonds, Apricot, Pear, Prune, Plum, Peach and Cherry. Also fine stock Olives, Oranges, Lemons,
Nut Trees and Small Fruits; Magnolias, Camellias, Palms. Large stock of Roses, Clematis, Etc., Etc.

SEEDS! SEEDS!

GRASS, CLOVER, VEGETABLE, FLOWER and TREE SEEDS, TOP ONIONS, Etc. Etc

Catalogues Mailed Free. Address

THOS. MEHERIN, 516 Battery Street, San Francisco, Cal.

STOCKTON NURSERIES,

ESTABLISHED 1853.

FRUIT TREES. FRUIT TREES.

GRAPE VINES.

Also Fine Stock of Shade and Ornamental Trees, Shrubs, Palms, Roses and Carnations.

PLANTS IN GREAT VARIETY.

Correspondence Solicited.

E. C. CLOWES, STOCKTON, CAL.

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All Roads Lead to Chicago.

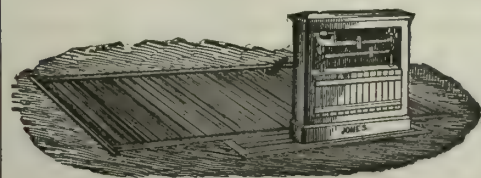
THE CHICAGO, MILWAUKEE & ST. PAUL RAILWAY LEADS THE VAN.

EXCURSION RATES TO THE WORLD'S FAIR.

WRITE OR APPLY TO 112 MONTGOMERY STREET,

F. D. MEYER, Pass. Agt.

C. L. OANFIELD, Gen'l Agt.



THE JONES 5-TON WAGON SCALE.
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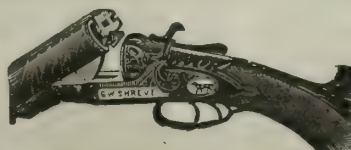
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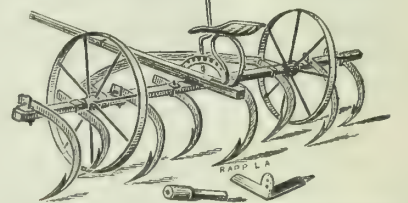
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Vol. XLV. No. 17.

SAN FRANCISCO, SATURDAY, APRIL 29, 1893.

THE DEWEY PUBLISHING CO
Office, 220 Market St.

An Orchard View in California.

We reproduce from an esteemed Eastern contemporary the very attractive and characteristic orchard view on this page in order that our own people can see in what creditable form our interests are being presented to the world in high-class horticultural journals. It is a fact, we think, that California is commanding attention to-day in a more satisfactory and influential manner than ever before. There are no private interests served to the showing. We

are not informed of the ownership of the land nor even the county which can boast such a charming place. More than this the description accompanying the picture is written by an Eastern man who is apparently filled with a disinterested appreciation of California's natural conditions the result of a tour hither. We are glad to see California receiving such attention as we have outlined. It marks a new era in the advancement of the State, which is becoming too important to require inspired and requited service from the distant press. The voluntary tribute is vastly more desirable for many and obvious reasons.

The engraving is especially interesting as indicating the way in which our best hill lands are being transformed into productive orchards and vine-

yards; besides, the scene is characteristically Californian in its natural and artificial features. The writer in *Garden and Forest* uses the picture to show the advantages of the cheaper habitations of California over the abodes of settlers in other new States, and as the contrast is not frequently urged, we copy the following:

"The domicile of the pioneer farmer of Iowa was a small house built of logs, between which was thrust a plaster made of mud, a building which afforded a sufficient protection from the bleak winters of that section. Farther west, in Nebraska, where the winters were much more severe, the settler's house was built of logs, with earth heaped around it nearly to the roof. This made a characteristic and comfortable shelter. In the Dakotas, where the mercury is in the habit of dropping to zero in the fall, and to forty degrees below zero during the winter, the pioneer farmer is almost compelled to burrow to protect himself against the cold in his sod-house, or 'schack.' There is an extreme plainness and barrenness that renders

a house of this sort very unattractive. Blossoming vines and quickly growing and richly foliated trees and shrubs are impossible, owing to the unfriendly climate.

"The farmer in the Pacific Coast States, and especially in California and Oregon, is greatly favored by climate in the building of his house. It may be constructed of matched boards and batting. If he cannot afford to paint it, two coats of whitewash will give it a clean and fresh appearance. About the door many sorts of shrubs and flowering plants may be set. Over the porch and roof

there are thousands of them in the State—easily comes within the reach of the very few persons whom even such a small house would shelter. By planning properly, the work can be kept abreast of the season; and even such short work spells as a delicate person can endure, if applied regularly throughout the year, will keep quite an area of fruit in shape, with perhaps occasionally a strong hand at the plow or a group of helpers at fruit harvest. It is in the multiplication of such small and productive holdings that the future of the State seems vested, and to

possess such a place, and make it profitable, the requirements are small capital, moderate strength, but a whole lot of business sense, industry and love of rural life and work.

We recently noted the fact that Prof. Hilgard had been kept busy during the months he spent in Berlin in responding to invitations to address scientific societies upon the results of his investigations of soils, waters and climates of the arid regions of the United States. We received the other day a copy of his pamphlet on "Soils and Climate," translated into the German language and published by a Berlin publisher. We are informed that another translation will appear in France under instructions from M. Grandeau, the head of the French ex-



From *Garden and Forest*.

ORCHARD SCENE IN CALIFORNIA.

Copyright, 1893, by Garden and Forest Publishing Co.

rosevines will bloom the year through. Inside the house there need be no expense for lath and plaster. Muslin, made especially for this purpose, and costing but three cents a yard, may be tacked to the walls, making a good surface for wall paper. Dwellings of this character are a striking contrast to uncouth houses of logs and turf which were the habitations of early settlers on the farm lands of the middle west."

The contrast which the writer emphasizes is a constant joy to the Californian. The climate which renders such slight shelter comfortable also makes open-air life delightful and out-door work feasible during a greater fraction of the year perhaps than in any other region of the temperate zone. This is probably the key to the value of residence on this coast in rebuilding weakened frames and weary minds. It is really wonderful how much work is done and how great improvements secured by the labor of those who had thought their working days over. The conduct of such a place as the engraving shows—and

periment stations, and that a later reproduction will be in Russian at St. Petersburg. Though these publications are altogether without profit to Prof. Hilgard, they must be gratifying as signifying the wide interest in the work in which he has been engaged for the last 20 years. The secret of the matter is, we presume, that, aside from the scientific interest in the work, these European nations have, in some parts of the world, possessions for the improvement of which they can learn much from California research and practice. Thus, while California becomes better known, she at the same time sets the example of progress for others to follow. Prof. Hilgard's year abroad thus promises to be of wide benefit.

PROSPECTS from southern California are most encouraging for full yields in grain and fruits. Even apricots, which show a great falling-off further north, will yield fairly.

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ALFRED HOLMAN.....General Manager

San Francisco, April 29, 1893.

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The Week.

The rush to the World's Fair has fairly begun. It is stated that sleeping car accommodations are covered for nearly a month in advance, so our friends who contemplate the trip should not delay such arrangements until the time of starting. The railways do not yet make any notable reduction in their rates, and as long as they can get full loads at high rates it is not likely that they will cut under much. The people's only hope is a railway fight and that like other blessings has a way of coming at the wrong time.

We give much space this week to two timely and important horticultural problems, viz.: thinning and crowding. Shall we thin the fruit and crowd the rows—seems to be the question. Those who read will find a unanimous verdict for thinning. Those who want to use the orchard for other purposes than fruit, will in most cases find themselves advised to jump over the fence into the next field. But it is sometimes very important to know what not to do.

Voices of a Valley.

Our course recently brought us to the Ojai Valley in Ventura county, a most beautiful elevated and shut-in valley which quickly justifies to the eye of the visitor the significant name it bears—Ojai, a nest or eyrie. This valley is too well known for its inestimable services to humanity in the reviving it has brought to lives despaired of and for its exceptional charms as a resort for recreation and pleasure, to require mention in this place of those characteristics upon which its chief charms have hitherto rested. Rather would we comment upon some points in which it embodies in a notable degree the spirit and tendency which are winning for California new prosperity and progress.

It can be truly claimed, we believe, that California is unsurpassed in the possession of a well educated farming population. It has often been pointed out that the distance between our territory and great centers of population has served as a barrier against a flood of undesirable immigrants. In pioneer days the dangers and difficulties of the overland way gave us people full of bravery and enterprise. In recent years the expense of the trip has freed us largely from the pauper horde of Europe which has filled the great cities of the East and overrun the cen-

tral west. The result has been that during all her history California has secured people who knew how to make their way in the world. More than this, especially during the last decade, we have secured great accessions of people who have commanded position in distant professional and mercantile circles, but dared not longer brave the rigors of the eastern climate. Unquestionably the recent rapid development of the State is largely due to wealth, energy, enterprise, beguiled by our genial natural conditions from distant communities.

Manifestations of this fact can be found everywhere in California, but nowhere more plainly seen than in the Ojai Valley. There you will see picturesque pioneers who years ago held high rank in the business affairs, but now possessed of new wealth and new health which old lines of life and work could never have secured for them. Around them are found other mature men who have more recently sought the balm of the Ojai air and have in an incredibly short space of time educated themselves in horticulture to the point of successful practice. Still others there are fresh from the great universities who have exchanged prospects of high professional careers for health and farmers' ambitions. Such men do not leave farming as they find it; they are the impelling force which is expanding our agriculture, employing the best business methods in the development of the country and undertaking enterprises which will render more sure California's name for progress and success.

The effect of such examples upon the youth of our own State and upon the newer comers from distant parts is beyond estimation. To experience the cordiality and geniality of such people, to be inspired by their devotion to their new pursuits and the enlistment of their best efforts therein, constitute a winning force which is irresistible. It is little wonder that so many who come to California merely to escape a winter, and have no thought of investment or permanent residence, do not rest content until they emulate the examples which attract them. In this way the Ojai valley is advancing rapidly in the improvement of its lands, in the development of water supplies, in better means of communication and transportation, and the lovely region which has for years been best known as a restful spot for the worn and weary will be famous for its success in the highest lines of agricultural and horticultural production. And in this respect the Ojai is but a type; its voice for the delights of California industrial life is echoed and re-echoed throughout the State.

We conceive that, in this respect, California is becoming a better resort for the restoration of health to the delicate, as well as a higher embodiment of enterprise and industry. The restorative effect of outdoor occupation under favoring skies is wonderful. To one who still has strength for some action, it is infinitely better to feel the stimulus to exertion and the spur of interest than to dawdle listlessly on hotel piazzas, waiting for some atmospheric balsam to heal and reinvigorate. We believe the Ojai and all similar valleys will do more for longevity by affording the best conditions for work than by affording a restful refuge.

There is another respect in which Ojai Valley is typical of the most progressive regions of the State, and that is the assurance it gives that the vast production which California will soon send forth will reach ends which will yield profit. It seems to us that events now transpiring in the development of our fruit industry show clearly that the intelligence and business sagacity which has planted our orchards and vineyards will win a market for them. Of course it takes time to solve new problems, but there is in our population such business force, actually possessed by experience or inherited, that the commercial features of our industries will be kept abreast of the productive accomplishments. If we had a population of those who are skilled only in production, our fine goods might be piled up higher than the hills which surround our valleys, but when we reflect that so many of our producers, as has been shown, are also trained in business, in manufacturing and public affairs generally we have a force fit to meet the needs of the case, great as they will undoubtedly be. One cannot meet the Ojai people without feeling sure that in the contest with the conditions which may arise they will be able to take care of themselves and in this respect again the Ojai is typical of the more progressive regions of the State, and it is fortunate, too, that the progressive regions are so many and widely distributed that they can easily carry the State as a whole with them into the prosperity which their doings merit and will command.

It is proposed to inform the world at the Chicago fair just what California produces in fruits, and the method to be taken is striking and somewhat original. There will be "strawberry" week, "apricot" week, "cherry" week, and so on, making each product conspicuous and attractive in turn. Of course due regard will be had to season and

opportunity. But horticulture is not to be the be-all and end-all of the California exhibit. Agriculture will receive due attention. It is designed to add to the vegetable exhibit from time to time fresh truck from field and garden that the collection may be kept as fresh and inviting as possible. The California managers might with profit add a few other show features to the agricultural department. Why not have an "onion" week, "sugar beet" week, "potato" week, a "cabbage" week and a month or more for our giant squashes and gorgeous watermelons?

THE Inter-Mountain Stock-Growers' Association, recently in annual session at Ogden, passed a set of resolutions reciting that in the western half of the United States there are, exclusive of mineral and agricultural lands, two million square miles of arid mountain and desert land, a majority of which is yet owned by the Government; that under the present laws on homesteading the Government derives no revenue from the arid belt; that said lands are only useful for stock-raising; that constant strife and some bloodshed result from crowded pastures and the inability of stockmen to secure property rights over lands used under such circumstances, and Congress is asked to cede the arid lands to the various States and Territories, making the necessary restrictions for the reservation of mining and fertile lands. The resolutions also favor the admission of the Territories as States at the earliest practicable moment; the free and unlimited coinage of silver and the harmonizing of the sheep and cattle interests.

ON another page may be found full statements of experience in growing crops between trees in orchards. Orchardists will find the letters of our correspondents very interesting and suggestive. As to the general policy of intercultures it must be concluded that there is none; that individual practice must be determined by local conditions, both natural and commercial, and that these conditions can only be ascertained by local thought and inquiry. It is significant that some who have followed the practice for many years have abandoned it and in their new orchards give the whole ground to the trees. As we read it, the discussion tends to disfavor the practice of inter-cropping; at the same time there are suggestions which may prove of direct practical value to many readers who have conditions under which crops between trees are likely to be profitable.

THE Sunset irrigation district at Selma, on the West Side, has sold its bonds of \$1,600,000 to a London company for 90 cents on the dollar. The bid was conditioned on the approval of experts and attorneys on the plans and acts of the district. The contract has been let to the Portland Construction Company by its president, J. H. Smith. The company agrees to put in the works complete, including reservoir, canals, pumping station, pipe lines, etc., for \$1,380,000. The work is to be done in a workmanlike manner under the supervision of the district engineer. It is to be commenced within 60 days, and completed within one year from date of contract; or, in other words, to commence by June 20, 1893, and be completed by May 1, 1894.

SECRETARY MORTON, of the Agricultural Department, has formulated a simple and inexpensive plan for the extension of the signal service of the weather bureau. His idea is to have all fast mail trains carry a complete set of signal flags, which are to be displayed to indicate the character of the weather to be expected within the coming twenty-four hours. By this method small villages can be supplied with weather indications as completely as large cities are now supplied by telegraph with little, if any expense, to the government.

THE potato market gives more than fair promise of remaining in excellent condition for some time to come. Prices recently took a sharp turn upward, though a break occurred last week. But conditions are excellent for high prices and the market has therefore again assumed a very firm tone. The reason is mainly in the short supply and the expectation that the coming yield will be short. Unless the area should be unexpectedly increased by late planting good prices will be the rule from now on.

OUR good friends of southern California point with pardonable pride to a published statement that 46 per cent of the total orchard area of the State is in seven southern counties. Southern California has indeed made gigantic progress in the fruit industry. People in the northern part of the State are also getting along very well.

FOR people who were said to be "in the dumps" over the orange-market situation, the people of southern California seem to be looking and doing pretty well. Oranges have been going forward very rapidly, and the market is said to be improving. So far about 3500 carloads have been shipped, and many more are to follow.

From an Independent Standpoint.

Competition in freight carriage between the Atlantic Coast and California has at last been established, and, we are led to believe, it has come to stay. It has been brought about not by creation of new lines of transportation but through revival of old lines—by removal of the barriers which for many years have all but closed the highway of the seas. Within the past few months a line of clipper ships to sail between San Francisco and New York has been established, and within the past few weeks lines of steamers have been put on both the Atlantic and Pacific sides of the continent connecting with the railroad which spans the Isthmus of Darien. An organization of San Francisco merchants, known as the Traffic Association, is back of both these enterprises, and in this backing lies their promise of stability. By the clipper line heavy freights are brought around Cape Horn at rates reduced from sixty to seventy per cent as compared with the transcontinental rail schedules which have heretofore ruled; and by the steamer line, via the Isthmus, goods are brought (almost on railroad time) at rates reduced from forty to sixty per cent as compared with the old rail schedules.

When these water lines were proposed, the railroad men laughed the scheme to scorn; but sneers have given place to deep concern and they are now trying to crush out the new competition by sweeping reductions in the old schedules. The new railroad rates were announced last week, and it remains to be seen if the San Francisco shippers will be so wanting in sense and wanting in nerve as to accept them and abandon the sea rivals which have forced the reduction. The plan of the railroad managers is to cut rates below the line of profit for the sea routes and thus to drive the latter from the field. In this effort they are prepared to run for a long time at a loss, for they could soon make up this loss by restoring the old or making higher rates when the sea competition is destroyed. This scheme is based upon the calculation that the railroads are rich, while the sea-route companies are poor, and that, in a losing fight, the former can stand out longer than the latter. Looking the situation squarely in the face, the Traffic Association, speaking for some hundreds of merchants who are large shippers, declares that the sea routes will be maintained in spite of the railroad cut, and that the men back of the ships are able to hold out and fight as long as the men back of the railroads. Thus matters stand. It is a clear contest between the commercial element of San Francisco and the railroads; and the nerve of the former and the financial resources of both are in the balance.

The methods by which the relatively cheap sea routes have for many years been blockaded in the interest of the rail routes is no doubt familiar to most of our readers; but we will run briefly over the facts for the benefit of those who may not be fully informed. The clipper route around Cape Horn has been "protected" in the interest of the transcontinental roads by half a dozen methods. Some clipper lines have been paid to go out of business; others have been paid to hold their rates up to practical equality with rail rates; others have been paid to limit the number of ships employed in the trade; and in the cases where all methods of subsidization have failed, the navigators have been driven from business by a ruinous sea competition operated under subsidy from the railroads. How much has been paid by the railroads to thus render the Cape Horn route valueless to the Pacific Coast has not been exposed, but there can be no doubt that the sum has been great—probably far in the millions. An indication of how the navigating companies make money lies in the fact that those firms which have dispatched the fewest ships are the firms which have become most wealthy.

Obstruction of the Isthmus route has been easy. For many years (and until within the past few weeks) the Pacific Mail Steamship Co. has had a special arrangement for freight carriage with the Panama Railroad Co. No other steamer line has been able to ship across the Isthmus excepting upon terms of great disadvantage, and the practical result has been a monopoly by the Pacific Mail. To close this channel competition the railroads had only to deal with the Mail Co., and an arrangement was effected by which the last-named company held rates up equal to the rail rates, the condition of this engagement being that the Pacific Mail should be paid monthly a cash subsidy of \$75,000. For many years and until recently this sum was actually paid each month by the railroads to the Pacific Mail.

This, in brief, was the way the railroads, built largely by governmental bounty, have fenced out competition. Of course, the public has had to supply the funds for its own oppression. It has paid, in the form of excessive freight charges, every dollar of the enormous sums which have gone for the subsidization of the clipper lines and of

the Pacific Mail Co.—not to mention other vast sums which have been applied to purposes not more legitimate.

That the people of a great State should for a decade and a half have endured such oppression is one of the surprising facts of American history. The people of California for fifteen years suffered with patience impositions and humiliations greater than those which roused the American colonies to rebellion and war a century ago. There can be no explanation of this long endurance creditable to the spirit of our people.

As to the outcome of the fight between the transcontinental roads and the Traffic Association there would be no question if the lines of transportation within the State, connecting San Francisco with the interior, were independent. But they are not independent; they are practically under the same ownership as the transcontinental lines, and will be operated in the interest of these lines and against the Traffic Association. In a morning paper (we write on the 26th) it is reported that local rates are about to be raised "to make up for the cut in through rates." As a matter of fact, it is not so much to make up for the cut in through rates as to prevent goods, brought from New York by sea, from getting into the interior. The policy will be to make the sea rate to San Francisco with the rail rate from San Francisco, say to Fresno, greater than the direct rate from the East to Fresno. The local rate will be manipulated to overcome the saving in bringing goods by sea. Of what profit will it be to the farmer at Kern that freights are brought from New York to San Francisco at a saving of forty per cent of the old rate, if the charges from San Francisco to Bakersfield are advanced to cover this forty per cent?

In our judgment there is but one way to make the sea competition effective as far as the general public is concerned, or to make it a permanent thing, and that is to establish independent and competitive lines of transport between San Francisco and the interior. This we believe to be absolutely essential to the relief of California from the evils of railroad monopoly; and it is because the Traffic Association thus conceives the situation that we have faith in its ability to accomplish results. Having brought into the field a competitor for the carriage of freights between the east and west extremes of the continent, it is now undertaking the equally important work of creating interior competition in California. Success of this effort is essential to the permanent success of the first.

It is almost waste of words to point out how important a thing it is, as related to the material interests of California, that these great schemes should be carried out as they are planned. The difference between the rates of freight heretofore exacted and the lesser rates which an all-round competition would enforce, ought to make the difference between the profit and loss account of many a San Joaquin and Sacramento Valley farmer. The benefits of a competitive system of transportation would be widespread, reaching every community in the State and relating themselves to the interests of every producer. The cause of the Traffic Association is, therefore, the cause of the people.

The project upon which the Traffic Association is just now at work, is the creation of a competitive line of transportation between San Francisco and the San Joaquin valley. Two plans are talked about, one an all-rail line from the city to Bakersfield; another, a water line between the city and Stockton with a rail connection from that point to Bakersfield. A competent engineer estimates the cost of the line from San Francisco to Bakersfield, a distance of 316 miles, at \$5,773,294, which is at the rate of \$18,270 per mile. The estimated cost from San Francisco to Stockton, at the rate of \$33,456 per mile, is \$2,910,684. This leaves the estimated cost from Stockton to Bakersfield, \$2,862,610. The distance from Stockton to Bakersfield is figured at 229 miles, which makes the average cost of construction from Stockton \$12,500 per mile. These estimates are based throughout on a "first-class roadbed—laid with sixty-pound steel rails on gravel ballast—and includes all necessary side-tracks, depots, coal chutes, turn tables, etc."

The engineer (Mr. Kennedy) found that the resources which would be tributary to a line through the San Joaquin Valley would be "vast both in extent and variety." At another place in his report, Mr. Kennedy says:

There can be no manner of question that such a country, even in its present very imperfectly developed state, compared with what is capable of being made, will be amply sufficient to support your railroad, were it ever constructed, more especially on such favorable grades and with such short mileage to tide water from all portions of the Sacramento and San Joaquin valleys, and with such low capitalization as will be required to construct the proposed system, which can be extended as needed by branch lines to reach any point desired in either valley, at a cost not probably exceeding in any case over from

ten thousand to twelve thousand dollars per mile and many of them for even less.

A member of the Traffic Association in this city has received a letter from one of Stockton's representative citizens in reference to the proposed railroad through the San Joaquin valley between Stockton and Bakersfield, speaking of this letter a few days back he said:

My correspondent writes that the idea is taking like wildfire in Stockton. He also writes that throughout the valleys it is considered to be the best business proposition in sight. That is my idea of it and I am perfectly familiar with the valley. A road from Stockton to Bakersfield can be cheaply built and cheaply operated. By this I don't mean poorly constructed or poorly operated, but that the cost of constructing and operating a first-class road between Stockton and Bakersfield would be, relatively, very low. The slope is toward navigable water. I have no doubt that wheat can be moved at \$1 per ton from Bakersfield or Fresno to Stockton at a fair margin of profit. The railroad is the thing needed for the San Joaquin valley. Once constructed, it must and will be operated. It has that advantage over canals that it is open all the way from the head of the valley to Stockton the year round, and it will commend itself to investors because its construction involves no question of uncertain operation at any season of the year. The first section to be constructed will at once earn an income. Every added section will reach into business-producing country, which has the present advantage of traffic already in existence. The bonded indebtedness would be very low. In this there would be a large advantage over the Southern Pacific Company.

The Traffic Association is of course greatly encouraged by such evidences of popular interest as this. It proposes to go at the scheme in earnest, and the first step will be an investigation by a committee of the Association to ascertain what the people of the valley are willing to do for their own benefit, acting in conjunction with citizens of San Francisco.

In the proposed use of the river-way between San Francisco and Stockton as a link in a system of competitive transport, there is the suggestion of opportunities long neglected. We make small use of the Sacramento and San Joaquin rivers as transportation highways, and have looked on with scarcely a protest while their beds have been filled up with mining debris. This neglect has of course been highly satisfactory to the railroad managers, for the destruction of our navigable water-ways means the elimination of the most formidable of all competitors in freight carriage. Viewed in their relationship to transportation alone, our navigable rivers are worth untold millions to the people of California. Their very existence, even if no wheel ever disturbed their waters, is of immense value as a check upon railroad extortion. Examine the schedules of railroad rates in this (and in every other) State in connection with the maps, and you will find rail rates cheapest where there is water competition. This is a fact well worth the attention of all our people, and especially those whose interests lie in the valleys of the Sacramento and the San Joaquin.

The general government assumes the duty of looking after navigable waters; and the fact that our rivers have been allowed to fill up is due, possibly, to the interest which a powerful element in our business and political life has had in their destruction, and it is time—high time, for if nothing is done it will soon be too late—to stir up the government respecting our streams. Within a few days the U. S. Senate Committee on Commerce will visit California to examine into questions at issue between the rival ports of Santa Monica and San Pedro, and, further, to look into "California river improvement, existing and proposed." Referring to this visit, the Sacramento Record-Union makes a good suggestion, as follows:

It is to be assumed that the committee will desire to go up both streams, and there should therefore be made immediate arrangements to that end. It should be arranged that the committee may be accompanied not only by United States engineers but by practical business men who are fully advised concerning the streams. We have all proper respect for engineers, and especially those of the army, nevertheless they are proverbially slow, their education is technical, and rarely are they informed as to commercial conditions and needs.

We suggest that official and commercial bodies of the river counties and towns should at once proceed to secure a small but thoroughly representative committee to appear before the Senate Committee and ask leave to escort them on a visitation to the Sacramento river from its mouth to Red Bluff. The missionary work that can be done by such procedure will be of incalculable value. The make-up of the committee indicates strength, good judgment and fair play as the rules of its action. But it must not be forgotten that these are not even possible on a basis of misinformation or when there is a lack of information.

This suggestion is both timely and wise. It would be a great oversight to allow this committee to come and go without gaining the fullest knowledge both of our resources and necessities in the matter of inland water transportation.

THE fruit-growers of San Jose and vicinity will meet in San Jose, May 6th, for the important purpose of electing directors of the Santa Clara Fruit Exchange. Other interesting matters will come before the convention. All fruit-growers are invited to attend.

To Our Readers.

Any reader of the RURAL PRESS will do the publisher a favor by sending in a list of his or her neighbors who are not, but who ought to be, regular subscribers of the paper. We will send to all addresses thus furnished sample copies of the RURAL free of charge.

To any subscriber of the RURAL—or member of his family—who will undertake to act as local agent in the matter of getting new subscriptions, and of collecting from old ones, we will allow liberal cash commissions.

If any subscriber of the RURAL will send us three new names with cash for one year in advance (\$2.40 each) his own subscription will be credited one year on our books. Or, if he will send us one new name with payment in advance for one year, we will advance his own subscription four months.

We will gladly communicate with and give further directions to any of our readers who would like to co-operate with us in extending the circle of RURAL subscribers. Recent improvements in the paper are turning the attention of the public to it, and the business of bringing in new names is easier than ever before.

Weekly Crop Report.

James A. Barwick, Director of the State Weather Service, has received the following crop reports from volunteer observers throughout the State for the week ending April 24, 1893:

Alameda (Livermore)—Prospects for crops continue good. The light rain of Friday night did much good to all kinds of fruits, grains and grasses.

Amador—The trees are loaded with fruit blossoms in the valley, and now that the danger of frost has nearly passed a plentiful crop of all kinds of fruit is almost a sure thing.

Butte—On the high ground around Chico there will be a fair average crop of grain. Fruit, with the exception of apricots and almonds, will be a fine yield.

Calaveras—Early fruit trees are heavily loaded, and an abundant crop is anticipated. Continued wet weather has been the cause of many bare fields which heretofore at this season of the year were robed in green, later on to bear a golden harvest.

Colusa—The fruit so far shows good, except a few places where seepage water is killing the trees. Grain on the flat lands looks pinched and yellow and is stripping up without stooling. (Williams)—The weather has been beneficial to growing crops.

El Dorado—The peach crop of the upper foothill belt will be light. Piums and prunes are in full blossom, with good promise. Cherries are not yet in full bloom, but a large crop is expected.

Fresno—Dry northwest winds all the week, with temperature 5° below normal. Grain is not damaged, but development is retarded. Rain is needed. Fruit and vines are all right.

Kern—The first crop of alfalfa is ready for cutting.

Lake—Things look very well, but would be greatly helped by rain.

Los Angeles—Warm weather has advanced fruits. Hay, grain, peaches, plums and prunes promise well. Rain would help grain on high land.

Mariposa—Prospects are good for a fair crop of peaches and apricots. The fruit already shows quite large and is safe from frosts. Apple trees are coming into bloom.

Monterey—Crop prospects never better, and farmers predict a bountiful harvest.

Orange—A good deal of land is being devoted to peanuts this spring, despite the discouragement of the past year, although average prices bring good returns to the growers.

Red Bluff—Light showers at the end of the week came just in time to complete plowing. Everything is favorable for abundant crops.

San Bernardino (Chino)—The weather is clear and pleasant and getting warmer. The beet crop on the Chino ranch is improving in appearance each day. (Redlands)—Hay-cutting has commenced in Moreno Valley.

San Diego—Beyond Box Spring mountains the hay and grain yield will be an enormous one.

San Luis Obispo (Simmler)—Grains are looking fine and a good yield is expected. Grass is abundant and cattle getting fat. (Shandon)—More rain is needed for late grain, but we fear the effects on the earlier now that it has begun to head out. A thunderstorm with hail and rain on Saturday lasted twenty minutes. Apricots are going to be scarce, other fruit seems to be doing well, as are all crops except those on low abode soil.

Santa Barbara—Drying winds are somewhat injuring grain. Fruit prospects are good.

Santa Clara—Prunes have set well. Peaches will not be as plentiful as was at first thought, yet on the whole the fruit outlook is good, and around Los Gatos the outlook for good crops was never better. (Mountain View)—Little if any damage done to the fruit by last storms and light frosts that followed. Prunes and cherries are showing remarkably well, and the peach and apricot crops promise to be large.

Siskiyou (Yreka)—The present season promises to be a very good for a large yield of apples and pears, as the continued cold weather has kept fruit back to escape the early spring frosts.

Solano (Vacaville)—The prospect at this time is for a light crop of apricots, a fair crop of peaches and a very

full crops of other fruits. Cherries will move in about ten days.

Sonoma—The weather the past week has been beneficial to all crops.

Stanislaus (Turlock)—The continued dry weather is not beneficial to the grain crop. Volunteer rye is in bloom, and winter-sown is heading out; all grain is growing rapidly.

Sutter—All crops were benefitted by the temperature and sunshine.

Tulare (Lemoore)—Wheat not irrigated was damaged by the winds of this week.

Ventura (Hueneme)—Indications point to a crop of 350,000 centals of barley, compared with 295,000 last season.

Yolo—The shower of Friday night will benefit the young grain and materially improve the crop prospects.

Yuba (Wheatland)—The rain has greatly assisted plowing, as the surface of the ground was becoming crusted. The weather has been favorable, and everything making rapid growth. (Marysville)—From present appearances the strawberry crop will be large and of an exceptionally good quality.

TEMPERATURE AND RAINFALL.

Mean, maximum and minimum temperatures and rainfall for the week ending April 24, 1893:

STATIONS.	COUNTY.	Mean temperature.	Maximum temperature.	Minimum temperature.	Rain, inches.
West Butte.	Sutter.	65	80	50	
Wheatland.	Yuba.	65	82	39	1.18
Upper Lake.	Lake.	52	70	33	
Newcastle.	Placer.	58	76	40	.43
San Ardo.	Monterey.	55	80	33	
Sonoma.	Sonoma.	56	70	39	
Rialto.	San Bernardino.	65	89	44	
Chino.	San Bernardino.	66	87	50	
Turlock.	Stanislaus.	55	82	40	.02
Julian.	San Diego.	58	80	40	
Niles.	Alameda.		80	51	.31
Denverton.	Solano.		75	62	
Biggs Vineyard.	Yolo.	65	84	46	.40
San Luis Obispo.	San Luis Obispo.	82	92	65	
Lodi.	San Joaquin.	60	79	40	.75
Santa Maria.	Santa Barbara.		75	49	
Sacramento.	Sacramento.	59	77	43	.24
San Francisco.	San Francisco.	49	66	44	
Eureka.	Humboldt.		62	36	
Red Bluff.	Tehama.	51	78	44	

The Freight War.

The Southern Pacific railroad has issued its new East-bound transcontinental tariff, and thus practically makes war on the Panama road and its allied steamship companies. The new North American steamship line from this city to Panama, backed largely by local capital, and operated in connection with the Panama road and the Columbian steamship line, had cut so heavily into Southern Pacific traffic that through freights are reduced by the latter in the hope of driving the new competitors from the field. The new East-bound rail rates are as follows, per 100 pounds:

To New York—Rags, 65 cents; borax, 30 cents; California wine in wood, 30 cents; California wine in glass, 50 cents; California champagne \$1.55; brandy in wood, 60 cents; wool in grease, 75 cents; wool, scoured, \$1.10.

To Hartford, Conn.—Wool in grease, 88 cents; wool, scoured, \$1.23.

To Boston, Mass.—Wool, in grease, 89½ cents; wool, scoured, \$1.24½.

To Philadelphia, Pa.—Wool in grease, less than carload, 90 cents; carloads, 85 cents; wool, scoured, less than carload, \$1.25; carload, \$1.20.

To Baltimore, Md.—Wool in grease, less than carload, \$1; carloads, 97 cents; wool, scoured, less than carload, \$1.36; carloads, \$1.32.

The Southern Pacific has also made a heavy cut in freights from New York to California terminal points.

Three Dollars Too Little.

TO THE EDITOR:—In the article—"Campbell Fruit Growers' Union"—published in your issue of April 22d, there was a mistake under the subhead "Providing for Expenses." The correct sentence should read, "There was reserved the sum of \$4.50 per green ton on all fruit dried," etc., not \$1.50 as it now reads. I find this mistake is mine.

F. M. RIGHTER.

San Jose, Cal., April 24, 1893.

Poland-Chinas.

Thomas Waite of Perkins, Sacramento county, has just received an extra specimen of the breed from Messrs. S. E. Shellenberger & Co., Camden, O., the well-known swine-growers. The *Breeders' Gazette* of Chicago, in its issue of April 12th, says: "This shipment will be a worthy addition to the great State of California."

The beet crop on the Chino ranch is improving in appearance every day now. Although a good many fields had to be replanted, the second planting in almost every case is coming on so vigorously and strong with a good stand that a heavy yield is well assured. A few fields on the extreme east part of the ranch will be light tonnage, but they are a small percentage of the crop.

THE HAGGIN SALE of trotting, harness, draft and work horses will take place Thursday and Friday, May 4th and 5th, at the sales yards, this city, corner of Market street and Van Ness avenue. A feature of the event will be offerings of Mexican and Shetland ponies, which are described as particularly desirable stock. The sale will no doubt attract much interest and good attendance. The stock will be on exhibition at saleyard on and after April 30th.

Gleanings.

SAN DIEGO sends East this year 100 carloads of oranges, under a San Diego brand.

EUREKA the other day shipped to San Francisco 14,300 pounds of butter, and it was a poor day at that. Dairymen are placing their butter in kegs, owing to low prices.

ANSWER TO IMPERTINENT:—No, the "naval" review at Fortress Monroe has no connection with any orange show. No more than fruit-grower Hatch has with the poultry business.

POULTRY SHIPMENTS from Lompoc valley during 1892 were as follows: 874 dozen live fowls at \$4.50 per dozen, \$3933; 64,292 dozen eggs at 18 cents per dozen, \$11,572.56; total, \$15,505.56. Very good for a starter.

THE next leap year will be 1896, and then it will be eight years before another. The year 1900 will not be a leap year. The year is 365 days and six hours long, less eleven minutes. The eleven minutes amount to one day in 400 years, when leap year is dispensed with. The year 1900 will, therefore, not be a leap year.

THE State of Washington offers an independent sugar bounty of one cent per pound. People up there do not propose to take chances on repeal of the Federal bounty. They have sand enough to raise any kind of sugar.

ONE day's receipts of eggs in New York recently comprised of 541 barrels and 25,641 cases, the largest ever received there in a single day. So great was the demand that prices did not fail to exceed one-quarter of a cent in any case.

THE Southern Pacific announces a round-trip rate to the World's Fair of \$100, for which all should fall down and be grateful. It might have been \$1000, though to be sure Mr. Pullman and his gentlemanly porters will do their best to make up the difference.

POULTRY-RAISING has been greatly stimulated in Ontario, and many people are going into the business. One ambitious fancier secured a coop of twenty-five fowls one night, but in his haste forgot to notify the owner. A policeman restored the fellow's memory.

JOHN WANAMAKER, of dry goods and Sunday-school fame—to say nothing of Columbian stamps—is "doing" California. Among other things, he has ordered an entire carload of palms and shrubbery from the Coronado nurseries, to be used in beautifying his private grounds in Philadelphia.

THE entire press of the country is patriotically agitated over the fact that the Italian Minister, Baron Fava, "kissed Mrs. Cleveland's hand on the White House steps." Well, where would you expect the gallant Baron to pay his osculatory compliments to Mrs. Cleveland? Behind the kitchen door?

MORE WOOL is being handled in San Diego county the present season than in any previous year, as a special effort is being made to bring wool from the adjoining counties of Orange, Riverside and San Bernardino. The price ranges from 8 to 12 cents a pound. Much is being baled for rail shipment to Boston.

THE Napa cannery is being prepared for work by F. H. Green, formerly of the Oakland Preserving Company. The first fruit canned will be cherries, and work will be commenced on them as soon as the fruit is ready. Cans have been ordered for 15,000 cases of fruit. The prospect is good for a successful season.

ENORMOUS as were the crowds which flocked to the Mechanics' Pavilion for the late northern Citrus Fair, the receipts barely balance the expenditure. The income was \$56,000 and the expenses were only \$70 less. Nevertheless the exhibition was a conspicuous success. The balance is small, but it is on the right side of the ledger.

THE Pomona Progress has telegraphic advices that another carload of navel oranges shipped to Liverpool, England, from the Pomona valley have sold for \$3.65 per box, and would have brought better prices but for the fact that England is well supplied with Mediterranean fruit at prices that the Pomona fruit brought. Growers will get \$1.60 per box clear profit.

A NAPA paper says: "W. G. Raney, the newly appointed postmaster at Monticello, is the holder of lottery ticket No. 41,266, the one that draws \$15,000." Mr. Raney plainly will be in position to render distinguished and meritorious service to Uncle Sam in his interpretation of the lottery law, which forbids transmission of lottery matter through the mails.

SENATOR STANFORD has now the largest vineyard not only in California, but in the world. He has 3500 acres in bearing vines, and it is troubling him to find cellar room for his wine and brandy. He has decided to build a complete cellar and warehouse at Port Costa, near the Mare Island Navy Yard. The new buildings are to be on the edge of deep water, to facilitate the shipping of wines and brandies.

LELA VALLEY, in Blue Rock road district, west of the Indian Reservation in Round Valley, Mendocino county, has a sixteen-year-old girl hunter. She has killed within the past twelve months, with her rifle, eighteen deer, two large bear, one panther, eight foxes and numerous cats and a considerable variety of small game. But trapping is what the young lady dotes on, and she makes a neat little sum by the sale of the fur of the animals thus taken.

THE town of Sanger possesses a weather prophet—Prof. Tomas O'Ramos—who out-Wigginses Wiggins. An admiring friend writes to a local paper that he has accurately predicted all the storms since November, '92, beginning with the cyclone which elected Cleveland. Tomas O'Ramos (funny way to spell an Irishman's name) deserves a niche in the dusty temple of fame along with those of our able and celebrated gentlemen, Dinks Batts, Pottsdam Sims, Hoke Smith and Pneumatic Tired Jenkins, who are curiosities themselves.

A GENERAL MEETING of the orange growers held at Riverside last Saturday, resulted in the first steps toward organization for securing and maintaining prices for the orange crop of 1894. A board of trustees, eleven in number, was appointed to incorporate the organization, which will be known as the Riverside Fruit Exchange. The general plan of organization is similar to the plan formulated by the meeting recently held in Pomona. All orange growers in southern California have agreed upon the same plan, and general organization is expected.

THE Santa Clara County Floral Society met Saturday last for the purpose of completing arrangements for the first spring floral exhibit. Representatives from all parts of the county were present and unanimous support was insured to make the fair the best floral display ever presented in San Jose. The exhibit will take place May 4, 5 and 6, in Turn Verein Hall. Among the finest features of the display will be a floral representation of the new State Capitol for San Jose. This piece will be 12 feet square, and made entirely of white flowers with a colored background.

ORANGE AND LEMON GROWING by electricity is about to be attempted by Ralph Granger, a wealthy and public-spirited ranch owner in Paradise valley, just southeast of San Diego. He is having an electric plant put in for the house and grounds, and on its completion will have an acre of trees supplied each with incandescent light, and over all a powerful tower light, to demonstrate what there is in the theory that vegetables, trees and plants develop and mature fruit more rapidly under the constant influence of a strong light than when immersed in darkness every night.

THOSE EMINENT FOOTHILL TOURISTS, police-hypnotists and gentlemen of pre-natal leisure, Messrs. Evans and Sontag, came down from their mountain resort to Visalia the other day, spent some time at home, allowed the startled authorities to know of their whereabouts and started on their return under cover of friendly darkness. The celerity with which the sheriff did not pursue them was equaled only by the admirable activity he displayed in blocking every avenue of escape except that which they would be most liable to take. The popular train-robbers and accomplished murderers retreated amid a shower of bullets and applause from a free-breathing audience of sheriffs and deputies.

HORTICULTURE.

Thinning Fruit.

How to Get Marketable Sizes--Methods Com-mended by Those Who Have Done It.

Though the soil be rich, the tree vigorous, the pruning judicious, thinning is nevertheless required to secure good, marketable sizes of most orchard fruits. This fact was overlooked for many years in California, probably because, with young trees and rich soil, the fruits, though most thickly set on the trees, were larger than the growers, remembering Eastern standards of size, expected. Then, too, thinning necessitated an amount of close work which the Californian disliked to assume. It was only the commercial argument which forced most growers to resort to thinning. If the San Francisco market alone had been concerned, systematic thinning would have made slow progress, but the imperative demands of the canners and of the buyers for Eastern shipment forced growers to the irksome and expensive work of lessening the burden of the trees. Those who still resisted these demands and concluded to ship their own fruit to test the question of size soon found that ungraded and small fruit did not pay for boxes and freight, while good-sized, uniform lots yielded a good profit. Thinning, when the tree is overloaded, has therefore become the accepted way to get satisfactory produce, and, in many cases, the key to successful production.

The way Californians began thinning, under protest, is described by Mr. R. C. Kells of Yuba City, in these words:

The pioneer growers of California did not have to thin their fruit--the small as well as the large fruit found a market; and when the pioneer's attention was first called to thinning, what did he do? Why, sir, directed his men to cut long poles for the purpose of thrashing off a portion of the crop. Nature said he must thin, and human nature said he must thin cheaply; but, as fruit-growers in this progressive age, we find the pole system a poor one, and at this date we are compelled to pick the fruit by hand, one at a time, and I might say with some system and rule, while with the pole we had plenty of rule but no system.

METHODS OF THINNING.

It is sometimes proposed to thin out the blossoms instead of the green fruit, on the ground that permitting the tree to partly develop its fruit, and then pluck off and cast away a great part of it, is an unnecessary strain upon the productive power of the tree. If the blossoms were thinned the tree would be able to direct all its sap to the growth of the fruit which was allowed to set. This is a good theoretical argument perhaps, but the operation is impracticable. In the first case it is very slow work to thin blossoms systematically, and even if this were not so, it would be exceedingly dangerous to thin the blossoms. It often happens that from some unfavorable natural condition so many blossoms fail to set fruit that the tree does not carry more fruit than it should be allowed to mature. To thin the blossom is therefore to incur the risk of not having fruit enough. Not only is it unsafe to thin blossoms but it is also dangerous to thin too soon in the development of the fruit for the natural drop, after the little fruits are plainly visible to the eye, is sometimes very heavy. In the experience of growers which we shall give below, it will be seen that fruit must not be thinned until it has passed its first natural drop. There are later drops which cannot be waited for, but the first drop must be passed. Care must be taken, then, not to thin too soon for fear that nature's and man's thinning combined may reduce the crop too much. It is sometimes claimed that adequate thinning prevents the second or "June drop." We have not data to establish that claim or refute it.

Pruning is an efficient aid in thinning--or rather in reducing the labor of thinning. The skillful pruner of bearing trees should always have the coming crop in mind. The manner of his work has reference to the kind of tree he is handling. Trees which bear upon tips of spurs or branches need different treatment from those which set fruits all along the shoots. To "shorten in" shoots which only bear on tips is of course to cut off all the fruit the shoot will carry, but to shorten shoots which bear along their whole length is a very satisfactory way of regulating the amount of fruit the tree will carry, and at the same time induce the growth of more twigs on short, strong growth which is able to sustain them. Pruning tip-bearers should be confined to reducing an excess of shoots; pruning side-bearers consists both in removing an excess of shoots at the same point on the branch, and at the same time shortening in the shoots which are allowed to remain. But thinning at winter pruning is only a partial thinning. The necessity remains of removing a part of the fruit which sets on the shortened shoots. To prune intelligently for thinning one must study not only the bearing habit of the kind of fruit, but of the different varieties of the kind. It is an operation which distinguishes the skillful horticulturist from the "tree butcher."

STANDARD OF SIZE IN FRUITS.

To thin intelligently one should always have some standard of size in the fruits he handles and should note from year to year how much thinning he has to do to attain desirable size. This is almost as necessary as to have in mind the ability of the tree to carry fruit without incurring the evil of overbearing. Of course the size of the fruit is influenced by age of tree, richness of soil, moisture supply and it is to be supposed that the grower has all these factors in mind when forming his decision as to how closely to thin. It will be interesting to see what are desirable sizes in fruits and though there may be many different standards for different uses, the following conditions and sizes, adopted two years ago by the Fruit Driers and Packers' Association of the Santa Clara Valley, will serve well enough for present purposes:

Apricots—Extra.—Shall measure not less than 2½ inches in diameter, shall be sound, clean, free from blemish or im-

perfection. No. 1 shall measure not less than 2 inches in diameter, shall be sound, clean, free from blemish; No. 2 shall measure not less than 1½ inches in diameter, shall be sound, clean, free from blemish; No. 3 shall measure not less than 1 inch in diameter, and shall be of good merchantable quality.

Cherries—Extra.—Shall measure not less than ¾-inch in diameter, shall be sound, clean, free from blemish or imperfection; No. 1 shall measure not less than ¾-inch in diameter, shall be sound, clean, free from blemish; No. 2 shall be sound, clean and of good merchantable quality.

Peaches—Extra.—Shall measure not less than 2½ inches in diameter, shall be sound, clean, free from blemish or imperfection. No. 1 shall measure not less than 2½ inches in diameter, shall be sound, clean, free from blemish, of uniform ripeness; No. 2 shall measure not less than 2½ inches in diameter, shall be sound, clean, free from blemish; No. 3 shall measure not less than 1½ inches in diameter and be of good merchantable quality.

Bartlett Pears—Extra.—Must be delivered as soon as picked. Shall measure not less than 2¼ inches in diameter, shall be sound, clean, free from scab, scale, blemish or imperfection. No. 1 shall measure not less than 2½ inches in diameter, shall be sound, clean, free from scab, scale, blemish or imperfection; No. 2 shall measure not less than 2¼ inches in diameter, shall be sound, clean, free from blemish; No. 3 shall measure not less than 2 inches in diameter and be of good merchantable quality.

Prunes—Extra.—Shall number between 15 to 20 per pound, shall be sound, clean, free from stems, blemish or imperfection. No. 1 shall number from 20 to 28 to pound, shall be sound, free from blemish; No. 2 shall number from 28 to 35 to pound, shall be sound, clean, free from blemish; No. 3 shall be uniformly graded, be sound, clean fruit of good merchantable quality.

PRACTICE OF GROWERS.

We give below the advice of a number of well known fruit growers as to the practical operation of thinning. They do not, of course, cover the whole subject but they contain suggestions which will be helpful and will, we hope, draw out the experience of others in future issues of the RURAL PRESS. There is probably no subject upon which a general conference would yield more valuable results:

When shall we thin? In answer to this question I would say that we must be governed something by season; but in all cases with stone fruits they should be thinned before the time for the stone to harden. With us in the Sacramento valley, the apricot should be thinned by April 15th to the 20th; peaches from May 1st to 20th. I think we find conditions different in different sections. These dates I mention are as late as we can thin before pits harden, but we can begin three to four weeks earlier, and be sure to thin early enough to get the required results, for it may call for the second thinning to get the fruit properly thinned.

I imagine my hearers expect me to have a laid down rule for thinning stone fruits, but as yet I do not think we have reached that point, while I know we are making great progress in the view of thinning as well as in other lines of fruit growing. I might quote Mr. L. W. Buck who spoke at our Horticultural Society at Yuba City, on "how to thin an what rule to follow," etc., in which he spoke of the peach principally (and I think the same rule was applied to other varieties of fruits, viz., apricots, pears, etc.,) which is in thinning the peach so as not to leave the fruit closer than four to six inches, on good healthy branches; or in other words not to leave the fruit closer than the width of the hand. As to how much to thin, it is well for example to take a peach tree, follow the above rule, and after having thinned, count the fruit on one branch which may be about one-tenth of the tree, and estimate balance of the tree by the fruit left on this limb. You will find that on a seven or eight-year-old tree you will have from seven to ten boxes of peaches, 20 lbs. per box, counting about 60 peaches to the box. Estimating seven boxes to the tree, 90 trees to the acre, giving us 12,600 pounds of fruit at 1½ cents, brings us \$189.00 per acre.

When the fruit sets so that we find it necessary to thin, we find it very light thinning if we do not take off more fruit than we leave on the tree. Thus we reduce the number of fruit and increase the size of that which is left, and do it with a less expense than to pick the whole crop, when ripe and when labor is higher, and compelled to take one-half the price for the small fruit which gives the same results per acre, \$189.00, and we are unable to sell the same as readily as the large, all things being equal. The man with the large fruit is called upon first, meets with first sales, is able to pay his debts first—in fact he is first, last and all the time.

Thus we find thinning fruit is of great importance, and is now classed with the many questions of fruit growing. But my plan of how to thin will be by more thorough pruning in the future. The cost of pruning is less than picking the fruit, and we will not overtax or have broken down trees, while on the other hand we will have a more vigorous tree and prolong the age of our orchards.

R. C. KELLS, Yuba City.

I want to tell your readers something about the way the best and most successful peach and apricot growers in California thin their fruit. In St. Helena, San Jose and Vacaville during the past ten days, I have seen hundreds of white men and Chinamen busy thinning the fruit crops, although the yield there will be short. In the great Spencer orchard of 135 acres at St. Helena, I saw 70 men at work thinning the apricots. I saw fully 20 tons of young green apricots that had been pulled from the trees, and was told that as much more of the green fruit would be taken from the branches. I saw a small army of men and boys in the hundreds of orchards about Vacaville, all pulling green apricots and peaches from the trees, and there were big piles of the young fruit in every orchard. The rule in Vacaville and that region, is to leave enough fruit on the ten-year-old trees to make 200 pounds of fruit when it is ripe in July or August. In this way the trees are never allowed

to overbear, and the grower gets steady returns from his property year after year. The workmen leave a space of two or three inches between each growing peach and apricot, or, in other words, they leave the distance covered by a man's four fingers between the growing fruit. In San Jose I saw literally hundreds and hundreds of green apricots and peaches lying under the trees where they had been thrown by the men who were employed to thin the crops.

"We people here have raised deciduous fruits for over 30 years," said a rich orchardist to us at Vacaville, "and our long experience tells that it is just as necessary to thin our fruit each year as it is to pick it when it is ripe. We look upon the man who allows his trees to overbear as a fool and a disgrace to horticulture."

T. S. H.

Our Muir peaches hung the thickest, almost like beans in a bag; Foster's next. The latter doubled worse than any we have on the ranch (all freestones), and bunch along a limb like onions on a string. Some say thin them to six inches distance. I say there is no rule to go by but good judgment. I told my men who helped me thin, "When you come to two grown together, take them both off or leave them both on." We consider the location of the limb on the tree, size of limb, health of tree and size of tree as to how many it ought to carry, and cull out all the small ones and separate them as much as possible.

There are several methods of thinning. I had a neighbor who used to wear white shirts, who thinned his peaches by throwing stones up into the trees, and he always kept saying, "There's no money in fruit." He sold, and is in the real estate business. I can't say how much truth he deals out to his customers. I know another man who put a small boy at thinning peaches. The trees were breaking down, and when he went to see how he was getting along, he had taken all the fruit off. Another, who passes for a nurseryman, thrashed his off the trees this year with poles. I use men and pick by hand. E. A. BONINE, Pasadena.

The subject of thinning abounds with facts that demonstrate the importance of proper thinning, and are known to all our fruit-growers, so much so that there is no question but every fruit-grower will find time, take time or make time to thin his fruit. There is one point, however, of more importance than thinning for the sake of producing larger and greater number of pounds of more salable fruit. The point is this: that the crop of fruit for next season is being made this year, and it is agreed by fruit-growers that as the fruit is dwarfed by overproduction so it will be the following season, not only in size but in quantity.

J. J. PRATT, Yuba City.

AN ESSAY ON THINNING BY A SUTTER COUNTY GROWER.

Last week N. B. Kirtley read an essay before the Sutter County Horticultural Society, from which we take the chief portions as follows:

It is the natural tendency of the peach to reproduce itself. That is, to reproduce the germ from which it sprang. The germ is in the pit, and the natural tendency of the tree is to produce an abundance of pits. But pits alone would have little or no commercial value. The desideratum of peach-growing is to produce pulp and to improve it in quality and quantity. This cannot be done unless the tree can be prevented from overbearing, and right here comes in the necessity of thinning. The species which ought to be thinned when there is full setting of fruit upon the trees are principally the peach, the apricot and the pear. Yellow egg plums may also be profitably thinned when it appears that the trees will be overloaded. It is hardly likely that it would pay to thin prunes, though the fruit would be larger if thinned to not less than two inches apart.

No invariable rule can be laid down for thinning peaches and apricots, as something depends upon the character of soil, age and healthfulness of the tree, and manner of pruning. As thinning, to be done right, must be done by hand, and as it is a slow and expensive process, it is proper to prune carefully with a view to the saving of time and money.

The work of thinning peaches and apricots should begin just as soon as the fruit can be easily seen. There is a tendency among orchardists to delay the beginning of this work from a fear that something may happen to cause some the fruit to drop; but it will not pay to give way to this tendency. Begin to thin as soon as you can, by reasonably close examination, see all the fruit and keep it up vigorously until you think you have pulled off about all of it. Always aim to finish before the pits begin to harden. There is but little benefit in thinning after the pits harden, except to save the limbs from breaking from an overload. All imperfect or double fruit should be picked off with a ruthless hand. The best way to proceed with the work is to pick off a strip from the bottom to the top of the tree on one side, and then work around to the place of beginning.

Apricots should be left from four to six inches apart on good healthy trees in good soil. It is not so necessary to thin pears, as they are usually gathered before they ripen, but in many cases it will pay to go over them and thin out the clusters, say, to four and six inches.

Peaches ought to be thinned according to condition of tree, to four to six and six to eight inches apart, the latter rule being better than the former. The standard gauge peach for our cannery here last year was 2¼ inches. A peach of this size ought to have a space of at least five inches to grow in. The best way is to take a good look at the tree and determine in your mind how many pounds you think it will carry to the best developed maturity without breaking the limbs. After the first thinning it will nearly always pay to go over the trees a second time after the fruit gets larger, and if after this it appears, as the fruit grows, that some limbs are too heavily laden and are liable to break, thin out the heavier clusters the third time. Fair average-sized peaches will run about three to the pound, and it is not difficult with a little practice to estimate how many pounds a given tree will comfortably hold up and bring to the highest possible perfection. On small limbs

take off the outside fruit to preserve the tree in its proper shape. Trees from 5½ to 6½ years old should carry from 200 to 250 pounds of matured peaches. These at 1½ cents a pound will bring \$3 to \$4 to the tree, or from \$300 to \$400 per acre. This is enough for a fair return, and, if in your greed for larger profits you neglect thinning properly, the chances are your profits will be less. We have now too great a proportion of small peaches which bring inferior prices and fail to find a ready market. It is impossible in the scope of a paper like this to go into all the different phases of this subject. The fruit-grower will be constantly called upon to exercise his judgment with regard to the proper treatment of each particular tree. A tree which shows symptoms of decline or loss of vigor should not be taxed as heavily as one in its full vigor. The character of soil and amount of moisture must be considered. But it should always be remembered that it is the pulp, and not the pit, that makes the peach a marketable product. Therefore, prune and thin to make pulp, and the more money you have around a given number of pits, the more money you will get for your box of peaches.

A TENTATIVE RULE.

It must not be conceded that the tendency of the day is toward more and more severe thinning of fruit. As some of the above writers declare, it is difficult to give exact rules. We will, however, give a single rule merely as a suggestion to provoke discussion, or to lead to experiment this spring, and that is, in the case of apricots and peaches: *Make the distance between the small fruits not less than twice the diameter of the anticipated size of the ripe fruit.* That is if you wish 1½-inch apricots thin to 3 inches; if you wish 3-inch peaches thin to 6 inches. Try that rule and let us know how it works.

Inter-Cultures in the Orchard.

An editorial article in the RURAL PRESS of March 4th, on "Inter-Cultures in the Orchard," attracted much attention throughout the State and started a discussion as to whether double-cropping is certain to bring satisfactory results without damage to the orchard. With a view to shedding further light on the subject, the RURAL PRESS invited correspondence from a number of leading agriculturists and horticulturists in various parts of the State. The result is herewith appended:

ALL DEPENDS ON SOIL AND CLIMATE.

TO THE EDITOR:—In answer to the question relating to crops that may be grown among trees in the orchard, I would say: This oft-repeated question, like many other horticultural questions concerning which there is a diversity of opinion, is quite easy of solution and will be apparent to all who give the subject a thorough consideration.

First of all, it should be understood by the novice that the character of the soil and atmospheric conditions are chief factors in the consideration of this subject. If the question applied to a barren, dry soil that does not possess strength or moisture by good cultivation, I should say emphatically that the conditions are unfavorable for double or single cropping. Under such circumstances, experiment might determine its usefulness and value. On naturally lean or exhausted soils, such as may be found in most old countries as well as in portions of the United States, fertilization is needed to make single cropping profitable or remunerative; and it is not difficult to find barren wastes in localities where extreme dryness prevails, rendering cultivation unprofitable even if the soil be not wanting in richness. Irrigation, under such circumstances, may be all that is needed. Then, again, there is land that is lacking in mineral and vegetable properties that would not respond to irrigation. In most cases of unproductiveness the turning under of vegetation, such as clover and buckwheat, may be all that is needed to bring the land back to life, if turned under by the plow.

How far this practice may be made profitable must of course depend upon other considerations that can be determined by the intelligent experimenter. Gardeners, near large cities, where the ground is naturally rich, find heavy fertilization to add to the profits of their business by a sort of double-cropping process. I know of a gardener near New York city who is reputed to spend fifty dollars a year per acre with large profits. The "compost heap" made up of waste material, such as weeds, etc., etc., is one of the economical aids for enriching the soil practiced by old and experienced gardeners. Lands in some localities are continually losing substance by overflow into the ocean. We have such conditions in Santa Clara county. No doubt irrigation carries much fertilizing matter into the streams that discharge into the ocean. But the overflows from the mountains are adding leaf mold and other fertilizers found in the deposits of "slum," which renew and keep up the fertility of the soil. Much of this land has been under cultivation forty years and upwards, and yet is known as garden soil. It is such lands that have given San Jose the name of "Garden City." Much of this land is adobe soil—an iron soil to last—naturally remarkably productive, aside from its benefit from overflow. Such soils, with a moist atmosphere that comes from the ocean in the summer time, have proved able to produce double crops without apparent exhaustion; i. e. orchard trees and the crops that are grown among them. Having an abundance of artesian water at hand we use this agent when needed.

At one time I had sixty acres of berries, and this berry farm has been gradually transformed into an orchard of fruit trees, the orchard growing and the berries fruiting at the same time, till the trees needed all the room for themselves. These berry fruits embraced all kinds, strawberries, raspberries, gooseberries, currants and blackberries. It has been a common custom in this artesian belt, so noted for strawberries, to grow onions on the ridges between the strawberry rows, and along the sides of other berry fruits. Onions are thus grown during several successive years,

though it is not advisable to do so after the ground becomes packed, and in cases where it is desirable to let berry plants cover all the bed or space between the rows.

Beets, carrots, pease and other vegetable are sometimes grown among the berries. During the last five or six years I have myself raised crops of onion seed among the trees of the young orchard without irrigation and the trees have done quite as well as when they had the ground all to themselves. Free use of the cultivator has kept the ground loose and moist, after one or two plowings. I aim to irrigate if convenient in the fall, then plow the ground so as to start the onions before the rains, though this is not usually done. A very shallow furrow or line is made and the onions planted when convenient—any time between October and February may be considered best, though much depends on the season. This crop is now established for the season and is being hoed. It should be understood that, aside from our favored soil and artesian wells, this locality is in line with the summer breezes that come in from the ocean through the Golden Gate, forty miles away, adding moisture to temper the otherwise heated atmosphere of this valley, which is circular in its general form and appears so to the eye, enclosed as it is within the rim of Santa Cruz and also Coast Range of mountains. It is owing as much to the climatic conditions as to the richness of soil that this famous valley owes its character, being as genial and invigorating to plant life as it is to the human constitution. I was led to this double-cropping system by reason of the difficulty of keeping down weeds, believing that the extra crops might as well be grown as weeds, while the trees sought a deeper rooting, so that neither crop injured the other.

I. A. WILCOX.

Santa Clara, April 13, 1893.

FOR EARLY VEGETABLES BENEFIT EXCEEDS DAMAGE.

TO THE EDITOR:—Does it injure trees to plant crops between them? Theoretically this question would doubtless be answered always in the affirmative. It is but reasonable to say that all the ground will give more support to the young trees than a part of it will. It is very plain that we can cultivate better if we have nothing in the way than we can if we have a crop growing where we want to use our cultivators. Admitting that we cannot grow crops between trees without injury to those trees does not necessarily mean that it is never best to grow those crops. We plant and care for our young orchards, not that they may adorn the landscape, but for what profit we hope to get out of them. If we can make two dollars out of the crop grown between the trees and only damage the trees one dollar, of course any business man would say grow the crop.

In growing early vegetables, such as peas, potatoes, string beans, etc., I think the damage done to the trees will be slight, if the crop can be harvested before the ground gets too hard to admit of good cultivation. Every effort should be made to harvest the crop thus early, and no small consideration, such as saving seed, will pay for the damage that will be done by leaving the crop on the ground too long. In planting such crops, they should not come nearer the trees than six or eight feet. This applies, of course, only to such soil as gets hard and dry as the season advances. My experience last season with peas demonstrated this to my satisfaction. I plowed up the bulk of the ground as soon as I was through picking the peas, and could see no effect on the trees. I left the vines between three rows of trees to get the seed. It did considerable damage to those rows, I should judge injuring them to the extent of 50 per cent of their growth. They were yearling figs and could doubtless stand ill usage better than almost any other variety of tree.

In growing late vegetables on moist slough or bottom lands, I think that a reasonably profitable crop of vegetables, corn, beans, potatoes, etc., will much more than pay for the damage done, if the grower always remembers that the orchard is the first consideration, that it will not do to overcrowd his trees as to give the orchard the appearance of a cornfield or vegetable garden, with the trees in the background. If the grower wants and needs to use his land entirely or almost for farming or gardening, he had best leave his trees unplanted, as they will do but little good and his trees will be only in the way. The grower who wants to raise crops between trees should estimate the probable profit, and, unless there is a reasonable expectation of a fair profit, should not bother with it. When engaging in it, he must expect to do two or three times as much work on the ground as otherwise. The advisability of growing the crops depends upon prices, amount of crop grown, expense and the necessities of the grower. Most of these can only be known with certainty after the crop is harvested, so that he who estimates probabilities with the greatest accuracy will in this, as in all things, be most successful.

C. E. WILLIAMS.

Yuba City, April 10, 1893.

INTERPLANT NOT TOO MUCH NOR TOO LONG.

TO THE EDITOR:—In reference to facts and observations as to what crops are grown between trees, etc., will say that the orchard business is quite limited in this immediate vicinity on the upland around here. About one-fourth or one-third of those who have planted orchards have some put in melons, some pumpkins, some corn, some potatoes and some small fruit, and a great many do not have anything in among the trees. My observation has been, on the sand around here, not to plant too much and then not too close to the trees, and only for the first three or four years. One of the most successful orchardists here recommends small fruit, i. e., currants, blackberries, etc.

There is no regular system nor kind of a crop on the upland, but on the Mokelumne river bottom they plant potatoes and pumpkins and the young orchards do well. They also plant other vegetables. Different localities differ as to what is best and most profitable. As for myself, I am planting a small orchard of 25 acres of almonds, and I am going to plant melons two rows between each two rows of trees. It has not been tried to my knowledge. If there

were a beet-sugar factory near here, I am satisfied that sugar beets this year in a young orchard would be profitable on account of the moisture now in the ground in this vicinity. We have had here to this date 22.04 inches (a good sprinkle).

J. D. HUFFMAN.

Lodi, Cal., March 26, 1893.

PROFIT IN EXTRA GREEN CROPS.

TO THE EDITOR:—There seems to be some diversity of opinion as to the advisability of growing any crop at all among fruit trees, even the year when they are planted.

Circumstances alter cases. Is the orchard land very rich and moist? Is there a local market or are shipping facilities good for such products as beans, squashes, corn and potatoes? Is the climate suitable for these crops? Are the bugs willing the farmer should grow them? Is there an urgent need for spot cash? Answering all these queries in the affirmative, I should certainly advise the planting of these crops in the young orchard. My own practice has been to work my land, as a rule, to its full capacity growing beans, squashes (for cattle or hogs), corn or potatoes, and trusting to repay any over-draft on the soil by a free application of manure.

I have also raised strawberries in irrigated beds among my young fruit trees and found the practice beneficial in inducing a very free growth of wood and making unusually growthy trees. Blackberries and raspberries I have also grown, but think trees don't do quite so well with these near them, as both are pretty rank feeders and send out lateral roots in abundance.

Of course the drawback is that the cultivation of the orchard is made more expensive and deep tillage late in the season less easy of accomplishment, and where moisture is not abundant the trees suffer. The distance at which trees are planted is also a factor in the case. The nearer the trees the less need for any crop between and the more detrimental in dry soils.

EDWARD BERWICK.

Carmel Valley, March 25, 1893.

PROFITABLE FOR A FEW YEARS ONLY.

TO THE EDITOR:—There is but perhaps one in 50 who make it a practice to grow anything between fruit trees in our county, and that may be near the borders of a river. Land is plentiful, and, as a general rule, many prefer to cultivate their products by themselves. Still there are a few who plant vegetables and small fruits between young trees; but, when fully matured, they dig them up, leaving plenty of room for the trees and roots to spread at their own inclination.

It is generally the case that a branch and root will develop their length equally, so a tree when matured and bearing will require all the surplus of land between each row; and when any shrub or plant is growing between them, they rob the nutrient which should be left to sustain the tree. With small fruit and vegetables between young trees, the ground should be heavily composted each fall; but the fourth year the ground should be cleared and left free. This has been my practice, and I find it most successful. I do not know that I can give any further light on that point.

Field cultivation of vegetables, small fruit and other products seems more satisfactory to the culturist. With the use of plow, cultivator and hoe, with irrigation, good crops are raised and command a good price.

If I should set out tropical fruit again, I should place the trees 40 feet apart. Plant small fruit of its variety or vegetables, or both, compost the land as much as you can, and, at the end of four years, leave it clean for the growth of the fruit.

GEO. T. RICH.

Lemon Hill, Sac. Co., April 5th.

IT FINALLY INJURES THE TREES.

TO THE EDITOR:—I do not think it is a good plan, although I have been raising corn, beans, potatoes, etc., for 16 years, of course between young trees. But the trees will eventually require all the strength that is in the soil. Besides, you cannot cultivate the ground as well as you can when you have the spaces clear. Some think hoeing is better than cultivating. Perhaps it is, but you do not hoe all the ground and you cannot cultivate the remainder with two horses. The result is, the ground is not worked deep enough.

D. J. PARMELE.

Vacaville, April 1, 1893.

THE LITTLE MAN ON AD INTERIMS.

"There now," and the portly gentleman adjusted his nose-glasses, and looked somewhat severely at his *vis-à-vis*, a wiry looking little man in negligé shirt and Scotch tweed trousers, "There now! I've bought some of you' glorious climate, with a half-a-score of acres thrown in, and what 'm I going to do! Can't eat and drink climate. How 'm I going to live? There's my land set out to trees, except the alfalfa patches, as you call 'em. I've had advice sowed over me broadcast what to set out, but I haven't put my eggs all into one basket. No, sir! You think I've done pretty well about my trees, don't you?" and the big man eyed the little man anxiously.

"Yes, better'n I did when I came, no one knew what to do then. It was all experiment in this section. One had tough luck. Would get wrong trees for the soil, or wrong varieties of trees for profit, to say nothing of diseased nursery stock and tricky nurserymen. Tough, I tell you, if I hadn't raised crops all along between my trees, I don't know what I should have done. It was my salvation when the vine disease struck this section, I do it now, some kind of crops, big as my trees are, swells my income mighty handy." "Crops between trees! Tell me about it. Just what I want to know;" and the stout gentlemen leaned forward eagerly.

The wiry little man looked with an air of lazy surprise at his interlocutor. He thought things out for himself and acted accordingly. He wasn't used to telling the whys and wherefores. He knocked the ashes out of his pipe and

filled it again, meditatively, unmindful of the questioning glance of his companion. By and by he said slowly:

"Grow any kind of crops, won't hurt your trees. Trees are different, you know, and crops, too; soils most of all." The big man looked as though he knew a little less than he did before. He almost gasped in his impatience.

"Come, now," he cried, "That is definite. What do I know? I'll hurt the trees? I want to know all the thing. You've had to learn by experience, I don't want to experiment, I want to go right, if I can. Now, I know by the look of your ranch, and by all I've heard of you, here and there, that you're a right down practical fellow, and I want the nut of your experience—your conclusions. And I'm willing to pay for it, too," and the big man hauled out a pocket book by no means so portly as himself. "It's worth it, I can better afford to, enough sight, than work myself to death on the wrong tack."

The little man gave a sort of jump at the sight of the pocket-book. "Put it up," he said, almost fiercely, "I'm no chump. I'm willing enough to tell you anything I know if it's what you want. But it's so simple—first crop you cultivate without hurting the roots of the growing trees, and will mature without too much exhausting the moisture from the trees."

The big man had an inspiration. "Just tell me," he said, "what you did and do, right through, I think I'll catch on to what I want."

"All right—only I came here twelve years ago, and things are different now, in some ways. For instance, we don't raise beans now in commercial quantities (except some limas) as we did once. The weevil got in. I made a lot off'n my beans first off. See that apricot orchard? Trees touch. You'd be surprised to know all that has been raised on that land, and those trees there a-growing all the time. When I set out the trees I set out two rows of vines each way between the trees. Then I raised one row of beans between each row of vines. It paid; beans, then raisins. Then when the disease came along and I had to dig up my vines, there were my 'cots already bringing me in an income."

"You were lucky. Do you raise anything in the apricots now?"

"Not much, but whenever a tree dies from black knot, or too much water from a wet winter. In the open patches, while the new young trees are growing, I stick in hills of pumpkins. They sprawl all over and make a good crop."

"And your nut grove. What have you had in that?"

"Oh, most everything—barley and corn mostly when the trees were very young. Trees were 32 feet apart. I left a space four feet each side the trees for cultivation. That left me strips of barley or corn 24 feet wide—quite a patch. Had pumpkins in with my corn, too, and latterly had potatoes a good deal. I have never irrigated the nuts or apricots since the first two years. All the crops I have put in when the soil was moist enough to mature the crop. Mine's a heavy soil, you see—holds water if surface is kept cultivated—enough to mature any crop I ever put in."

"And your pear orchard—I see you have a fine one—ever raised anything in that?"

"Yes, indeed; sweet corn, potatoes, pumpkins, peas, string beans, tomatoes—any one and all, only fewer rows as the trees got bigger. Only pumpkins latterly—one row of hills, trees so big. I don't need to raise so much. Then pumpkins are such an easy crop—no care after planting and they come in so handy as feed latter part of the dry season. Good as money, too. Can always sell more than I care to spare."

"And now your orange grove. I suppose in that it don't do to put a thing?"

"Perhaps not," said the little man with that evasive air so habitual to him.

The big man hastily corrected himself. "What I meant to say was, have you ever raised anything between your orange trees?"

"Well, yes, I have and do. Between my Mediterranean I have one row of raspberries and blackberries; but now my Navels are so large and not only shade the ground so much, but the soil is chuck full of their roots, which must not be disturbed, I only put in center of each square, you understand, a hill of cucumbers or squash or melons; let 'em do the best they can. Used to raise all my garden 'sass between the oranges when they were small, one crop going after another because I irrigate my oranges—only tree I do."

"Ever raised peanuts?"

"Yes, some—not much. For me there were other crops not quite so much work. It's a fact, now, with a cow, few chickens and crops between your trees you ought to get along, though," and the muscular little man, with a comical quirk to his mouth, overlooked his portly companion, "it all means work. It's no drop-a-nickel-in-the-slot business and your land will do the rest. If you are in California you've got to have the git-up-and-get to succeed."

"The big man nodded. "Yes, yes, I'm ready to work. Outdoor employment will be my salvation, my doctor says."

"You'll be saved then, no mistake, if you attend to things as they ought to be, and you'll be learning all the time. I am."

"What's those things growing each side those pear trees?" asked the stout man suddenly. "Thought 'twas weeds as I sat here looking, and I wondered, your place otherwise so spick-an'-span. Then they look too regular—one on each side, so."

The little man laughed. "You'd never guess. That's some more of my 'intensive agriculture,' as my wife calls it. I've taken it up since my trees got so big—I and my little boy. Those are cabbages. Over yonder are tiny potatoes, lettuce and radishes close to the trees. When our fogs come the trees gather the moisture and the drip irrigates the vegetables. I noticed those wet spots close to the trunks of the trees before I began transplanting my cabbages that way. They are out of the way and don't hurt the trees, such shallow-rooted things. When I first planted my orchard I raised vegetables on the tree rows,

too, as well as between. As the trees grew bigger, fewer and fewer rows between. All there is about the whole thing is not to hurt the roots of the trees and not exhaust the moisture over-much. The good of the trees must come first all the time.

"I wouldn't dare talk crops between trees to any one; couldn't keep this in mind. There's a man over there (with a flourish) that's raising barley in his nut grove. Sowed the whole land to barley—trees in the midst like mustard weeds. He's forgotten he's trees there apparently. They'll all forget they've any owner by and by, and when he's tired of raising barley he'll have to keep on, for there'll be no nuts bringing in an easy income."

"All your fruit trees but apricots you can run a furrow down the middle and irrigate for your crops. Apricots in this soil can be easily killed with too much water. But about irrigating: Deciduous trees ought not to be started growing when they are taking a rest, I think."

The big man rose with a determined air. "I'm going right to work; but I feel like a greenhorn. It's no fool of a job setting the forces of nature at work to help coin the dollars for one's self. I declare, I feel as though I'd underestimated the intelligence of the ordinary farmer. There's so many things to be thought of, planned for, guarded against. I'm afraid you'll find me here again some day boring you with questions."

There was a sarcastic twinkle in the little man's eyes. It came there when his companion spoke of the intelligence of the ordinary farmer, but he answered cordially enough:

"All right, bore away. If you strike anything you want help yourself. But, mind you, I don't set up for an authority. I've set my wits to work the sharpest I know how to make my ranch do the best for me it can. As I said, I'm always learning yet, always finding more and more ways to make my land bring me in an income. If anybody else thinks the way I do will do for them they're welcome to all I think I've found out. I'll be glad enough to see others start righter than I did."

"Thank you. Good day."

"Good day."

AUGUSTA E. TOWNER.

Santa Ana, April 1, 1893.

THE FIELD.

Early Vegetables.

The production of early vegetables on the hillsides of the west side of the Coast Range, as the southern part of Alameda county has been mentioned from time to time to the RURAL PRESS. The *Pacific Tree and Vine* recently gave a sketch of practice in the same region from which we take the following:

Few people are aware of the extensive cultivation in that location of the two prominent articles of spring diet, peas and potatoes. Three stations on the Niles branch of the railroad between San Jose and Oakland have the distinction of shipping the greater part of this kind of produce to San Francisco markets. Milpitas, Warm Springs and Wayne being important in the order named.

If one casts a glance over the foot-hills, from just east of San Jose as far north as the eye can reach, he sees a succession of cultivated fields reaching from the upper edge of the level land well up into the rounded foot-hills, and out some locations that seem almost too steep for the use of the plow.

Generally the aim is to have green peas ready to supply a certain amount on Christmas and New Years, and beginning about January 15, a limited amount of new potatoes, but the great bulk of the crop is later, the peas being produced in March, April and May, and the potatoes dug in the same month, a little later.

To secure green peas and vegetables by Christmas and New Years, they must be planted in September, and started by irrigation until the regular rains of October and November, when the natural rainfall is usually sufficient. The crop is carefully cultivated and hoed to keep it clean from weeds, and it grows rapidly, but not so fast as the spring crop. The later crop is planted with the first rains, and without any irrigation, comes on to be gathered in March and April, or later, depending somewhat on the earliness of the start. It is sometimes almost December before the rains come, but usually the crop is nicely growing by that time.

Of course all this section is the "Warm Belt," and so nearly frostless that these plants suffer no injury.

Some of these peas and potato farms consist of several hundred acres, and are rented out in sections to Portuguese farmers who make a specialty of these crops.

It is wonderful how much of the cultivation is done by hand. The soil has a good admixture of clay, and from its location is so well drained that it is nice and mellow during the season of cultivation.

Usually the rows run up and down the hills, and there are drainage furrows at frequent intervals across these to carry off any sudden fall of storm water. Working always up hill in these rows, the men with hoes, get over a large surface of ground each day. These early crops bring good prices, much higher than is obtained for the fall crop of potatoes raised in Humboldt, Marin and Monterey counties, and this in good measure compensates for the difficulties of cultivation.

Notes from Alessandro.

TO THE EDITOR:—The past winter has been a busy one for the farmers of the Alessandro valley. There have been thousands of acres of new land sowed to grain which is looking first-rate at this time. More rain is needed to make the grain fill properly, but it will probably come in due time.

New buildings are going up every week, and thousands of trees and vines are being set out.

Regular church services and Sunday-schools are established in the valley at Moreno, Alessandro and Cloverdale

districts, with a good attendance. Thus, Christianity and civilization are going hand in hand to the work of transforming our desert into a veritable garden of Eden, where refining and civilizing influences surround the young with a safeguard against the allurements of sin. If we in the country miss some of the advantages of the city, we are compensated by not coming into direct contact with its vices. If we do not have its social advantages, neither do we have its saloons to tempt our boys from the path of true manhood. Our boys grow up with a love for the soil that should be the pride of every young American. The aristocracy of the old countries are the owners of the land, not the keepers of the shops. May the day be hastened when our own boys will be proud to be known as owners of the land.

L. S. LYMAN.

Alessandro, Riverside Co., April 18, 1893.

Sowing Alfalfa.—The Gophers.

I mostly sow alfalfa by the harrow marks, either ahead of or following it. By this plan I have no trouble with stakes (a thing greatly to be desired), as sowing by stakes can hardly be done in windy weather; but when sowing by a 12-foot harrow you have a reliable mark to sow by, and there is no danger of missing or overlapping. In sowing barley we often see thick streaks through the field, and they invariably occur on the right hand side, but in alfalfa they are not visible. Many sowers are careless when taking their hand out of the sack, dropping a lot of seed or grain in a bunch which is worse than wasted. I would caution sowers to take tight grip on to their seed and turn the back of the hand downward to avoid scattering; walk with head erect, keep the elbow close on the hip joint, then with a quick motion throw the seed or grain as high as your head, passing the seed on both sides of the forefinger and forming a circle of the seed or grain so that it will fall both ends of the circle at the same time (call it a rainbow if you please), remember that thick streaks never occur on the left side.

Then again as to alkali land; I not only plow in the direction of the drainage but repeat it until I get the field so rigged up that the water cannot stand. Set the field off in plots, say 20 to 40 steps, then when plowing a second or third time, set the ridge to one side of the first, so as not to make the ridge too high. Arrange to have the dead furrows come into the same place until water standing on the land will be impossible and the alkali will leak out and your land will never be heavy and covered with water but break up nice and mellow and produce good crops.

If gophers once get the ground well dug up it is almost impossible to control them. I find that by close attention, when they commence their depredations, they may be held in check by traps or smokers. The late rains overflowing part of my ranch has, perhaps, learned me one item: I found by digging into large piles of dirt that looked like head-quarters, the nests of several gophers containing 8 to 11 fat cubs. I smoked over a 40-acre lot, and as they had not been long on it I have about exterminated them. I had an alfalfa patch, which, before it was sown, was free from gophers; but after I flooded it gophers promptly appeared. I sent a man to smoke them and not one has been seen since, but this is an usual success. Generally their long winding holes require several times going over. I use a 7-inch Browne smoker and dry straw. Mr. Eddy, of Compton, recommends using strychnine mixed in corn meal sweetened with sugar and tintured with oil of rhodium. I think a few drops of sweet annis would answer to scent the bait so gophers would hunt for it; use a teaspoon to put the poison in the open hole and then close it up.—E. Walton in Rural Californian.

The West Side.

TO THE EDITOR:—On the nights of the 14th and 15th inst. there was light frost in the vicinity of Santa Clara, but not hard enough to injure fruit to any extent. The prospect for fruit was never better, except in apricots, which are light in many orchards. With very few exceptions, the spraying of trees has been discontinued. The reason for it is that the scale is disappearing and there is danger of killing the insects that destroy the scale. The acreage planted to trees this past winter has been considerably increased, and the unusual rainfall insures a good growth. In fact, the whole West Side is almost a continuous orchard or vineyard. Up to and in many places into the foothills, grain or hay fields to any extent are things of the past—only enough to vary the landscape. The blooming orchards, wild flowers bordering good roads, pretty school-houses and evidence of prosperity on every side, make it one of the most desirable places for homes in the State.

The success of the village West Side is assured; it contains a good store, wagon and blacksmith shop, cooper and butcher shops, a social hall and church and, strange to say, no saloon. On the same road, 2½ miles to the east of West Side, is located the West Side Fruit-Growers' Association, the stockholders of which are all fruit growers. It has been a remarkable success—so much so that its stock is eagerly sought for by growers, and its capacity will have to be largely increased or other similar associations formed in the neighborhood.

There will soon be a demand for electric roads westward to carry workers to the driers and orchards, besides passengers and visitors to the woods and trout streams on the west. With all these attractions, West Siders can live comfortably, even if the Capitol and all its law makers should move out of the State.

A. R. W.

Santa Clara, April 15, 1893.

Experiments With Potatoes.

Prof. H. T. French, agriculturist of the Oregon Agricultural Experiment Station, has issued a bulletin on potatoes and roots. Seventy-one varieties of potatoes were planted at the station last year on well-manured land which had the year before yielded thirty bushels of wheat per acre. The yield of potatoes ranged all the way from 396 bushels per

acre down to 80. The variety which yielded the heaviest crop was the Riley. It is a rough, coarse-grained potato, and a good keeper. Of other heavy yielders the Dakota Red ranks as one of the best. It yielded at the rate of 263 bushels per acre. Its quality is excellent but its appearance is against it as a market potato. The Early Rose, which now ranks as a medium early potato, yielded at the rate of 239 bushels per acre. Of the very early varieties the Early Sunrise and the Silver Skin were found unexcelled in quality.

Experiments were also made to determine the effect of commercial fertilizers. A number of plots were planted with Burbank's Seedling potatoes. One plot was left unfertilized, one received unleached ashes at the rate of 800 pounds per acre, and each of the other plots was treated with a commercial fertilizer at the rate of 400 pounds per acre. The unfertilized plot yielded at the rate of 81½ bushels per acre; the plot treated with unleached ashes at the rate of 129½ bushels. Nitrate of soda gave a yield of 89 bushels per acre; Kainit, 226½ bushels; superphosphate, 227½; Peruvian guano, 239 bushels. The fertilizers were applied by sowing in the trenches and thoroughly mixing with the soil before the potatoes were planted.

THE STOCK YARD.

Some Feeding Experiments.

Prof. F. W. Woll, of the Wisconsin Experiment Station, gives some interesting facts in *The Live Stock Report*, in regard to the relative value of different feeds for hogs.

This animal, being held in such high esteem just now on account of the high price of pork, some facts on the economical production of the same may be of interest.

We give below some of the main results obtained through experiments conducted in Denmark under the immediate direction and supervision of the State Experiment Station at Copenhagen, as set forth by Prof. Woll. He says:

In all, sixteen hundred and eighty-one animals have been included in the experiments up to date. Owing to the large number of animals experimented with, and the varied conditions of the different experiments, as well as the great care with which the work has been done, the lessons of the experiments come with a great deal of weight.

Pigs weighing from 35 pounds to 100 pounds, or over, were fed until they weighed about 180 pounds, when the animals were slaughtered at the nearest pork-packing house, careful weights being taken before and after slaughtering, and the carcasses judged by experts, and classified according to their value on the market.

In this way the influence of different feeds on the value of the pork has been traced.

The first experiments were made in 1885, and the result of all series was that one pound of skim-milk has a feeding value equal to two pounds of whey; corn, barley, or some other grain mixture, being fed in addition to both.

In the further experiments, barley, rye and skim-milk were compared with one another. It was found that one pound of barley produced the same growth as one pound of rye, and as six pounds of skim-milk, so that the feeding value of one pound of rye or barley may be placed as equal to six pounds of skim milk or twelve pounds of whey.

According to experiments conducted by Prof. Henry, at the Wisconsin Experiment Station, he found that, with corn meal and shorts at \$12 a ton, whey would be worth 8 cents per 100 pounds, and 10 cents per 100 pounds with grain feeds at \$15 per ton.

Those who are in the habit of buying whey from cheese factories may form a tolerably accurate idea of its feeding value by taking into consideration the cost of the various grain feeds and referring to the above comparative values, though whey, like most other things, will vary in quality, chiefly according to the quantity of fat it contains.

Returning to the Danish experiments, it is found that wheat bran produced better results than rye bran; but neither produced so good a growth, or so good a quality of pork, as either rye or barley, dairy refuse products being fed in addition in all cases.

FEEDING ROOTS.

In the experiments with roots it was found that eight pounds of ordinary mangel-wurzels or four pounds of potatoes can fully replace one pound of grain. The carcasses from root-fed pigs possessed at least similar commercial value as that from grain fed pigs, both being, in the majority of cases, first-class products. The experimenters find that as much as forty per cent of the solid food of a pig may advantageously be made of roots. Different kinds of roots produced a gain in live weight of the pigs in proportion to their contents of sugar, or in proportion to their contents of dry matter, so that one pound of grain was found to be of the same value as eight pounds of ordinary mangolds, six pounds of Elvetham mangolds, and from four to five pounds of sugar beets.

The fact that the older an animal grows the more food is required to produce a pound of gain, is well brought forward in the experiments. Below is given the general average of four years' work in this line. The term "calculated grain" is used by the experimenters to designate the food eaten in units of grain feed, according to the results found. One pound of grain equals six pounds of skimmed milk; equals twelve pounds of whey; equals eight pounds of mangolds; equals four pounds of potatoes, etc.

Pounds of "Calculated Grain" Required to make One Pound of Gain.

	Live wt. 35 to 75 lbs.	75 to 115 lbs.	115 to 155 lbs.	Av. for 75 to 115 lbs.
Average for 27 series of experiments, 1888-'90.....	3.4 lbs.	4.0 lbs.	4.8 lbs.	4.4 lbs.
Average for 19 series of experiments, 1890-'92 (roots).....	3.8 lbs.	4.4 lbs.	5.3 lbs.	4.8 lbs.

Considering the ease with which a crop of mangold-wur-

zels can be produced in California, the above valuation put upon them by actual experience as a stock food ought to encourage all who keep livestock of any description to grow all that can be conveniently grown, not only for the actual food value contained in the root, but for their beneficial influence on the health of all kinds of stock by which they are consumed—a fact well known to all who have had experience in using them to any extent.

As a matter of course the growing of them entails extra labor in the saving and application of manure and the thorough cultivation of the land, all of which has a beneficial influence on future crops grown on the same, not only through the manure applied, but by the destruction and keeping down of weeds effected by the better cultivation brought into play.

It is now about the time of year that most people who grow mangolds are preparing the ground for the seed; many, no doubt, have already sowed, while some will be up and the young plants showing above ground. With the latter there will be no time to lose in starting the cultivator to destroy the young weeds the late rains will have started. It is ruinous to the future crop to let the weeds get ahead of the young plants. As a rule, a mangold crop can be grown more economically if the seed is sown after the heaviest of the rains are over. In the meantime, with the proper application of labor to the land, at the right time, one or more crops of young weeds will have been destroyed, so that there will be very few left to come up at the same time as the mangold plants. With the land thus managed there is, in ordinary seasons, very little need of hoeing, either by horse or man-power. The thinning out of the plants by hand will be the most particular part of the work required. This should be well done by people who understand the work. There should be not set distance for the plants to be left apart; it is of more consequence to leave the best plants, even if the distances in the row are a little irregular, for it is with plants as with animals, some will never be good and those that will are generally the strong and thrifty-looking young ones. One rule always holds good in our rainless summers, viz.: That the more plants there are on a given piece of land, the less will be the proportion of moisture and available plant food each one will receive; and if there are any weeds, each weed-plant will have its full share of both.

Red-Polled Cattle.

Some time ago we stated that Mr. W. J. Martin had been sent to England to select a number of Red-Polled cattle suitable to compete in the dairy tests at the World's Fair. Twelve cows were selected and brought over to this country. They completed their period of quarantine and have since been sold at public auction. It is said that they realized prices high enough to save the importers from loss.

The reason given for the withdrawal from the Columbian dairy test is thus given: "Owing to recent changes in the rules governing the proposed milk test in connection with the World's Columbian Exhibition, and the enormous expense which it is now apparent will be involved to the associations taking part, it has been definitely decided not to enter the Red Polls."

After the well-known fact that a large sum of money was spent in importing cows specially for the purpose of having the breed creditably represented in the dairy test, this announcement will be a great surprise to the public. It may well ask, What breed next? The Holsteins and the Red Polls being out of it, how many, or how few of the so-called dairy breeds of cattle will be in the contest?

As stated some time ago, the Jerseys were on the ground in strong force. We also understand that a number of Guernseys are on hand, but do not yet hear of the Shorthorns putting in an appearance. It is time they were being habituated to the scene of action.

Dehorning Cattle.

A commission appointed by the Ontario Government to investigate the dehorning of cattle came to these conclusions: "It seems to be established beyond reasonable doubt that dehorning, by effecting a change in the disposition of the animal, greatly increases its marketable value, besides enabling the owner to handle his stock with greater ease, economy and safety. In the case of steers raised for the export trade, the owner is enabled to feed loose in large stables, and to adopt improved methods of saving manure, and, as the unruly disposition has been largely subdued, less food is required in bringing the animal to a prime condition. The stock can also be cared for by fewer men. On the English market the buyers gave about \$5 per head more for dehorned cattle, owing to the belief that they put on flesh better. All the evidence, in fact, goes to show that the possession of horns by cattle, in addition to causing a great and prolonged suffering, means a loss, in the aggregate, of hundreds of thousands of dollars to the farmers of this country." They advise experiments in destroying the horns of calves by chemicals to see if it is not better than cutting them off from mature animals.

Food for Hogs.

The Danish Government has made many experiments conducted on the farms in that country in the various values of the different kinds of food for hogs, and the results obtained are announced as follows:

Four hundred pounds of grain make 100 pounds of live hog.

One pound of grain equals four pounds of boiled potatoes.

One pound of grain equals six pounds of skimmed milk.

One pound of grain equals eight pounds of turnips cut small.

One pound of grain equals 12 pounds of sweet whey.

The Way to Make Horses Shy.

One thing important—by no means put a hole or window in front of each stall as has been the long-time prac-

tice, says a contributor to the *Country Gentleman*. All light should come from behind or above. I have known many shying horses which became so by facing the abominable little windows in question. I have also known a complete cure of shying by the removal of these same concentrated and eyesight-destroying holes in front, which are so common.

THE DAIRY.

Proper Methods of Breeding.

What the dairy cow is and will continue to be depends about as much upon her keeper as upon her own individuality to begin with. Every cattleman of the country who has had any experience with the practice of a few years ago, when cows were over plentiful, of turning good milch cows out for summer pasture along with their calves, knows how effectively the changed conditions broke up the cow's capacity for carrying the full flow of milk up to the milking hour of eventide. The cow that was once subjected to this treatment never after fully recovered the regularity and fullness of her former flow of milk.

No doubt a good habit can be more effectually broken up by irregularities in conduct than it is to be easily formed in the first place through a regular course of discipline to that end. It is, however, the action of the same principle, which shows a greater aptitude in the one case to retrogression than to building up in the other. This shows the need of extreme care as to the regularity of habits with cows that are expected to approximate what are known as the big milk or butter yields of the day.

Dairy breeds in cattle have been developed precisely in this way. A dairy-bred animal is one in which the milk function has been enlarged or enriched by long years of special care, intelligent feeding and in furnishing other bodily comforts as well as by intelligent selection and crossing. The trait is transmitted from one generation to another. It is no better in the produce than the average between the sire and dam. It is simply handed along from one generation to another to be advanced or retarded in its development, according to the care and skill of the owners into whose hands the animals happen to fall.

The breeder of good dairy cattle is therefore the man who feeds and trains his cows for the highest performances possible. By being pushed to their utmost capacity repeatedly and constantly this special function is enlarged upon. The environment is what determines the character of all animals for any given locality. One of the chief elements in the environment of the cattle of this or any other country consists in the disposition that the people of the country undertake to make of them. If, for instance, during any certain period of time, self-interest turns the attention of cattle-raisers to the beef-making industry, there is brought to bear an influence on the cattle stock of the country that soon makes itself felt in a tendency on the part of the cattle of the country to run to beef rather than to milk making.—The Nebraska Farmer.

Dairy Notes.

The Fort Collins (Col.) *Courier* says that dairy cows which could have been bought a short time ago for \$20 a head are now worth \$40, owing to the establishment of a creamery and cheese factory.

It is said that the heating of whey to 160° will destroy the germs that cause fermentation and increase its value as food for swine. If so, it should be done at the factory before the farmers take it away.

And now they are proposing to make a 30,000-pound cheese at Sheboygan, Mich., for the Columbian Fair. This will largely exceed in size the one to be sent from Canada. It is to be eight feet in diameter and nine feet thick, and will require over 300,000 pounds of milk.

A bill prohibiting the sale of oleomargarine in England was defeated in the House of Commons by a vote of 75 to 59. In the discussion the strongest opponent of it was Dr. Lyon Playfair, one of the most distinguished chemists and sanitary authorities in England. In his remarks he said bad butter was a fraud upon the poor, and oleomargarine would sooner or later drive it out of the market. Those who propose to supply butter for the English market must therefore try to make it or ship it only of the best quality.

By keeping a watch on those who keep one or two fine Jersey cows as "lawn pets," or "gentlemen's cows," as they used to be called, one may get a thoroughbred calf, especially if a bull, for but little more than its value for veal. That class of people do not like the trouble of raising a calf, and would not know how to do it, and have not enough to pay for advertising, so are anxious to sell or kill as soon as the milk is fit to use. We have seen a good herd of pure-bred and grades, all of which were picked up in that way or raised from the older ones that were so secured.

No Cold Milk for Calves.

As the weather becomes warmer there is apt to be less care in warming thoroughly the skim-milk fed to calves. Considering how much heat of the little animal's body is required to warm up its feed of five or six quarts of cold milk to blood heat, it is hardly to be wondered at that such treatment results in giving them scours. This is the worst blow that can be given digestion, and in a young animal it is an injury that is often never wholly recovered from.

Dried Milk.

A sort of condensed-milk factory has been set in operation on the De Long ranch, says the Marin County *Tossin*. The process consists in extracting the water, leaving the nutritive principles in a dried form and convenient for transportation. When you wish to use it all you do is to replace the water and there you have the true stuff. The

average dried-milk man of course has not gall enough to water the article as extensively as the cow before him and the customer profits by his diffidence. The story sounds a little queer, but the factory is certainly in operation and the invention is said to be a highly useful one and likely to be of benefit to the dairy interests by opening a market for their products in places not otherwise accessible.

POULTRY YARD.

Preservation of Eggs.

TO THE EDITOR:—How can eggs be preserved so as to retain their fertility or even their character as fresh-laid eggs, is a problem that I am afraid has as yet had no satisfactory solution. At any rate, within the scope of my knowledge or experience, no certain way has been arrived at. Many processes have been recommended, which, like roup cures, are warranted infallible, but which, like them, have lamentably failed of their object, except, perhaps, in the case of "store eggs," or, as they are sometimes called, "hit-or-miss eggs." This is a very good nomenclature, by the way, for, whereas you may now and then "hit" a fresh one, you much oftener "miss" it, and get stale or even slightly "decayed" ones instead, so that, although preserved enough for store purposes, perhaps one would hardly find the result of any close test to warrant them in representing them to be fresh eggs, or even just as good as fresh.

Two years since, while engaged in the purchase and sale of eggs, I bought of parties, in whom I supposed I had every reason to repose entire confidence, 40 dozen of eggs—nice clean-looking eggs, with that peculiar fresh limey appearance that fresh-laid eggs have. But alas! for the frailty (I speak charitably) of human nature. They proved in the final test to have been "dry salted," and, so far from all holding together, would, on being broken, "spread out" lamentably, so that I was led to decide that packing in dry salt would not produce the desired result, but only so far as enabling one to offer a desirable looking egg to purchasers; it would, in fact, be only a counterfeit fresh egg.

Another method much advocated is to pack the eggs in brine, which "also is vanity," and has not so much to recommend it as the dry-salt method. Still another is to coat the shell with something in the nature of mucilage or even mutton tallow, which is supposed to cover and close the pores of the shell in such a manner that there can be no evaporation of moisture from the egg or ill effect from any possible harmful outside agency. Lard also is used.

Packing eggs in bran, small end down, and keeping them in a cool, dry place, is also advocated. Quite lately, I have read in some journal or collection of poultry items that some one had been in the continued practice of packing eggs in a frame in which the eggs were placed small end down, each one by itself, not touching another, and so arranged that the air passed on all sides of the egg. Kept in a cool, airy cellar, the result was that they were absolutely fresh for an indefinite length of time, retaining all the qualities of a fresh-laid egg.

I wonder if they could be kept by this method six months or a year and then reward any faithful Biddy for three weeks' hard work with the same amount of chicks that the same number of undoubtedly and really fresh-laid eggs would, or whether, in fact, she wouldn't get about the same amount of reward from so many porcelain eggs as she would from the preserved "fresh" eggs after sitting the usual length of time on them?

Still another method practiced is to pack the eggs in an egg-case, and, keeping them in a cool, dry place somewhat secluded from light, to turn the box the other side down each day, or at least every third day, observing care that the eggs are not jarred or shaken in turning. In my opinion, the two last-mentioned methods have more to recommend them than the others, but still fail of all really practical results, as I think must all artificial methods looking to the keeping of eggs "fresh laid" for a longer period than a week.

This brings to mind, however, that some six months since an item went the round of the papers to the effect that a process had been discovered whereby eggs could be preserved undoubtedly fresh and good for hatching for several months. It had been proved by experiment, and it was said a further experiment would be made looking to the possibility of preserving them fit for hatching for the period of one year, and that the result would be given. I have heard nothing further of it, but suppose that as soon as the result is known, if successful, it will be so stated and the *modus operandi* be given to the expectant public. I do not say that it is not possible to keep eggs for several months fresh as when fresh laid; but so far I have not known of any method which will produce that result. People who have been in the habit of eating really fresh-laid ranch eggs readily detect the presence of the artificial product, as much of the fine rich flavor is lost, and the egg, when broken before it is cooked, is more inclined to spread out. This is more particularly in speaking of the product of fowls fed and cared for with a view to producing an egg rich in flavor and nutriment—one to satisfy an exacting and discriminating taste, and not so much of the "store" or "Eastern" egg, which does not profess to be choice and does not offer itself as such.

Speaking of eggs as food, it is considered that six eggs equal one pound of meat in flesh-producing power, and, at the average price of eggs, they are a much cheaper food, and a food complete in itself, capable of sustaining life of itself. It is a more appetizing food than meat, and more easily digested; but to be all this, eggs must of course be fresh, or many of their good qualities are lost.

In conclusion, I cannot say—until I hear further of the last-mentioned method for the keeping of eggs fresh and fit for hatching, and which I suppose is the so-called ozone process—that I know of any method or process that will produce the desired result for a longer time than about one week for "fresh laid." For hatching, they may be kept

longer, but even then at the expense of some loss of vitality to the chicks that may be hatched from them.

Lodi, April 24, 1893.

T. B. GEFFROY.

Poultry Raising as a Business.

G. W. Metzger, a successful poultry raiser of Metzger, Or., gives the following advice in the *Rural Northwest*:

For those who are contemplating raising poultry as a business, the first thing to consider, is what particular branch of the business you wish to go into; whether for raising poultry for eggs, or the broiler business; or embarking as a breeder of fancy poultry, or all three of them. Second, the selection of a breed best suited to that particular branch of the business. It is not so much so, "which is the best breed?"—for there is no best breed, because each breed has its special characteristics and good qualities,—as which breed is the best suited for that particular branch of the business in which you wish to embark.

I think it advisable for beginners to raise poultry for the production of eggs only, as it is the primary department of the business, and not so many difficulties to overcome.

I would recommend some of the smaller varieties for this purpose, such as Hamburgs, Leghorns, etc., although it will be necessary to raise some of the larger breeds for incubating purposes, unless you wish to run an incubator, which I would not advise a beginner to do. Let nature teach you first.

Next, the location of your poultry plant should have some consideration. A piece of dry, sandy soil sloping to the south would be the best. A low, wet piece would be very objectionable, as it will be sure to cause roup, cholera, and all other diseases to which fowl flesh is heir. Put up the very best houses that you can afford. Chickens must be provided with warm quarters in the winter, and unless you do provide them with warm quarters, you will not get many eggs to sell at high prices. Warm hen-houses lessen the food bills.

A flock of one hundred hens can be kept easily enough on one acre of ground; more than this number would be crowding. If it is convenient, it would be better to divide them into flocks of about twenty-five each, for the larger the flock the more liable they are to disease.

Feed them well and with the right kind of feed, otherwise you will waste your feed. Care must be observed not to feed too much, as over-fat fowls will lay few eggs, and such eggs will not hatch. Give them a warm feed in the morning of shorts and mashed potatoes, table scraps, etc.; at noon of wheat or meat scraps which would be better, and at evening, wheat. Give them plenty of green feed or else infertile eggs will be the result. Exercise is indispensable to the health of fowls—see that they have it. If one is going into the egg business it would not be worth while to keep less than 200 hens, while many more may be kept. A Hamburg or Leghorn hen will lay about 200 eggs a year, but in large flocks they will not lay so many, probably half of the time, which would give about 15 dozen eggs a year for each hen. The feed will not cost more than four cents per dozen hens a day, by calculating it would give \$1.22 per hen for one year, giving a clear gain of \$1.78 per hen. This is not the maximum limit, but the profit accrues according to the management given. There will, of course, be some losses by diseases and otherwise, but I certainly think that one hen would clear \$1.25 a year, losses all told. Care for your hens well and they will pay you well.

A good poultry manager is always among his fowls and observes everything.

Ex-Vice-President Morton's Broiler Factory.

In course of a long article on ex-Vice-President Morton's farm at Eilerslie, on the Hudson, the *Country Gentleman* says:

"One more department at Eilerslie remains for notice, the broiler factory, so to speak—a group of buildings from which are marketed (under the direction of Mr. James H. Seely, formerly the leading operator in this line at Hammon, N. J., which is noted as the home of the specialty) the immense number of 20,000 artificially incubated chickens per annum, the weekly hatch averaging 500. Ten incubators are kept running. About half the eggs put in hatch out alive—some twenty per cent of them being found clear and therefore infertile, on candling, about four days after starting; and three-fourths of the chicks go safely through the brooders, and are sold as broilers at eight to fourteen weeks from hatching, weighing then about a pound and a half. We were interested in the simplicity of the brooding arrangement. It consists merely of a pen, 5 by 15 feet, across which, near one end, run four-inch-and-a-half hot-water pipes covered with a board and screened on each side by a flannel curtain. Forty-eight of these pens are arranged in an L-shaped building, 168 feet long one way and 108 feet the other; and as each pen accommodates a hundred extremely vivacious and voracious little chicks—which pass from pen to pen as they grow, the height of the top board of the brooder varying from 4½ inches for the babies up to a foot for the graduating class—the animation of the scene may be imagined. We may add that it is intended to breed poultry largely, as well, as to hatch it, keeping white breeds exclusively. It is thought that by crossing White Plymouth Rock cocks on White Minorca hens whose eggs are particularly large, white, and attractive, a select trade in "fancy" eggs may readily be acquired.

The Petaluma Poultry Union.

The objects of the proposed Poultrymen's Union of Petaluma are thus explained by Mr. C. Nesson, in the *Courier*:

"The first object is to protect and strengthen Petaluma egg trade. As is well known, the Petaluma ranch egg enjoys a very high reputation. This reputation has been brought about mainly by the honest and fair dealing of the

Petaluma market poultry men in the past. We all realize that a good reputation is not easily gained, though easily lost, and once lost next to impossible to regain.

"Our reputation is now being traded upon by unscrupulous commission men and others selling all kinds of eggs for Petaluma eggs, and often in cases belonging to Petaluma poultry men. Unless a stop is put to this, it is only a question of time when our reputation will be ruined.

"The Petaluma Poultry Union will aim to guarantee that all who wish to buy choice Petaluma ranch eggs and are willing to pay for them, shall have them. How this is to be brought about is, of course, not yet determined. Whatever plans have been proposed or talked about are mere suggestions. Nothing of the kind can be decided upon before we are properly organized, and a permanent board elected. But if we are determined this shall be brought about, it will be.

"Our second object is to buy feed for the members of the union as cheaply as possible, and distribute the same as cheaply as possible. How this will be done can, of course, not be said yet, but it is certain that the most economical methods will be studied.

"Any one getting even one dozen eggs a day will be benefited by joining this union. It is proposed that for each one hundred hens or less one share shall be taken, each share is \$25, and an assessment of ten per cent, or \$2.50 per share, will be levied when the union is ready for business.

"We not only can make this vicinity the most profitable for poultry culture on the coast—it is so already—but we can make it remain so, and convince all who wish to take up the poultry business that it will be to their interest to come here."

Poultry Points.

Glycerine is a good salve for sore eyes.

Feed milk and bran for growth; milk and meal for fat.

Dry-picking must always be done before the fowls get cold.

Feed a little at a time, and feed often with little chicks.

Sour feed is about the worst thing that can be fed to young chickens.

A good laying hen must be well fed, but should not be made too fat.

Charcoal acts upon the blood and helps to increase the circulation.

Turkeys should be dressed one day, hung up over night, and shipped the next.

Neatly dressed poultry not only sell more readily, but at much better prices.

It is of more importance for the farmer to be able to detect disease than to detect a flaw in the standard.

Feed hens well with a variety of mixed feeds, and keep well supplied with plenty of material for shells.

Many failures with new breeds have resulted from attempting to keep too many different kinds at the start.

Dust, not dirt, is what the fowls want in their dust bath, and it must be changed sufficiently often to keep from becoming foul.

Turkeys, ducks and chickens can be kept on almost every farm to an advantage, while in many cases geese and guineas can be added profitably.

On the majority of farms, at least, sufficient care is not taken to cull the poultry; and with chickens, especially, many are allowed to remain that have passed the age of usefulness.

The correct temperature for the incubator is 103°, falling perhaps as low as 95° for a short time when open. But the thermometer should be down among the eggs, and should not rest upon an infertile egg or one containing a dead chicken, as that is cooler than the one containing the living chicken.

The Maine *Farmer* tells of a flock of 100 hens that laid 7200 eggs; six dozen each as an average from December 1, 1892, to April 1, 1893, or four months. They sold for an average of 35 cents a dozen, or \$210. We should not be afraid to warrant that they had good feed and good care, and they ought, for this must have paid about \$170 over the cost of feed. The American *Cultivator* knows of a young man who has kept 70 fowl about the same time on \$23 worth of feed, and has sold \$49 worth of eggs, but a part of his were late chickens that did not begin to lay until February or March, but they have a growth that is worth something.

Lice.

Mrs. Emma J. Melette, writes in the *Denver Chicken* as follows: Do not use sulphur, as it is liable to do harm; nor carbolic acid, because it is needless; nor kerosene, because it will blister and take off the skin. Common lard is just as good, even as olive oil, but it must be warm, and the only way to put it on successfully is with the finger. A dirty job? Well, yes it is, and if you happen to be at all sensitive or nervous it will make the cold chills run down your back to see how many heads of lice one square inch of poor little chicken-head can contain. In putting on the grease always grease clear around the lower part of the neck, for a greased ring they dare not cross, and many will be killed that otherwise would have escaped into the down of the body. Put just a little under each wing, and a little around the vent. It is not a very good plan to let the chickens get wet until the grease is dry, but I have greased them thus by the hundred, and have never lost one. When the effect of this is gone dust them well with Persian insect powder, and if they have a mother, dust the mother also. It does not pay to get an old, stale, poor quality of this powder; better pay more and get good. There have been too many good things said of the dust bath, it will not do a hundredth part of what it is recommended for; which same also may be said of sulphur. Sulphur has no place in the poultry yard; it possesses no economic value; lice will live and thrive in it, while if fed to growing chickens and ducks it is liable to cause a multitude of ills and ailments. But of lice again—a good hot whitewash is most excellent to rid the house of lice—but it must be hot.

Applications of Electricity to Agricultural Work.*

NUMBER 3.



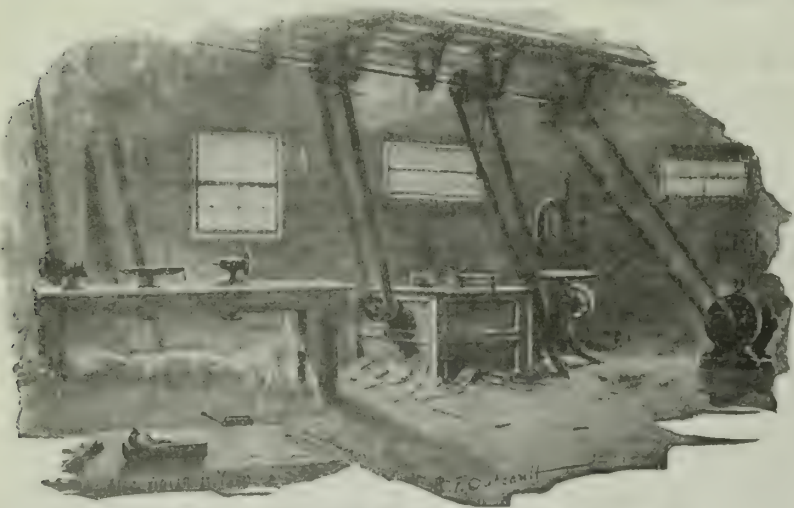
THE first and second articles on this subject dealt with the question of the application of the motors to the work of hoisting and pumping, and the character of the work required was shown to be not essentially different from the pumping and hoisting done

by electricity under other circumstances. For instance, the hoisting of a bale of hay in a barn on an isolated farm by an electric motor, assuming that a suitable source of power is available, differs in no essential particular from the hoisting of a bale of cotton from a ship's hold to the dock where a cargo is unloading, or the hoisting of coal from a deep mine. Neither does the pumping of water for farm use by an electric pump differ from the same class of work in other localities, as, for instance, in a small city where a system of water supply is not furnished by the municipality. This same point is to be borne in mind in the consideration of the other classes of service to which stationary motors are applicable in farm work, such as those enumerated under the third head in the tabular statement in our first article.

Here it was pointed out that the electric motor was applicable to miscellaneous machines, such as threshers, grinders, shellers, cider presses, feed cutters, hay presses, grindstones, machine shop tools, wood saws, churns

and coffee mills, laundry machines, horse cleaners and other similar work.

One method of application of an electric motor to a thresher is shown in Fig. 3 in our first article in the RURAL PRESS of April 15. This represents the direct method where an individual motor is used for the thresher, and in our illustration the motor is shown mounted upon a permanent pedestal mounted for this purpose. The position of the thresher is shown by the perspective view of the barn and the diagram in Fig. 1. Another plan, entirely practicable and more suitable where the size of the farm does not warrant the permanent installation of a motor and thresher in this way, is to have the motor mounted upon a portable truck, the wheels of which, together with their



SHOP TOOLS OPERATED BY AN ELECTRIC MOTOR.

axles, can be removed and the wooden frame of the apparatus so arranged as to form a sufficiently solid base upon which the motor can rest whenever used for outdoor or indoor service, and at any part of the farmyard, or in the adjacent fields. With this type of machine current would be supplied through a flexible twin cable which, when not in use, would be coiled up on a reel.

A "mounted motor" of this sort would find many uses on the ordinary farm, its portability being one of its chief features. Of course there is still another method of supplying power to a thresher when it is built permanently in place like the one shown in the illustration. The barn can be equipped with a main shaft from which several machines may be driven, and the shaft may be operated by a motor placed in the building and drawing its current from some outside source, whether that be an isolated central station on the farm, or the mains of a rural street railway line, or other source. From this main shaft the thresher might be driven in the ordinary way.

One point to be kept constantly in mind in considering the applications of electric motors to stationary farming ap-

paratus is the intermittent character of the work. In nearly every instance power is required for short periods of time only, and in many cases for only a few days during the entire year. In the case of a thresher, for instance, it is likely that all the work of this character required on a farm for the whole year would be done at once and the machine, if belonging to the owner of the farm, would lie idle for the rest of the year. In other cases, such as the use of grinders, feed cutters, machine shop tools, etc., the power might be needed for one, two or more hours per day, either for a portion of the year, or every day in the year. This fact, of course, would need to be considered in arranging the tools and apparatus and the motors for driving them, since it is probable that in nearly every case the machines could be so arranged in connection with the power driving them that not more than one or two, or at the most three, would be in operation at one time. Under these circumstances a much smaller motor would be needed than if provision is made for the operation of all the machines at one time. Considerations of this kind, of course, are similar to those met with in the design of plants for the general distribution of power in cities, whether steam or electric. In the case of the former plants, however, the running of the machines would be under the control of one man, which is not the case in the general distribution of power where the central station has no control whatever over the operation of the motors to which current is supplied.

From the foregoing it will be seen that the portable motor, which can be taken at will to any part of the farmyard or barn, when needed, would be in many cases the most advantageous as well as the cheapest method of



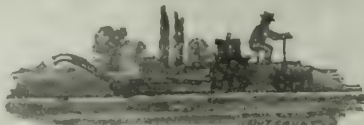
A PORTABLE PUMP.

equipment. A motor of sufficient size to operate the largest machine would then be sufficient for the operation of nearly all the farm machines, including threshers, grindstones, feed cutters, etc. It would only be necessary to have a flexible wire connection with the source of power which could be unreeled to the desired length.

The demand upon the electric motors in many classes of farm work, such as the operation of a hay press, for instance, would be exceedingly severe. In some cases the load on the machine operated would be steady and the power called for would be uniform, but in many other instances the load would vary from that needed to drive the machine empty to an overload, the change being made instantaneously. Electric motors are now built with such sensitive regulation that changes in speed caused by fluctuation in load are almost imperceptible. Those acquainted with farm work will recognize the importance at once of a source of power which will maintain a constant speed under extreme changes of load. In threshing, for instance, it is often necessary, where the machine is driven by horses, or even by a steam engine, to remove the load in order to let the machine speed up to its normal rate.

The application of electric motors to household work on the farm is illustrated by our large first page engraving in the RURAL PRESS of April 15. Here an ideal sketch is shown of one method for operating from a single motor a number of machines, such, for instance, as a laundry wringer, washing machines, a churn and a sauerkraut machine. At the left of the illustration is also shown what is now an entirely practical method of heating flat-irons by the electric current. A flexible connection is made with the iron, and by the switch near at hand the current is supplied for keeping it at a constant temperature.

It is thought by many, and probably with a good deal of reason, that the value of electricity as a household servant



A SUGGESTION.

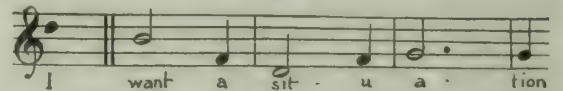
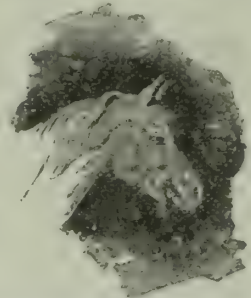
has only just begun to be understood. It is certain that there are very many classes of work now performed by hand-work that is drudgery to the last degree—that can with the greatest ease be done by the aid of electricity. Whatever assistance the electric pump, the electric heater, the electric flat-iron, the electrically driven sewing machine,

or any other variety of electrical apparatus applied to household work, may give to the housewife or her servant will certainly be thoroughly appreciated. To the isolated character of the farm and its tenants is doubtless to be credited the fact that the electric motor has not, up to the



AN ELECTRICALLY DRIVEN HAY PRESS.

present time, found its way into the farm house or into the farm barn to do work which it has already been found to do successfully in connection with other classes of work.



Spraying Hops and Training Vines.

O. P. Beardsley, for many years a successful grower at Eola, Polk county, Oregon, gives in the *Rural Northwest*, his experience in training and spraying hops, as follows:

As the season of active operations in the hop yards is at hand, and the field work is becoming more complicated than formerly, by reason of the presence of the hop louse among us, I notice more interest is taken in such matters. Now, about cutting off the vines at the time of picking the hops. Here are some facts.

In the summer of 1883 the writer of this began using stakes 8½ feet long (7 feet out of the ground) and twine running both ways, instead of long poles, and can get an average of 800 lbs. more per acre annually than can be obtained by using long poles, or any other method of training which necessitates the cutting of the vines at picking time.

In the spring of 1884 I began cultivating a very old hop yard of 8 acres at Eola, said to be the third yard set in Oregon. This yard was stocked with long poles—two poles to the hill—and I continued to use them for three years, carefully observing as to the weak and missing hills and consequent crop. In the spring of 1887 I cut off the poles, making stakes for half the yard, or four acres; so in the fall four acres in this yard were picked without cutting the vines, and the remaining four acres, on long poles, had the vines cut at the time of picking, as usual.

In 1888 I cut off the balance of the poles and treated both parts of the yard alike in all respects, and picked 3000 pounds per acre from that part which did not have the vines cut in 1887, and 1,500 pounds per acre on the part where the vines were cut the previous fall. I have used no more long poles and do not expect to.

In 1889 the whole piece produced 2,800 pounds per acre, although it had been set from 14 to 16 years. Pulling the vines out at the root is worse than cutting them.

In regard to the matter of spraying, I notice that a very able and entertaining article of Mr. Muecke leaves us to conclude that six months of efficient work in spraying with tobacco and soap instead of quassia and soap left his hops at early picking time in a very precarious condition, even so bad that two day's delay in picking might have been disastrous to the crop.

Now, the writer of this (and neighbors) used quassia with good results on crops growing on rich bottom lands, surrounded by timber in close proximity (the worst of situations).

I can give details. Began spraying about July 10th—after the aphid fly was done or nearly done coming from the plum and prune trees where they winter, and first appear in the spring. Sprayed 25 acres twice over in about 17 days, using a common force pump—the "Excelsior"—fastened to a barrel mounted on a sled and drawn by one horse.

I used 310 pounds quassia and 250 pounds of whale-oil soap. The spraying was done by two men, and a boy 12 years old.

Cost of material and labor exclusive of mixing the soap and quassia, was about \$96.80.

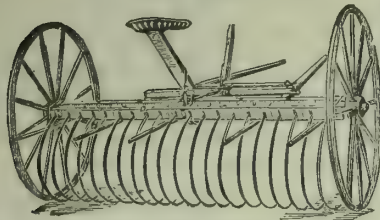
Worked about eight days steeping, mixing and hauling the spraying solutions to the field at, say \$2.00 dollars per day, and we have an outlay of \$112.80, exclusive of apparatus, which is still on hand nearly as good as new, for ridding 25 acres of badly infected hops of all the lice, or so nearly so that a hop louse was very hard to find for a long time, and the hops, were safe to leave till fairly ripe and picked.

* In a series of five articles reprinted from the *Electrical World*, New York.



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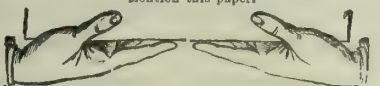


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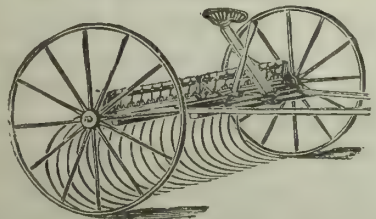
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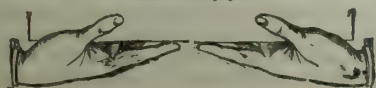
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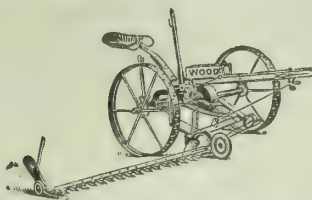
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YEAR, and, with the exception of the natural wear, it
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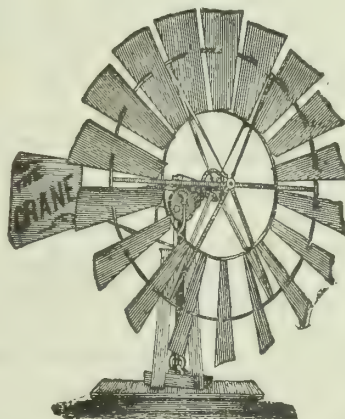
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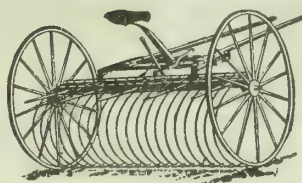
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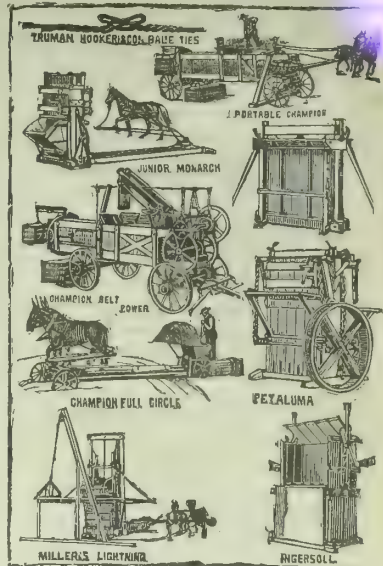


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THE HOME CIRCLE.

Hymn.

To Him who is the Life of life,
My soul its vows would pay—
He leads the flowery seasons on,
And gives the storm its way.

The winds run backward to their caves
At His divine command—
And the great deep, He folds within
The hollow of His hand.

He clothes the grass, He makes the rose
To wear her good attire—
The moon, He gives her patient grace,
And all the stars their fire.

He hears the hungry raven's cry,
And sends her young their food,
And through our evil intimates
His purposes of good.

He stretches out the north, He binds
The tempest in His care—
The mountains cannot strike their roots
So deep, He is not there.

Hid in the garments of His works,
We feel His presence still
With us, and through us fashioning
The mystery of His will.

—Alice Cary.

Nature's Song.

In the wild-wood the robin sweetly calls,
From the meadow the cow's soft lowing falls,
Far in the East's brightest home,
In crimson and violet dome,
God's sparkling secrets slowly hide and away;
Tell of a new-born dawn and another day.

All the wood-lands and fields of sweet clover,
In the sunshine glist'ning dew-drops cover.
Busy bees their songs are humming,
While gathering stores for winter's coming.
The rich and fragrant odors of new-mown hay,
Through the open windows, tell of summer's day.

Slowly the day fades away into night,
Dimmer and dimmer grows fair earth's sunlight.
Lowly the song-bird woos its rest;
In a homely and moss-covered nest,
Softly and sadly the wild wind sobs and sighs,
For the day that slowly, yet so surely dies.

Lower, and yet lower, fall the shadows,
Tiny drops of dew lightly kiss the meadows.
Like elfs playing "hide and go seek,"
The stars peep out in vastness, so meek.
Gentle as a mother, comes there the soft moon's ray,
Sympathizing with earth losing her day.

—L. E. Wegefarth in New York Ledger.

Our Shadow Circus.

Written for the RURAL PRESS by MRS. J. C. ALLEN.

PERHAPS in some locality where your paper carries news of the doings of various kinds, from all parts of the State, especially country communities, where people have to get up their own "shows" to give in the schoolhouse, or village hall, some one might like to hear about our Shadow Circus.

"We" are decidedly a country community, and this summer we decided to use our evenings, which are usually devoted to going to sleep after active exercise out of doors, to getting up an entertainment, the proceeds from the admittance fees to go toward the purchase of a first-class magic lantern for future entertainments. On considering the possible material for use, it was evident that only one person possessed dramatic talent, but there were numerous workers and several fair voices. So shadows were chosen, as no assistant would be liable to collapse from stage-fright, with a curtain between them and the audience. Then it occurred to one of us that the one "talent" should be devoted to the clown, and we should make it a circus.

In a large barn-like dining-room, we put up a wire, and on it hung a curtain made of two sheets, and arranged so that it could be drawn aside and left ready for use night after night.

We first undertook the lion, and many were the hours of laughter and despair before we produced the noble beast, who strode forth before the awe-struck audience, roaring, and when he roared, his mouth opened, showing most terrifying molars and a tongue.

Perhaps I had better give the completed program first and dissect it later. We knew that music was essential to its success, but no instrument could be procured but a small organ and an autoharp. The latter proved to be our bulwark, and next to the clown who played upon it was the key-note of our success. So we decided to sing to the autoharp, choosing college songs with a ring and quick time to them, and composing words of our own to suit the occasion, locality, etc.

We started off with "The circus has come to town," tune Fra Diavolo, the words being:

1.

The circus has come to town with flags and banniers flying,
And mirth and joy abound, so children stop your crying.

Chorus.

Hurrah! hurrah! the circus has come to town,
Upsee, upsee, tra la la la, upsee, upsee, tra la la la,
Upsee, upsee, tra la la la,
The circus has come to town.
Hark! I hear a sound, a sound, a s-s-s-s-s-s sound—
It is the lion roaring, it is the lion roaring;
Hark! I hear a sound, a sound, a s-s-s-s-s-s sound,
It is the lion roaring, roaring in his cage.

2.

We'll do our level best to please you all this evening,
But don't expect too much, just wink at our deceiving.

Chorus.

Hurrah! hurrah! the circus has come to town, etc.

At each "Hark! I hear a sound," etc., such a roar went forth as was inspiring.

Next on the programme was an address by the ring-master in true professional style, telling what a world-wide renown we had, etc.

3. The performing cat and dog.
4. A song, "Michael Roy," with words changed to those of local places and people.
5. A young lady who performed on a donkey.
6. A song, "The Mermaid."
7. The only known living Mermaid. Lorelei sung while she performed.
8. Mrs. O'Grady and her baby, escorted by General Longshanks.
9. A song, "O'Grady's Goat," solo and chorus.
10. Danc'ing boy.
11. A song, "Faint Heart N'ere Won Fair Lady, O!" Solo and chorus.
12. Trained elephant.
13. Solo, "Little Johnny Had a Mirror."
14. The Lion.
15. "There Has a Circus Been to Town," etc., to the tune "There is a Tavern in the Town;" words as follows:

1.

There has a circus been to town, been to town,
A circus of a wide renown, wide renown;
For horrors and delights, 'nuff to keep you wake o' nights,
You can bet your bottom dollar on our show.

Chorus.

Fare thee well for we must leave thee, and we hope
We have deceived thee into thinking shadow critters
can't be beat, be beat.
Adieu, adieu kind friends, adieu, adieu, adieu,
We can no longer stay with you, stay with you;
We must hang up the roar, and dislocate each paw,
And try to put the elephant to sleep.

2.

Of all the shows you ever saw, ever saw,
You n'ere saw one like ours before, ours before;
With pasteboard, wire and string, and some feathers
for a wing,
We can turn you out an angel or a crow, don't you know.

Chorus.

We had rehearsed the thing until we could put it on to the stage quickly and smoothly. The clown and ringmaster had prepared endless regular circus jokes, conundrums and gags to fill up the gaps, and the entertainment was a success.

Now for the details of the work behind the curtain. The performing cat and dog were pasteboard masks, life size, stiffened with heavy bale wire, strips of tin, etc. They were fastened to two long strips of wood; each strip was jointed in the center in such a way that, by pulling out a little peg in each, they came apart, and the masks could be pushed together until they met. These strips were set one above the other, and the masks fastened (facing each other, about three feet apart) to each strip, by a single rivet, so that, by pulling the upper strips forward and backward, the masks rocked forcibly; this being done by two assistants, one at each end, lying down so that their shadows should not appear, a third assistant down in the center ready to pull out the little pegs in time for the climax.

The figures appeared first in charge of the clown and ringmaster. After a little conversation, a crosscut saw of tin was handed to them with a loop of small wire at each end; these loops they slipped over empty spools nailed to the forelegs of the masks. By taking a turn in each wire, the saw hung between them and the figures proceeded to saw, by fits and starts, and amid loud yappings and caterwaulings. Then the saw was removed, and at the same time the joint loosened in the strips, and the figures shoved together in a blood-curdling fight.

The performing lady was also of pasteboard, and so was the donkey. She had beautiful paper lace skirts, bangs and curls, and he had a rope tail. They worked on wires, one above the curtain, one a foot or so above the donkey. The upper wire was to suspend them from, two rings separated by a few inches of string slipping on this wire and arranged to pull backward and forward by long strings reaching from side to side. On the lower wire slipped the ring to which was fastened the center of a long piece of

cord, the ends passed through holes in the young lady a few inches apart, and about at her waist, the cord knotted before and behind her so that she was held in place about a foot from the lower wire. Her operator held the loose long ends of the string, one in each hand, the lamp-holder standing directly in front between the strings, so that her operator had to, so to speak, embrace the lamp-holder in working the mask, this is so that the shadows of the necessary strings should show as little as possible. He did not attach her to her suspending wire until the donkey had crossed on a runaway expedition alone. Teddy (the clown) holding on to his tail. When he was brought back behind the fly, she was suspended, and the two were drawn on together to the center of the curtain, she apparently in a sitting posture on his back. Her operator now raised her to a standing position; she then asks Teddy for her skipping hoop ("chicken soup did you say"). She then ducked her head into the shadow of the loop and proceeded to turn beautiful somersaults backward and forward, the donkey being carefully balanced gyrates on his own part from the motion of the maiden, and after a brief exhibition, not long enough for the audience to become too critical as to wires, etc., they are drawn off, the maiden turning continuous somersaults during the exit. An assistant brayed long and loud for the donkey to show that his exertions had not been the death of him.

The mermaid was a young girl with long hair and a pretty profile. She sat upon a rock (?) at one side of the stage, with a large pasteboard tail tied between her feet, and wearing a tight-fitting low-necked and short-sleeved jersey. Between her and the curtain, and coming about to her waist, was held a strip of cheese cloth, on which were pasted brown-paper fish, shells, a crab, an eel, lobster, etc. The strip was long enough to extend from one fly to the other, and was kept in motion to represent water. Up in the opposite corner was pictured a smiling crescent moon gazing down at her. The mermaid combed her flowing locks and admired herself in her handglass, or fed a fish with a mammoth mosquito hung on a piece of fine wire. Soon a boat about a foot long appeared, suspended from the donkey's ring and pulled across as he was; it contained a boatman and in the stern seat a passenger, held in place in a paper pocket sewed on to the boat. The boat glided upon the waves to the mermaid. His arms were outstretched to the mermaid. She took out the passenger at the same time turning the boat around, and it was drawn back for another passenger. The boatman brought in four passengers of different ages and occupations for the mermaid's inspection, she fed one to a fish, combed the hair of another gentleman, but finally dashed each one into the briny deep. The Lorelei was sung while she performed. At the end of the song Teddy swam in, his peaked cap coming just above the waves, embraced the mermaid, who thereupon shrieked vociferously and the lamp went out. Mrs. O'Grady was six feet two, a man dressed in high shoulder sleeves, hat trimmed high behind with a chignon and neck curls sewed to the back of it. A long mother Hubbard belted in high under the armpits and a woman's mask completed his outfit. "She" came in bringing her pasteboard baby for the clown to hold while she went to look at the lion. General Longshanks was summoned to escort her. He was a small boy in long trousers with a man's mask with expansive side-whiskers and a pillow stuffed under his coat in front, high hat and a cane. These two went out into the audience in search of the lion, shaking hands with the children, etc. After the laughter began to subside on their account, Teddy came in sight again trying to console the shrieking baby with a nursing bottle. After loud sounds of sucking it went to sleep and Teddy layed it in a chair. He then remembered a pet poem, after the recitation of which he absent mindedly sat down on the baby, who shrieked anew. Mrs. O'Grady burst upon the scene followed by the general and she picked up the baby under one arm and the general under the other and went off through the audience to the door of admittance.

For the dancing boy we made an enormous mask to fit over the head of a small boy, false paper hands tacked on to sticks which were suspended from his waist-line, with gags to the mask so that they could rise and fall with his movements. With knee and slipper bows he was complete, and he and Teddy danced to a jig and Teddy made appropriate remarks on precocious children. For the elephant and lion we made large masks and fastened them to cages made of heavy wire something after the style of a baseball catcher's mask. Two boys were needed for each animal; the hind boy leaned

over and held on to the boy who wore the mask. The elephant's boys wore large loose leggings and the lion's boys tight ones, with the back seams fringed out for hair. The elephant had tusks to his mask and a movable trunk of our universal "gunny sacks," which were also used for the lion's skin, as it could be fringed along the edge for hair. The lion had a rope tail sewed to a wire, the elephant a tightly-twisted gunny-sack tail, the wires long enough to pierce through their respective skins and out to hold them in place. Pillows on top of the suffocating boys are necessary for contour. Our elephant could turn round and gambol, as his shape was not hard to preserve. Then he rode some children on his back, etc. The lion was one-sided, but he could roar majestically. The roar was made by fastening a stout waxed cord through the bottom of a small wooden box (upside down), and fingers well rosined pass up and down the cord. When he roared he opened his mouth, the lower jaw of which was movable. With one hand held in behind the flowing main, the front boy pulled down the jaw, it being pulled back to place by a stout elastic. He was fed on paper puppies, birds, men, and finally a rattlesnake, which he spat out again with wrathful roaring. He was most effective sitting down, a box being shoved in from behind for him to sit on. The paper food was passed to him on the end of a long stick, near the end of which were tacked two small corks; pins were pressed into them, the sharp ends out so that the paper could be stuck on and taken off easily.

After our last song a commotion was heard among the "sups," and shouts heard that the lion and elephant had escaped. They rushed on from opposite sides of the curtain, fought amidst roarings from all hands; finally each animal divided into two parts and went off in sections, and so ended the circus.

Teddy and the ring master made up most excellent packing tissue with their jokes, little songs, etc., in regular circus style, having obtained for themselves a book of circus jokes compiled by a professional clown. At one necessarily long pause for preparation, a tale was read which played upon the names of most of the inhabitants in our small community, and created much amusement.

We had to work hard to get all things into running order, but as most of the assistants were of one household, we could have numberless little rehearsals in our big dining-room, and they were very good fun. Teddy wore a false nose, chin and ears, peaked cap with a spray of little bells on top, and regular clown's costume. His side face was a very good imitation of Punch.

It is quite necessary to have the working details carefully attended to—programs, written in large letters, should be in the dressing-room and on the stage. The properties of each member laid in order, and an overseer thereof, who (poor thing) will never see the shadows themselves, but must be sacrificed to the good of the cause.

One person should hold the lamp through rehearsals and public exhibition, as it takes practice to learn to move the lamp with the figures, which must be done to make clear shadows. It should be one person's duty to roar, cry for the baby, talk for the maiden and make her perform. Our chorus took part in the shadows, pulling figures on and off, working the cat and dog, etc. When we sang we stepped forward close to the curtain but behind it, the lamp between us and the curtain, so that our shadows did not show, but our voices sounded clearly enough. Very gorgeous posters can be made on sheets of brown paper, with blue and red carpenter's chalk. We sent our posters to all the postoffices in the vicinity, and finally got the consent of our friendly butcher to let us pin one to each side of his cart, so that they accompanied him on his route during the whole week previous to the performance. Our neighbors turned out most cordially and we had a "good house."

The part which consumed most time was the drawing of the necessary masks. If any one, on reading this, should feel moved to try a circus, they had better send for patterns of ours, or for any details to help along the good cause of trying to make a jolly evening for themselves and neighbors.

El Cajon, San Diego Co., Cal.

Beauty that Does Not Fade.

When a girl adopts a plan of self-improvement she begins usually with her complexion or her figure, but let us in confidence betray a beauty secret that deals not in cosmetics or lotions, that does not tend to injure the skin or fatigue the body, yet which adds more genuine loveliness to a woman's heart and mind than all the contents of the little jars and cut-glass bottles on my lady's

toilet table could ever hope to effect. Become a cultivated reader. Seek out the best, whether poetry, fiction or history, and you may depend upon it that such a course will do more toward making you a charming and delightful companion for those who appreciate the beauty of intellect than the fleeting power of a beauty that is not backed by brains.

Sore Throat.

The milder forms of sore throat are apt to be very common at this season of the year, because of the frequent changes of the weather, sharp and chilly at times, with shrill north winds and damp, and relaxing again with soft snows. The sudden changes also from a brisk outdoor air to stove-heated rooms are also pretty likely to produce irritations of the throat membranes, which, without being positively dangerous, may become so by neglect, and are in any case unpleasant enough to make a prompt remedy very desirable.

For these cases, where no severer trouble is at the foundation, there are one or two remedies usually at hand and generally effective. Where the throat trouble arises from a common cold, such as may readily develop into quinsy, the simplest remedy is a gargle made of chlorate of potash and cold water. There is no danger of using too much potash in this form, as chlorate of potash is a drug which makes what chemists call a "saturated solution." Where the throat is very much irritated, the gargle should be used at least once an hour, or may be alternated with old-fashioned salt and pepper gargle. The familiar household rule for the latter is two tablespoonfuls of fine salt, two tablespoonfuls of vinegar and half a teaspoonful of cayenne pepper, all dissolved in a quart of boiling water.

It is a good plan to give some simple home remedies which will produce perspiration, and also to keep the patient indoors for several days. As soon as such a cold is broken up, a good tonic should be obtained from the family physician. All colds are now believed to come from a degenerated condition of the system, which in itself shows the need of a tonic.—New York Tribune.

The Iron Chancellor's Narrow Escape.

A wooden leg and a dog nearly changed the course of European history. In 1865, just prior to the war between Prussia and Denmark, Bismarck was staying at Biarritz.

One morning, accompanied by a huge dog, he was walking along a road which runs along the base of a cliff, protected from the sea by a low wall, when he met an old French naval captain with a wooden leg, but powerfully built, and of a quick temper. The dog became unduly attentive to the captain's leg, and the Frenchman struck at the animal with the butt of his fishing-rod.

Bismarck used a round German oath, and the sailor followed with nautical emphasis. From words the two came to blows, and in a few minutes, Bismarck found that, strong as he was, the Frenchman was lifting him bodily upon the top of the sea-wall. Another moment and he would have been in the sea below, and the whole course of history would have been changed.

At the critical moment came help—by the irony of fate—in the shape of an equerry of Napoleon, who rescued the German from his terrible opponent. If that equerry could only have known for what he had saved him!—New York Ledger.

Chilblains.

On the first sensation of soreness or smarting, put the feet in a bath as hot as can be borne, rubbing them vigorously with a rubber toilet brush, or in default of this, a nail-brush. They should be kept in the water (which must be replenished as fast as it cools) for six or eight minutes; this relieves the congestion to which the burning and itching are due. A smart blow on the sole of the shoe with a light stick of wood will have the same temporary effect. Dry the feet briskly and thoroughly rub the affected parts with a mixture of equal parts of vaseline and spirits of turpentine. The feet should be warmly clothed and extremes of heat or cold avoided. The treatment should, in severe cases, be used daily for a week.

How to Put on Gloves.

The length of time a pair of kid gloves will wear depends very much upon the way they are put on, especially the first time. Never put on a pair of new gloves in a hurry; take plenty of time and keep cool. It is of great importance that the hand should remain dry and cool and be perfectly clean. It is well to dust it with a little plain rice powder to this end. Work the fingers well down before you put in the thumb, work the thumb in slowly, and then the rest of the

hand; begin at the second button and ascend, then return to the first button, which will now fasten easily without breaking or stretching the buttonhole.

Your hand will frequently be moist with perspiration when about to remove the gloves; in this case, pull them off wrong side out, so that the moisture can evaporate. When quite dry, turn the fingers and smooth the gloves into shape, laying them in a box or other receptacle long enough to receive them, except in the case of evening gloves, which may be folded half-way up the arm. Another way to make gloves last is to buy them large enough. A glove that is too tight presses the hand out of shape, makes it red, and is always in bad taste. Bracelets should no more be worn over gloves than should rings.—Jenny Mullen.

The Baby's Airing.

It is well to send the babies out for an airing every day, if they are confided to competent hands. But often baby's tender little body is jarred and wearied by being rattled over a rough road, bounced into and over gutters, and thumped over crossings at headlong speed, until it receives more harm than good from its outing. Almost every one knows what a difference there is in drivers; how one man will, however easy the carriage, take you to your journey's end feeling that you are black and blue from jolting about, while another will avoid every loose stone and moderate his speed at the rough places. Be sure that babies suffer quite as much as their elders from unskillful charioteers. It is perfectly easy to guide a child's cab over a gutter without a jar, but it is seldom done by a servant, and often not by mothers themselves. Not only are the little ones jerked and bumped along in this tiresome fashion, but they are kept hours in their carriages without change of position, getting numb and cold in consequence. This is quite wrong. Young infants should take the air in the arms of an attendant. Very serious evils result from subjecting their tender bodies to jars.—Hall's Journal of Health.

Early Morning Repartee.

"That's a curious milk pail of yours," said the milkman.

"'Tain't near as curious as that pale milk of yours," replied the servant-girl.

DOMESTIC ECONOMY.

NOODLES FOR SOUP.—Beat three eggs well without separating, add three tablespoonfuls of milk and as much flour as the eggs and milk will mix; roll out as thin as possible, cut into strips and dry half an hour. Boil for 20 minutes in plenty of boiling, salted water; drain dry. Brown delicately in a frying-pan with one tablespoonful of butter.

FISH CUTLETS.—Cut the fish in squares or in slices across the back, removing all the bones; dry, dip in batter and fry in deep, boiling lard. It is quite necessary that the lard should boil. When a gold color, drain till dry on brown paper and serve on a folded napkin with a quantity of parsley or cresses and a thin slice of lemon. A tomato, mayonnaise or tartar sauce may be served with the cutlets.

TRIPE LYONNAISE.—Cut up half a pound of cold boiled tripe into neat squares. Put two ounces of butter and a tablespoonful of chopped onion in a frying-pan and fry to a delicate brown; add to the tripe a tablespoonful of chopped parsley and a little strong vinegar, salt and cayenne; stir the pan to prevent burning. Cover the bottom of a platter with tomato sauce, add the contents of the pan and serve.

ALMOND FILLING FOR LAYER CAKE. Blanch a pound of almonds, reserve a dozen, and chop fine the remainder. Beat the whites of three eggs, adding gradually a scant cup of powdered sugar. When stiff enough to stand alone, save out enough to ice the top of the cake, and mix the chopped almonds with the rest. Spread this between the layers, and cover the top with the reserved portion. Split in two the dozen whole almonds, and arrange in a garland in the icing while soft.

MACARONI WITH TOMATO SAUCE.—Boil one-quarter of a pound of macaroni in plenty of boiling, salted water for 20 minutes or until tender. Drain in a colander, then throw in cold water for five minutes to blanch. Drain again. Stew one pint of tomatoes for 15 minutes, then press through a fine sieve. Melt one tablespoonful of butter without browning. Add to it two tablespoons of flour, mix until smooth; then add the tomatoes and stir until it thickens; season with salt and pepper; add the macaroni, stir gently until heated, and serve.

YOUNG FOLKS' COLUMN.

Like His Mother Used to Make.

"I was born in Indiany," says a stranger, lank and slim, As us fellers in the restaurant was kindo' guyin' him, And Uncle Jake was slidin' him another pumkin pie And a' extra cup o' coffee, with a twinkle in his eye— "I was born in Indiany—more'n forty years ago— And I hain't been back in twenty—and I'm workin' back'ards slow; But I've et in ever restaurant twixt here and Santa Fee, And I want to state this coffee tastes like gettin' home to me! "Pour us out another, daddy," says the feller, warmin' up, A-speakin' 'crost a saucerful, as Uncle tuk his cup— "When I seen your sign out yander," he went on, to Uncle Jake— "Come in and git some coffee like yer mother used to make"— I thought of my old mother, and the Posey country farm, And me a little kid again, a-hangin' in her arm, As she set the pot a-bilin, 'broke the eggs and poured 'em in"— And the feller kindo' halted with a trimble in his chin. And Uncle Jake he fetched the feller's coffee back, and stood As solemn, for a minute, as a' undertaker would; Then he sorto' turned and tiptoed to'ards the kitchen door—and next Here come his old wife out with him, a-rubbin' off her specs— And she rushes fer the stranger, and hollers out, "It's him!— Thank God we've met him comin'!—Don't you know your mother, Jim?" And the feller, as he grabbed her, says: "You bet I hain't forgot— But," wipin' off his eyes, says he, "yer coffee's mighty hot!" —James Whitcomb Riley.

Napoleon and the Sentinel.

HIS story has been told in many different ways; and, like many another event of like character, has been marvelously added to by different hands through which it has passed. I allude to the story of the sentinel who seemingly came so near running the emperor through with his bayonet in consequence of Napoleon's inability to give the countersign. The soldier's name was Coluche. He lived to a good old age, having died in the Hotel des Invalides, during the reign of Napoleon III.—I think in 1857. I recently met, at the White Mountains—and spent several days in his company—a gentleman who had often seen and conversed with the veteran in question. Said Coluche to my informant:

"They have made a very big story from a small affair. Indeed, it was no affair at all only for this: that the emperor happened to be the forgetful man. I will tell you just how it was: "Just before the victory of Ebersberg—Ah, how we did whip the Austrians on that day! You know, *monsieur*, that the Austrians, under the Archduke Charles, had taken advantage of the emperor's being absent in Spain—but he came to us very quickly when he heard; and he made Austria sorry. We entered Vienna a second time in grand style. But where is my story? As I was telling you, it was just after the victory of Ebersberg, in 1809, that I was posted at the entrance of a badly shattered building, in which the emperor had taken up his quarters. My orders were not to allow any person to pass my post except an officer of the staff was with him. In the evening, between nine and ten o'clock, a person, quite short in stature, wearing an old gray overcoat, came toward my post, and wanted to pass out. I lowered my bayonet and simply said: '*Nobody passes here.*' Those were the words I used. I never added, as has been so often imputed to me, 'even if you were the Little Corporal himself!' I had not the least idea, at the time, that I had the emperor before me.

"Well, the person came on, without seeming to notice what I had said; and then, with the quick movement of a French grenadier, I brought my bayonet to the full charge and called out, rather savagely, I must confess: 'Hold! If thou takest another step this way, I will run my bayonet through thy body!' I may have said, 'into thy stomach,' but it does not matter. The sound of my voice in this last speech brought out the whole of the staff, and then I learned that he was the emperor whom I had threatened to bayonet. His Majesty went back into the building, and I was given

over to an officer of the guard and marched off to the guard-house, where my comrades tried to frighten me.

"Ah, you are lost!" they said. 'You have committed a deadly assault on the emperor.' But they didn't scare me. It has been said that, when I was at length sent for to go before Napoleon, I was solely frightened; but those that said so lied. I said from the first: 'Our good emperor is a true-hearted soldier, and he will never punish a soldier for obeying orders.'

"And I was right. On the next morning I was brought before the emperor, and the very first words he spoke to me were these—he looked me keenly, in the eye for a moment, and then said: 'Grenadier, thou mayest put a red ribbon in thy buttonhole, for here I give to thee the cross.' And as spoke, he stretched out his hand with the cross of the Legion of Honor resting upon the ends of his beautiful fingers.

"Oh, what a moment it was when I caught his hand and kissed it! I was well-nigh blind; and it was rather to hide my feelings than for anything else that I made the reply which I did make—there's no mistake in that! Said I: 'Thanks, my emperor, but I know of no shop in the country where I can buy the ribbon.' Napoleon laughed and answered me—and he could be very pleasant when he felt pleasant. Said he: 'There's a girl in the *auberge* across the way who has a red petticoat. Get a piece of that.

"But I found a piece of ribbon—an officer gave it to me. So the woman of the *auberge* did not cut her red petticoat."

While Louis Napoleon was on the throne of France he received Coluche—then in his eighty-eighth year—at Fontainebleau, and had a long chat with him. Among other things he asked the veteran:

"Though you did not know it was the emperor, would you really have run him through the body and killed him?"

"No, sire," the old soldier answered. "I had planned just what I would do. I should have pinned him by the arm, and so held him till help came."—C. in New York Ledger.

Pleasing the Queen's Papa.

When Wilhelmina, the young queen of Holland, was a very little girl, her father was king of the country. He was a very old man, and sometimes the prattle of the baby Wilhelmina used to annoy him. This distressed the mother, who wanted the king to love his little girl; and so she used to try all sorts of pretty devices to please him. One morning a servant brought a great basket of flowers to the king's bedside, with the queen's compliments, and when the king stooped to smell of the flowers, out sprang the laughing Wilhelmina, wishing the king a very good morning.

Unruffled.

"I ain't crying!" said little Ethel, cheerfully, from the dining-room, where she was having a late and solitary breakfast.

"I'm glad to hear it," replied her mother from the adjoining room. "Why aren't you crying, my dear?"

"Cause," said Ethel, as she placidly watched the contents of her overturned oatmeal bowl flowing over the table and trickling down to the floor; "cause dere's no use crying over spilled milk."



A cream of tartar baking powder. Highest of all in leavening strength.—*Latest U. S. Government Food Report.* ROYAL BAKING POWDER CO., 106 Wall St., N. Y.

AGRICULTURAL NOTES.

CALIFORNIA.

Butte.

Register: Carl Rheinisch is planting ten acres of Jaffas, Navels, Mediterranean Sweets and Malta Bloods at Palermo.

Register: Judge Gray tells us his 50 acres of peach trees are looking well, and the crop promises to be a large one.

Register: The wet winters of the past few years show that almond trees must be planted on sandy or exceedingly well-drained ground.

Register: R. Power & Son of Rancho Manzanita have out 100 olive trees, 100 fig, 300 peach and 4000 orange trees, making in all 4500 fruit trees.

Register: There are three teams at work in the Citrus Grove in Thermalito. The owners have set out 35,000 young seedling trees this spring and have 100,000 orange seeds planted.

Register: Joe Seconi has planted lately 112 orange trees, which makes 400 that he now has on his land. Joe has dug out some apricot and peach trees to plant his oranges, for he considers that the latter will pay the best. He says we need a cannery here to make a market for the peaches.

Register: Mr. Hueston, who bought the Melton place, is planting ten acres of orange trees, and five acres are being planted on the Lon Rose place, while Henry Bird is setting out 200 trees. These items but serve to show the great number of trees that are being planted, for each day this week we have been picking up similar items.

Fresno.

Republican: H. Z. Austin and wife have returned from their wedding trip to the southern portion of the State. They visited all the noted places—Pasadena, San Bernardino, Redlands, Riverside, Redondo, Santa Monica, Santa Ana and Los Angeles—and, while the trip was pleasant and the localities visited beautiful, they were glad to get back to Fresno. Judge Austin says that, while the orange groves look splendid, they cannot compare as a commercial commodity with the raisins of Fresno.

Enterprise: J. J. Cline has shipped a lot of broom-corn to San Francisco this week. The broom-corn was a second crop, raised on land from which a wheat crop had been harvested. Mr. Cline secured about ten tons of the broom-corn, which is worth at present from \$75 to \$100 per ton in the San Francisco market. Freight on the product is \$15 per ton. Mr. Cline says he would have secured a larger crop and of better quality if the seed had been planted earlier, but, as an extra, the crop realized is satisfactory. This is an advantage enjoyed by our farmers. Two and three crops are easily obtained every season if a proper rotation is practiced. A heavy crop of corn and pumpkins can be taken from land after the grain crop has been harvested, or, as has been demonstrated by Mr. Cline, a valuable commercial crop of broom-corn.

Glenn.

Willows Journal: As an illustration of the benefits and value of irrigation, we cite the instance of a man at Elk Creek who has been paying a rental of \$200 per year for 367 acres of land. He has recently sub-let a piece of irrigable bottom land, comprising about nine acres, for \$200 for seven months. The value of land is thus increased 20-fold by irrigation.

Humboldt.

Home Journal: In spite of the oft-repeated predictions that some of the recent hard frosts had "cooked" the fruit crop, or at least certain varieties of fruit, no single confirmatory intimation has reached us that such is the case. Snow has about vanished from west-side summits and we shall hope that the promised splendid fruit crop will not be blighted by late frosts.

Times: Wm. Perrott of Table Bluff was in this city yesterday. He reports that the rain has delayed the work of putting in crops very seriously. On the Bluff they are nearly all in, but on Niggerhead very little is planted, and in a number of cases the ground is not yet plowed. More and more ground is being seeded to grass each year for dairying, toward which a number of farmers are turning their attention.

The recent storm has been rather severe on stock, as will be seen by the following from the Blue Lake Advocate: "The storm of snow and rain in the mountains, and rain on the low ground, has proved severe on stock. It has been the worst of the winter, and has prevailed at a period when it was least expected. We have at various times received intimations that the loss of lambs on the big stock ranches is heavy, our latest bit of intelligence being to the effect that on the ranges of Jonathan Lyons, J. H. Hooker, Jacob Beaver and other large ranches the loss has varied from 50 to 75 per cent."

Rohnerville Home Journal: In a reference to the small fruits industry, particularly applicable to this part of the El River valley, the Standard of last Saturday said: "An acre of ground properly cultivated and cared for will produce a wonderful amount of berries. It does not take many to weigh a pound, as those who have to purchase them will attest. If you are not aiding to feed the cannery this year, prepare to do so next. Have everything in readiness—soil well plowed and pulverized, cuttings of rooted plants of the best varieties ready, and, after the first rain, get them in the ground quickly as possible. Plant with a system and a view to gathering all the fruit your vines produce."

Kern.

Gazette: Something like 125 four-horse teams are employed at present in the extensive

work being done in the Poso country. This means considerable work.

Californian: J. Camidge, who bought a portion of the Dumble place, has been doing some business in lemons this spring. From two trees he has sold at retail about town over \$70 of fruit, and those who have used his lemons pronounce them the best in the market. Mr. Camidge has about five acres of seedling oranges which he will bud to lemons this year, the latter having proved so profitable. Little by little it is becoming known that Kern has some excellent citrus fruit territory.

Californian: The magnitude of the work that has been done by the Land Company this season in preparing new land for cultivation in and around Poso may be realized in part when one learns that over 150 miles of distributing canals have been constructed. Thousands of acres of land have been leveled, plowed and seeded. The preparatory work, which has been vigorously pushed, is nearly completed and there will soon be nothing left to do except to irrigate and then wait for harvest.

Los Angeles.

Pomona Progress: The largest orange yield yet recorded in this place is that of R. F. House's 17-year-old trees. He got last week 35 boxes from two trees, and has thus far sold and shipped 1200 boxes of fruit. The six acres on his place are estimated to yield 3500 boxes of oranges this year.

Merced.

Sun: A number of Modestoans participated in the rabbit drive near Livingston last Saturday. Although the trip was a hard one, one and all say that the pleasure of the "drive" well repaid them and they would not have missed it for \$10. Over a thousand persons were in line and 2000 or more of the long-eared pests were destroyed.

Monterey.

Gonzales Tribune: E. L. Hooper, the Merced capitalist who recently purchased over 1000 acres of the Gonzales ranch, has, we are informed, just concluded negotiations for the purchase of the Kilburn ranch, consisting of 1600 acres near Chualar.

Pajaronian: There is quite a decreased acreage in strawberries in the Santa Clara valley this year, and that section will not be a very formidable rival of the Pajaro valley in the strawberry market this season. One tract of 150 acres, near San Jose, went out of berries this year and several smaller tracts were given over to other crops.

Pajaronian: Thirty-five acres of beets have been planted at King City, and it is reported that the young beets are up and are making a good showing. This is a sample planting to test the adaptability of land in that section for beet culture, and the trial has been mainly brought about by the efforts of Joseph S. Cronk. Supt. Waters was there last week and was well pleased with the showing.

Salinas Index: Hon. Paris Kilburn, Surveyor of the Port at San Francisco, has sold his fine ranch of 1600 acres, near Chualar, to E. L. Hooper, a Merced capitalist. The price has not yet been made public. It is understood that Mr. Hooper will subdivide the land, together with 1000 acres of the Rincon de la Punta del Monte recently purchased by him, and sell it in quantities to suit purchasers.

Rustler: H. Atkinson, whose place in Green valley shows what can be done with a "little farm well tilled," has an abiding faith in the future of this section as a fruit-producing region. In an orchard of 18 acres he has not less than 41 varieties of fruit and nut-bearing trees, all of which are doing well. His place is above the frost line and he has an orange grove of 50 trees, a large portion of which are three years old and are in bearing. His industry and care was rewarded by a fair crop of oranges this season, for which he received a good price.

Pajaronian: The sugar-beet experimental planting at King City is attracting much interest in that section, and if the yield is at all satisfactory there will doubtless be a big planting there next year. While Supt. Waters was there one land-owner was desirous of knowing if he would accept a contract for 12,000 acres next season. The sugar-beet area is growing in this part of the State, and with the freight rates and facilities that are being offered, the Watsonville factory and enlargements can handle it all as time increases the offering. It will yet be the largest beet factory in the world.

Pajaronian: Judge Sam C. Smith, of Pajaro, was in town last Tuesday and showed a Rustler reporter two curiously marked hen's eggs. One of them bore the well-defined imprint of a snake wound around the surface of the shell. There was a similar imprint on the other egg, but the outlines of the snake were not so plain. The judge avers that the marks are natural and that the eggs were just as he took them from the nest. In explanation of the strange appearance, Mr. Smith says that the hen laid the eggs in a small alfalfa patch in which he keeps a tame gopher snake. The hen is very much afraid of the snake and the Judge advances the theory that the imprints on the shells of the eggs are due to the ante-natal influence of the snake upon the imagination, so to speak, of the hen.

Orange.

Blade: Our reporter visited the Fairview creamery yesterday and found everything bustle and activity there. Five thousand pounds of milk are being handled daily, and a large quantity of butter is being manufactured.

Blade: It is estimated that there will be six hundred carloads of oranges shipped from the Santa Ana valley this season. This, at a low figure, will bring in a revenue of \$180,000, a large proportion of which will be distributed among pickers, packers, box-makers and ship-

pers, and this is but one line of the products of the valley.

Orange Post: It is a somewhat novel sight to see between 400 and 500 chicks of the same age and size in a bunch. That is what two large-sized incubators on P. D. Young's ranch turned out this week for Mr. Field. One of the incubators was a Petaluma, and the other the Jubilee hatcher.

Gazette: Commissioner Perry burned 430 apricot trees at Fullerton one day last week that had been imported from Missouri, and were infested with peach borers. A number of orange trees infested with woolly aphis were also discovered at that place by the commissioner, who has an eagle eye and is alert in his business. The orange trees had been set out in orchard, and Mr. Perry gave the orchardist ten days to grub them out and burn them, which is the provision of the law, failing in which the commissioner will destroy them himself.

Gazette: Considerable annoyance has been caused during the past few days on account of the "yellow flies," which appear on the mesa usually about this time every year and stay with us about ten days or two weeks. They are said to be unusually severe upon horses this trip, and they have appeared in larger numbers than usual. It is not an uncommon sight to see horses covered with nettings to protect them from these insects. They have appeared in swarms on the La Habra, and have succeeded in setting horses almost crazy over on the foothills. A farmer in that direction, some years ago, was compelled to do his cultivating at night, as his horse could not stand the flies in daytime.

Placer.

Newcastle News: Never before in the history of the Newcastle fruit belt was everything so encouraging for a bountiful fruit harvest. Although the season is somewhat late, the yield will be very large, all danger of any consequence being now past. The shipments from Newcastle alone this coming season will probably aggregate 18,000,000 pounds, and, with a short Eastern crop, the prices obtained will probably be as good as those of last season. Strawberries will be coming in within a week or two, and cherries will soon follow. Already the fruit houses are receiving orders for fruit for Eastern shipment, mostly from new points, which is a good sign that our fruit will be in great demand this year. The quality of our fruit, too, causes it to be much sought after by the trade generally.

Sacramento.

Bee: Ed. Manlove, the well-known horticulturist of Rontier's station, in speaking to our reporter regarding the approaching fruit crop, said that the peach and apricot crop would be very light on account of the cool rains while the trees were in bloom. The plum, prune, cherry and grape crop, however, promises to be large.

San Benito.

San Benito Advance: Mr. Sam Matthews of the Topo, recently purchased 200 head of cattle on the Merced ranges, at \$10.30 per head, with 40 calves thrown in. Sam will make barrels of money this year. He has the finest lot of beef cattle in the two counties.

San Diego.

Register: Recent reports from all points of the State show a fine prospect for a huge grain yield. It is better than any reported for two years, and the new acreage sowed this year will greatly increase any former figure. San Diego county, embracing the San Jacinto valley of 110,000 acres, heads the list.

Advance: Interviews with a number of orchardists show that a heavy yield of fruit of all kinds is looked for during the ensuing season. There have been no severe frosts to nip the buds, and the young fruit has set splendidly. The crop of cherries will be large. Prune trees are heavily loaded and many will have to be thinned out. Apricot trees will produce an abundant crop in most localities, while some are destitute of fruit. Upon the whole, the outlook for orchardists is exceedingly bright. Good prices are anticipated for all varieties of fruit.

Register: Thirty different species of birds were identified during a drive out from San Jacinto, as follows: Cinnamon teal, killdeer, Carolina dove, valley quail, desert sparrowhawk, Nuttall's woodpecker, Arkansas kingbird, road runner, black flycatcher, turkey vulture, redwinged blackbird, yellow-necked blackbird, Brewer's blackbird, western meadow lark, Bullock's oriole, house finch, Heerman's song sparrow, chipping sparrow, lark finch, Bell's sparrow, California towhee, California shrike, Audubon's warbler, summer warbler, western yellow-throat, least vireo, blue-gray gnatcatcher, western bluebird, mockingbird and redstart flicker.

Santa Barbara.

Times: Our dairy ranches are covered with the best coat of feed they have had for years. Ordinarily the first grass that starts is killed by drouth, but this year there has been sufficient moisture since the first rains to keep everything growing. It has made a slow top growth, which gives it great strength, and none is wasted in rank fiber.

Times: Light crops are found only on the very sandy land, where they are always short of a wet year. In talking with the farmers, we conclude that the acreage of small grain will exceed that of last year, while the land prepared for summer crops is somewhat short. The acreage to beans will be considerably under that of last year, and more corn, potatoes, pumpkins, etc., will be planted.

Times: The fruit crop promises to be the largest ever harvested in this valley. With but few exceptions, all fruit trees are hanging full of fruit or bloom, and it is too late in the season now to expect severe frosts. The cold rains

that prevailed during the time that apricots were in bloom killed most of the blossoms on some trees in the valley, but these are only isolated cases, and on trees where a few days ago it was thought there would be no fruit, it now appears that there will be a very good crop.

Santa Maria Times: A trip through the valley discloses the fact that an abundant harvest is at hand. Grain is not as tall as it has been other wet years, and for that reason none of it is down and none will be lost. The prevailing cold winds gave us a backward spring, which is another item in favor of small grain and the natural grasses. There is no sign of rust. All vegetation is well rooted, and consequently will mature perfectly.

Santa Clara.

Saratoga Standard: Vineyardists have procured their supplies of sulphur for the coming season. Many who through economy formerly used California sulphur have decided that the higher price French sublime is cheaper in the end.

Gilroy Advocate: Mr. Ogden has sold his ten acre orchard and all improvements thereon to Massey Thomas Sr. for \$8,000. This place is situated about a mile south of the town, and was originally a part of the Reeve tract. The land is of the best in the valley. Trees four years old are, on account of the rich nature of the soil, of extraordinary size, and this year are full of fruit buds. There will be no failure of the apricot in this orchard, and the prune which covers half the ranch will be a heavy crop.

Santa Cruz.

Fruit growing in Santa Cruz county is a safe and profitable business, and in some seventeen years' experience I have not known of a failure or even a short crop, as compared with other counties in the State.

H. Aiken in Santa Cruz Sentinel: To say that the apricot and prune crops would be short, even before they are in full blossom, is a wild guess, with no possible information with which to base an honest opinion. If abundant and healthy blossoms can be trusted to bear fruit, we never had a better prospect of a large crop, but no positive statement of the result can be made before June.

Solano.

Republican: L. B. Abernathie, Joe and Henry Bassford went over to Maine Prairie last week in quest of geese. On Sunday they returned with thirty geese as the result of their skill. Abernathie claims to be the champion wing shot of the valley.

Republican: The other day Joel Price brought into the office a piece of wood cut from the heart of an oak tree, in which were a lot of acorns in a good state of preservation. They had been there so long a time that the hole through which they were inserted had completely closed.

Sonoma.

Republican: A prominent fruit man stated to a Republican man Friday that he greatly feared the apricot crop in this county would be a failure. The recent heavy rains have made the ground so moist, he says, that but little fruit will form. As there are over 8000 bearing apricot trees in the county, it will be seen that, should the gentleman be right in his surmise, the loss will be considerable to the fruit interests.

Sebastopol Times: You may talk about your big pumpkins, cabbages, and other garden truck, but Dan Hall, who lives four miles south of town, has a grapevine on his ranch that surprises even Nature herself. This grapevine reaches from the ground to the top of a picket fence and then runs along the fence in opposite directions for a total distance of 210 feet. It is at least a foot and a half in circumference where it parts, and has numerous lateral shoots, many of which have descended to the ground and taken root. This one vine bore a ton of grapes last year.

Tribune: There have been many absurd stories afloat about the crops in this neighborhood being damaged by the rain. From present appearances the fruit crop this year will be something enormous, up fully to the heaviest yields yet. If it is true that blossoms have been blown off the trees, so much the better. In late years the crops have been so large as to necessitate stripping the trees of nearly one-half their bearing, in order that the fruit may develop to a good size. In stripping the trees a great expense is entailed, and, in case there will be a smaller product this year, fruit-growers are relieved of this expense. The indications are that this will be a profitable year for producers of fruit of all kinds.

Tehama.

T. C. Swain sent in on Saturday the first load of spring wool, and the clip warranted the expectations of the sheep men of a good, clean shearing for the wool far more attractive than the usual spring clips, says the Red Bluff News. The cleanliness is due to the absence of warm weather, which has been unfortunate to the sheep men in the loss of lambs, and they are now praying for good prices when they are relieved of their semi-annual crop.

Ventura.

Democrat: The prospects have never been better at this time of year for a bountiful honey season. Several bee men with whom we have recently conversed feel confident of securing an unusually big honey harvest, if the weather continues at all favorable.

Yolo.

Winters Cor. to Democrat: A trip through the various orchards in this vicinity affords an opportunity to view one of the grandest spectacles to be witnessed in the State. The trees in all their luxuriance of bloom and foliage make a picture that cannot easily be forgotten.

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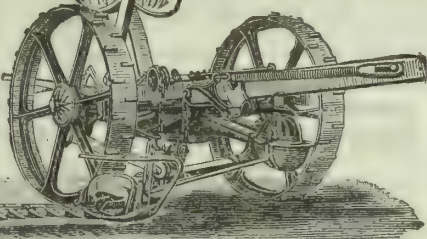
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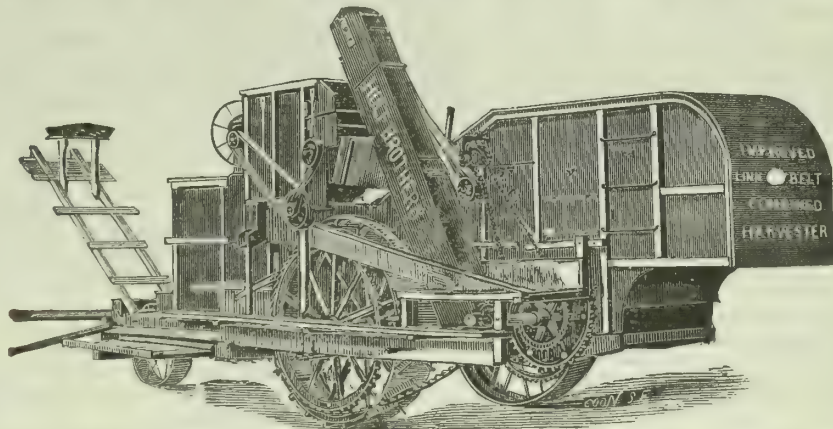
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THE RIFE HYDRAULIC ENGINE is the most simple and efficient machine yet devised for elevating water for irrigation, filling railroad tanks, supplying mills, factories, dairies, stock yards, country residences, small towns, and for various other purposes. This ram is self-operating, constant in action, and is not only much more efficient than anything of the kind ever put upon the market, but from absence of wearing parts, more durable and every way reliable. Many may be referred to that have run for years, elevating water in some cases from 100 to 300 feet without any attention or expense in the way of repairs.

These machines have already come largely into use in all parts of the country, and are rapidly superceding every other device for the purpose. They will work effectively under a head as low as two feet and for every foot of fall will elevate 20 feet. By means of an adjusting lever the capacity of any of the various sizes can be reduced 50 per cent or more, as may be desired, to provide for a variation in water supply, without disadvantage or loss in efficiency.

WATER RAISED AND WASTE.—The fall from the spring, stream or other source of supply to the engine determines the height of which the water can be elevated, as well as the relative proportion between the water raised and wasted, the quantity raised varying according to the height it is carried and the distance conveyed. For ordinary purposes it is sufficient to say that with a discharge pipe 1000 feet in length, one-sixth of the water can be raised and discharged at an elevation five times the height of fall or one-twelfth ten times the height of fall.

Parties writing for information should give the quantity of water that can be supplied to the engine, either in gallons, cubic feet or miners' inches; the head or fall from source of supply to point where the engine is to be located, length of drive pipe, height to which the water is to be raised, distance from engine to place of discharge and the quantity of water it is desired to elevate. No reliable information can be afforded without an explicit answer to these inquiries.

MEXICAN PHOSPHATE AND SULPHUR CO.
SEASON OF 1893.

NITROGENOUS SUPERPHOSPHATE

AS AN EFFECTIVE FERTILIZER IT STANDS UNRIVALED.

.....Send for Circulars.....

H. M. NEWHALL & CO., Agents,

309-311 Sansome Street.....San Francisco, Cal.

DANIEL BEST'S NEW STEAM HARVESTER.

AWARDED FIRST PREMIUM AT CALIFORNIA STATE FAIR.

SHOWN AS AT WORK IN THE FIELD.



This Harvester is run in connection with the Best Traction Engine, which I am now building for that purpose, both being combined to run as a Steam Traction Harvester.

An Auxiliary Engine is used on the Harvester, taking steam through a flexible steam pipe from the boiler of the Traction Engine, doing away with all gearing necessary to run the Harvester, the effect being a steady, uniform motion at all times and in all conditions of the grain, and at any speed the Harvester may be running.

For fuel, straw, wood or coal can be used, the straw being taken from the rear of the separator by a conveyor to the furnace door of the engine, making it very convenient to fire.

These Steam Harvesters were run successfully; all last harvest, giving entire satisfaction in all ways, in grain in all conditions.

Estimates given for any size of machine desired, from 14 to 40-foot cut. Every machine fully guaranteed, same as the horse-power machines.

I hold patents for conveying steam from the boiler on the Traction Engine through a flexible pipe to the auxiliary engine on the Combined Harvester, making mine the only complete Steam Combined Harvester in the market.

SEND FOR CIRCULARS. ADDRESS:

DANIEL BEST, San Leandro, Cal.

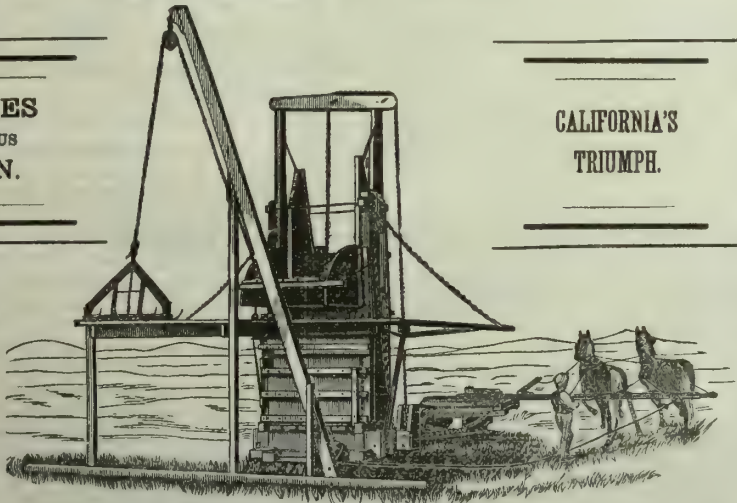
HILL'S IMPROVED LIGHTNING BALER

Capacity 44 Tons or 343 Bales per Day.

AWARDED FIRST PREMIUM BY THE CALIFORNIA STATE AGRICULTURAL SOCIETY FOR 1890, 1891 AND 1892.

MULES
VERSUS
MEN.

CALIFORNIA'S
TRIUMPH.



No tramping. No forking from the Stack. No cutting of Stacks Necessary. You can sit at a hundred-foot stack and bale it without a move. It makes the best bale in the market. You can put 10 tons in a car. The forking from the stack is all done by the horses. The baler can turn out more hay in less time and in better style than any other press.

— MANUFACTURED BY —

Pacific Wheel and Carriage Works,

J. F. HILL, Proprietor.

— AGENTS FOR —

Avery Granite Chilled and Steel Plows.
Deering Mowers and Reapers.

Office and Factories, Nos. 1301 to 1323 J St., SACRAMENTO, CAL.

SEND FOR CIRCULARS.

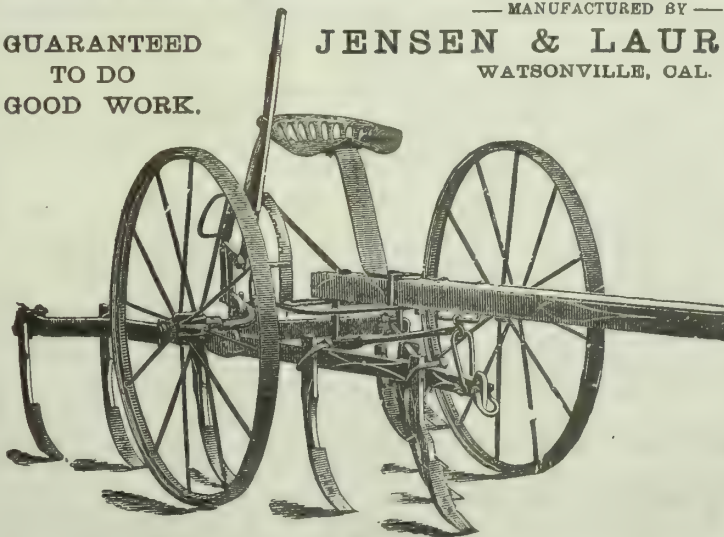
SIMPLE! STRONG! SUPERB!

McLean's Patent Orchard Cultivator.

— MANUFACTURED BY —

JENSEN & LAURITZEN,
WATSONVILLE, CAL.

GUARANTEED
TO DO
GOOD WORK.



Any kind of shaped tooth can be bolted on.

New device for lifting out of ground that makes it very easy for operator.

Three sizes are made — 7 teeth, cut 4 feet; 9 teeth, cut 4 feet; 11 teeth, cut 6 feet.

Write for circular and prices.

GEM STEEL WIND MILL WITH GRAPHITE BOXES.

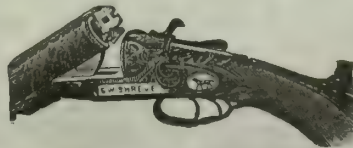
Never Requires Oiling or Climbing of Towers.



Guaranteed more durable without oil than other mills that are oiled. Practically, these mills require no attention. TRULY A GEM, and worth its weight in Gold. It combines beauty, strength, durability and simplicity. Governs itself perfectly, is easily erected and is sold on its merits; in fact, it is the best mill on earth. They are geared back three to one—the wheel making three revolutions to one stroke of pump—making them run in the lightest wind or breeze. The mill is made entirely of Steel and Cast Iron. Each one of our Gem Wind Mills is warranted. If not satisfactory, freight will be paid both ways and money refunded. We also carry Pumps of all kinds, Tanks, Pipe Fittings, Hose, Etc.

WOODIN & LITTLE, 312 MARKET ST., SAN FRANCISCO, CAL.

Send for Price Lists
OF GUNS
And all Articles used
by Hunters and
Anglers.



GUNS SENT ON
TRIAL.

OLD GUNS TAKEN
IN EXCHANGE.

GEO. W. ISHREVE, 525 KEARNY STREET, SAN FRANCISCO.

PATRONS OF HUSBANDRY.

Grange Correspondents.

The invitation of the editor of the RURAL to the several subordinate Granges to commission regular Grange correspondents has met with a most gratifying response. Thus far eleven Granges have named their correspondents. Others will follow this example at their first meeting, and we have hopes that by the 1st of July every live Grange in the State will be represented in the Grange Department of the RURAL. At present the list stands:

GRANGE.	CORRESPONDENT.
Yuba City.....	George Ohleyer.
Merced.....	E. L. Spinks.
Pescadero.....	M. A. Manley.
Stockton.....	Miss Lou E. Overhiser.
Millville.....	Miss Nellie B. Garrecht.
New Hope.....	Miss Carrie Carleton.
Clements.....	N. Dill.
Grimes.....	
Waterloo.....	
Petaluma.....	Mrs. Theo Skillman.
Glen Ellen.....	F. E. Hunter.
Tulare.....	J. W. Mackie.

The first fruits of this new system are presented in this issue in the shape of three excellent letters, one from Pescadero, one from Clements, and another from Petaluma. These are worthy to stand as models, for they give in brief and clear form just the information which Patrons in all parts of the State are anxious to have.

The editor has received a letter from Past Master Webster which deals plainly with matters of interest to all Grangers; and, although it was (probably) not written with the idea of being published, we take the liberty of giving it to the Grange public:

CRESTON, April 23, 1895.

Alfred Holman, Editor and Manager Rural Press—DEAR SIR: Your favor of the 10th inst. was received here during my absence from home, hence the delay in replying. In answer to your suggestion that there should be a correspondent selected by each Grange in the State for the purpose of sending reliable news to the RURAL PRESS, will say that there has not been a regular or special Grange meeting held in this county for the last eighteen months, save possibly at Arroyo Grande. It has been impossible to maintain our Granges in the face of the gaining weight and influence of the Alliance. We have had the aid of Brothers Overhiser and Huffman in the endeavor to revive our Grange fortunes, but without effect, and I feel it is useless to struggle against the fates. Three years ago I secured a hall for Creston Grange to meet in and have paid the State Grange dues out of my own pocket, with the hope of revival, but the feeling among our farmers appears to be for more radical action socially and politically than the Grange affords, and this feeling is apparently extending, at least from the center to the southern limit of the State. Yours fraternally, J. V. WEBSTER.

The facts of this letter are worth being carefully digested, and if it be a fact (and Mr. Webster has a habit of dealing plainly with facts), that the Grange is not meeting the wants and necessities of one-half of the agricultural population of the State, then the Grange needs a thorough stirring-up. The subject is one which appeals to all Grangers, and we would be glad to hear the views of individual Patrons concerning the state of facts presented by Past Master Webster.

From the Worthy Master.

Two Rock Grange, always to the front, celebrates Flora's Day on Thursday, May 4th. A big time for all who attend.

Glad to see so much interest taken by subordinates in the Grange Temple cause. Let California bear her share in this great undertaking!

Won't Bro. Overhiser tell us how many new Granges he has on his hooks? No doubt he has more than some of us know about.

Sacramento Patrons will have a glorious time at their county picnic. Let all attend!

The Master is glad to know that so many able Patrons have been selected to send correspondence to the RURAL. From and after this date, his notes will be fewer and farther between.

Don't forget the glorious Fourth of July! Let subordinate Granges and Native Sons see that the day is properly observed.

It is to be hoped the persons appointed correspondents for the RURAL by the several subordinate Granges will discharge the duty imposed with promptness, and that each will take pains to gather Grange and agricultural news of interest to all. By so doing, they

will add to the worth both of their Grange and of their paper.

Pomona Grange of Sonoma county held a very successful meeting at Petaluma, Wednesday, April 19th. There was a large attendance. The degree of Pomona was conferred on a class of ten candidates. The next meeting will be held at the Hall of Bennett Valley Grange.

Children's Day for Sonoma county has been fixed for Sept. 11th next by Pomona Grange, but several members want to reconsider, and claim the date fixed is too late in the season. What is the matter with July 4th, at Dillon's Beach?

It is often much easier to *whereas* and to *resolve* that it is to do the things suggested in the preamble and in the resolutions. This, all who have to do with parliamentary bodies, will admit. We find, now and then, resolutions opposing what somebody is reported to have said, without first knowing what was *really* said. It is well enough for grangers to know what they resolve about before they go too fast or too far. Better get in the middle of the road, and, after throwing out some of the stones, go a little bit slow. Sometimes there may be a hen on the nest and in such event it is not well to make too much noise before getting the egg, else the hen may leave the nest.

Anent the removal of the State Capital. There are few taxpayers who favor its removal to San Jose, *unless* the people of Santa Clara county will give the \$1,000,000 and the ten acres of land as they had *agreed to do*. If they do these things the property of the State will not be heavily, or at all taxed on account of its removal, provided the money is *honestly* expended. We suppose each individual in the State has a right to express his *personal sentiments*, even on this subject. Individuality is a great attribute. The person who is always known for independence has both friends and enemies, and of the latter he is usually as proud as of the former.

At the election of November, 1892, the people by an overwhelming majority decided in favor of an educational test for voters. The State Legislature—the body that has to submit amendments to the Constitution—has recently been in session, but there was no action taken by the Legislature looking to the amendment of the Constitution as requested by the people. So we seem to be as far from an educational test for voters as we were before the people voted, almost as a unit, for such an amendment. That there might be no mistake on this subject, a letter of inquiry was sent to the Hon. E. G. Waite, Secretary of State. Here is his answer:

SACRAMENTO, April 21, 1893.

E. W. Davis—DEAR SIR: In reply to yours of the 18th I have to say that the late Legislature passed no act ratifying the action of the voters at the general regarding "an educational test for voters." Yours truly, E. G. WAITE.

And thus it is that the will of the people is often forgotten by public servants. But there will be another Legislature one of these days.

The Grange Field.

How They Turned a Dying Grange Into a Live Grange at Clements.

TO THE EDITOR:—I called the attention of our Grange to the circular I received from you, with the result that I got myself into trouble, for the consequence was the Grange appointed your humble servant as correspondent.

In regard to Washington Grange perhaps a little past history of it would be of interest. A little over one year ago, at a meeting of our Grange when there was only a quorum present, the question was raised: "How could we obtain more material for our smoldering Grange?" The suggestion was made that each one form himself into a committee of one for the purpose of soliciting applications. The result was we had four applications at our next meeting and soon followed with seven more, making 11 for last year. This year a class of 11 has just reached the Master's desk (I will tell you how we got them in the future) and now we have interesting meetings every two weeks. We have a Literary Committee composed of four sisters, the chairman of which is our Worthy Overseer, who, by the way, is an efficient worker and unmarried. They furnish us with literary exercises composed of recitations, songs, etc. Then we have for discussion the subjects of agriculture, horticulture and some of the leading political questions. We go away from our meetings feeling that our Grange is progressing and that we are well paid for our time spent in attending. Owing to the continued rains during the winter, the acreage seeded to grain is smaller than usual in this part of the country. There is some complaint of the fruit falling from the trees. Yours truly, N. DILL.

Clements, April 17, 1893.

A Bright Letter from Pescadero.

TO THE EDITOR:—Pescadero Grange No. 32 is in what may be termed a thriving condition for such a "Sleepy Hollow" as its location. Being far from a railroad center, we are naturally a quiet set, and would possibly make no effort to live were we not so ably led and awakened by our Worthy (in every sense of the word) Master I. C. Steele. He drives 14 miles twice a month, not deterred, save

when it rains pitchforks, and brings with him his talented family of musicians. This forms a magnet which none of us resist, and we try to emulate the good example. There are among us some would-be essayists, also a few extemporary speakers from whom we derive benefit and pleasure. All are capable of selecting good and interesting scraps of literature to read, and, as all are called upon and cheerfully respond, we never fail to have an interesting and profitable meeting. The Grange is in this town what it is intended to be—a pure, moral society and a good educator. We always have a fair attendance, though our meetings are in the afternoon when so many must work. To say that those who are able to come do so, and always enjoy themselves, would be to repeat what they say, and what I have already said. At our next meeting the sisters are to decide what they will do toward the "Grange Temple Fund." We will discuss the subject of "Electricity" and whether in the present age of civilization man can live up to the Golden Rule. The Worthy Lecturer expects bright reasoning from all. M. A. MANLEY.

April 16, 1893.

The Situation at Petaluma.

TO THE EDITOR:—Petaluma Grange, No. 23, P. of H., held its last regular meeting Saturday, April 22d. The attendance, as usual for some time past, was not so large as could have been desired. The inclemency of the weather during the winter months doubtless deterred many from forsaking their cheerful firesides for the purpose of meeting with the brothers and sisters of the Order, but now that pleasant weather is assured, if the attendance continues light it can be ascribed to no other cause than lukewarmness.

We have some live, energetic members, however, who are loyal to the Order in sunshine and storm—always at their posts, faithful in their discharge of duties, active, and earnest, and diligent. For such we are truly thankful. Possibly by the introduction of more enlivening topics for general discussion a deeper interest may be aroused.

The convening of the State Grange in our city is still the all-absorbing theme, and intending visiting Patrons can depend upon receiving a most cordial welcome from the citizens in general and the Grangers in particular. No effort will be spared to render their brief sojourn with us pleasant and happy.

Pomona Grange assembled in Petaluma Wednesday, April 19th. Many were present from Petaluma, Two Rock, Sebastopol, Santa Rosa and Bennett Valley. An able and stirring address was delivered by W. M., E. W. Davis and others. Favorable progress was reported by representatives of subordinate Granges. After the transaction of some further business, an adjournment was taken to a neighboring banquet hall, where a sumptuous feast was spread. Business perplexities were forgotten, and mirth and sociability reigned supreme.

After ample justice to the viands, the Grangers returned to their hall, where the Fifth Degree was conferred upon a class of ten. All present united in declaring that it had been a day most profitably and pleasantly spent. ELEANOR SKILLMAN.

Petaluma, April 24th.

Grange Social at Sacramento.

TO THE EDITOR:—Sacramento Grange, No. 12, gave its second social on Saturday evening, April 22d. Miss Gussie Wilcox sang "Waiting for the Footfall," Miss Flora Greenlaw read effectively "Aunt Patience Douglass," the drama, "Aunt Susan Jones," was well presented, the characters being assumed by members of the Grange. At its conclusion, dancing was indulged in by the young people, refreshments were served in the banquet hall, and the occasion was enjoyed by the large number present. CORRESPONDENT.

Sacramento, April 24th.

Sacramento Picnic.

Sacramento Record-Union.

The Grangers of the county are making preparations for their annual picnic, which is announced to take place on the 6th of May, at Graham's grove, near the town of Elk Grove. These yearly outings are the most enjoyable affairs in the picnic line that take place within the county.

The Grangers never do things by halves, and have no superiors when it comes to arranging the details of a feast in the woods; they are "right at home." Graham's grove is one of the most charming spots in the county, and is accessible by rail and good wagon roads from all directions.

The Hussar band has been engaged to provide music for the occasion. Regular trains will leave the depot in this city at 8:30 and 10:40 A. M., and returning will arrive at 2:50 and 7:05 P. M. The grounds are but a short distance from Elk Grove, and there will be conveyances on hand to carry picnickers back and forth for ten cents each. Admission to the grounds will be free.

A Grange Real Estate Transaction.

San Benito Advance.

It is reported that the managers of the Grangers' Union are negotiating for the purchase of the McCroskey block, on the corner of San Benito and Fourth streets. This site is one of the most valuable business blocks in town, and it seems strange that it has lain so long without attracting the attention of local capitalists. The property was sold during the boom several years ago, but the buyers refused to complete the purchase on account of a technical defect in the title, which has since been corrected. The refusal of the parties to purchase was a most fortunate thing for Mr. McCroskey, as the property has since trebled in value.

From Yuba City.

Sutter Independent.

The session of Yuba City Grange on Saturday last was chiefly occupied by considerations growing out of the coming picnic. The committee on grounds reported progress and were inclined to favor the grove at the cross-roads near the residence of B. F. Walton, Esq. It is a grove of eucalyptus and locust, and covers five acres of ground. The locality is readily accessible from four points and was thought to meet the requirements. At Saturday's meeting the almond grove of George Walton was spoken of, which is situated in the same vicinity, being much larger and the shade more dense. The selection was deferred until the latter should be in-

spected by the full committee with authority to decide and promulgate their choice.

George Ohleyer, committee of one to procure a speaker, reported that in obedience to instructions of the general committee he had written to Colonel John P. Irish, at Oakland, inviting him to address the people on that occasion, and had just received a reply wherein Mr. Irish had accepted the invitation and promised to be with us on May 11th.

A number of applications to become members were received and filed for future action, and two were admitted by card.

The session was interspersed with the rendition of an interesting program consisting of vocal and instrumental music, recitations, impromptu remarks, and discussion on points of order, all of which took a wide range and were productive of considerable amusement and instruction.

The Grange will meet May 6th at the usual hour for degree work.

At the second meeting in May it is understood a journal will be read by Miss Belle Greely, the editor, the most eminent writers in the State being under engagement to contribute to its columns. These dates should be made a note of and all be present. It may also be stated that the play called "The Milkmaid's Convention" is in active preparation by the ladies of the Grange and will be given to the public some time during the early summer.

The Secretary's Column.

By A. T. DWYER, Secretary State Grange of California.

GRANGE PICNIC ANNOUNCEMENTS.

Selma Grange, Saturday, May 6th.
Yuba City Grange, May 11th.
Sacramento Co. Pomona Grange, May 6th.
Contra Costa Co. Granges at Concord, May 13th.
Alameda and San Jose Granges at Alvarado, at 10 o'clock A. M., Saturday, May 13th. The Pioneer associations of Alameda Co. have also been invited to participate.

BRO. F. E. HUNTER has been appointed as correspondent for the RURAL PRESS for Glen Ellen Grange. G. N. Sanborn ditto for Sebastopol.

THE picnic announcements in this department indicate an appreciation of the social features of our Order. Let our Patrons be active to make good use of such occasions for disseminating knowledge of the needs and benefits of our Order.

A STATE GRANGE PICNIC.

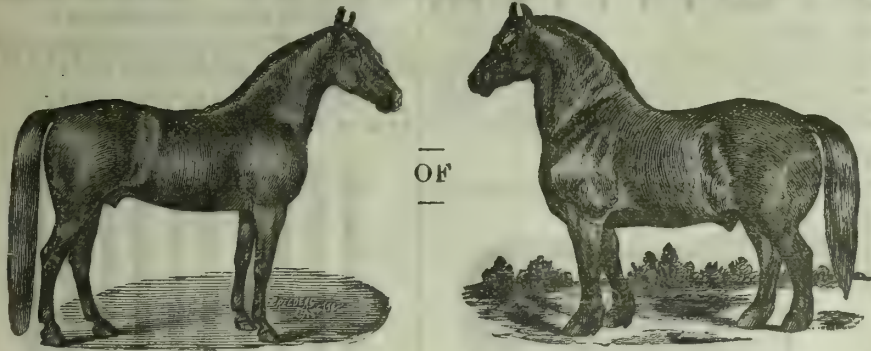
BRO. E. C. Shoemaker repeats the recommendation that a State picnic should be held by Patrons in California. We have repeatedly urged the importance of such action in the columns of the RURAL PRESS. Once started, such annual meetings would increase in importance and benefits. At the present time we especially need a State gathering to talk over matters that interest farmers all over the State. A week's conference between now and the first of July, through the gathering together of farmers and their sons and daughters, we believe would be worth more than \$100,000 during the next five years to our agricultural population. We suggest that a picnic association be organized to hold an encampment some time during the vacation of our public and other schools (between the 1st of June and the 10th of July) on the refreshing shores of our coast or in the shade of some mountain forest. Let this matter be broached at local and district Grange picnics and committees of conference appointed to co-operate with the Executive Committee of the State Grange for bringing about at least one State Grange picnic.

LET US COUNSEL TOGETHER.

In our opinion, there should be a general meeting of Patrons and farmers in this State at no distant date to listen to the report of our Legislative Committee and review the transactions of the last session of the Legislature. Let us inquire why certain important bills were defeated, while others of minor individual and class interests were passed. Why the Mutual Fire Insurance bills, passed by two Legislatures, were vetoed. They were enacted after a great deal of discussion, and by the action of the "one-man power" the will and ardent wishes of about four-fifths of our people have been defeated. The amended declaration of purposes of the National Grange permits of non-partisan discussion in the Grange, and it is not too soon for Patrons and farmers to begin their work of agitation, education and co-operation for better government. It is not worth while for honest people to wait until saloon-keepers and professional politicians have fixed all partisan and non-partisan interests as with a rod of iron and determined the names we shall ratify at the polls for another four years' term of State officers. It is already time for us to unite and hunt out would-be candidates delinquent in their previous political trusts or in morality, honesty and integrity, whom we do not want for Railroad Commissioners, Senators, Assemblymen and State officers, as well as to discuss the suitability and ability of men whom we know it will do to trust to any position.

Continued on page 390.

THE HAGGIN SALE



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MEXICAN and SHETLAND PONIES,**

WILL TAKE PLACE AT 10 A. M., ON

**THURSDAY AND FRIDAY, MAY 4TH AND 5TH,
At Sales Yard,
CORNER MARKET ST. AND VAN NESS AVE.**

Horses at Yard Monday, May 1st,
Catalogues Ready April 27th.

**KILLIP & CO., Auctioneers,
22 Montgomery St., S. F.**

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Lightest,
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Fencing
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World.
90 lbs. to
100 rods.



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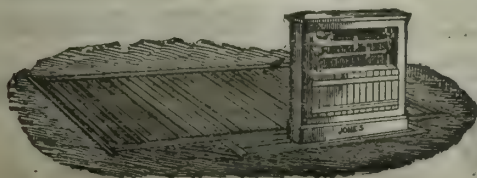
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Money advanced on Grain in Store at lowest possible rates of interest.
Full Cargoes of Wheat furnished Shippers at short notice.

ALSO ORDERS FOR GRAIN BAGS, Agricultural Implements, Wagons, Groceries
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Price \$68, Delivered Anywhere in the
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These Scales have STEEL BEARINGS, Not Wood—
BEAR THIS IN MIND.
From 25 to 50 per cent cheaper than any other
Scales of like quality. All sizes and kinds
of Scales always in stock.

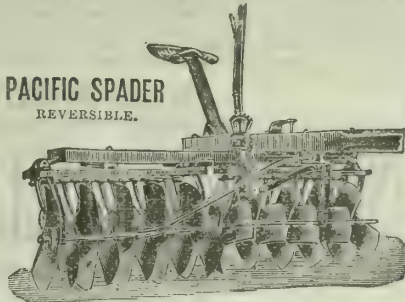
Truman, Hooker & Co., San Francisco.

THE LATEST STYLE PULVERIZER!

THE PACIFIC SPADER!

Operated by one small Boy. No Man required.

PACIFIC SPADER
REVERSIBLE.



Spader throwing Soil from the Center.

The Pacific Spader and Vineyard Cultivator
does more work in one stroke than a Disc Harrow in ten.
Sizes, 5 1/2 to 12 feet.

TRUMAN, HOOKER & CO.,
San Francisco and Fresno.

SIZES:

No. 4—4 ft.	Reversible Spader, with	16 inch Spades.
No. 6—6 ft.	" "	" 16 "
No. 8—8 ft.	" "	" 20 "
No. 12—12 ft.	" "	" 20 "
No. 5—5 1/2 ft.	Regular Spader, with	48-16 inch Spades.
No. 7—7 ft.	" "	" 64-16 "
No. 10—10 ft.	" "	" 48-20 "
No. 14—14 ft.	" "	" 64-20 "
No. 16—16 ft.	" "	" 76-20 "
No. 20—20 ft.	" "	" 96-20 "
No. 24—24 ft.	" "	" 120-20 "



AN OLD STYLE PULVERIZER.

Especially adapted to pulverizing "bottoms"—one
man and a small boy can operate it.

Salinas, Feb. 22, 1893.

Messrs. Truman, Hooker & Co.,
San Francisco, Cal.

Gentlemen:—I have laid aside my plows and sub-
stituted the 10-foot Pacific Spader. It is the
best implement I have ever seen for pulverizing
the ground and destroying the foul stuff. It
works like a charm in adobe and I can heartily
recommend it above any other implement. An imple-
ment of this kind is what I have wanted for years.

Yours truly, Chas. Graves.



THE PACIFIC TREE PROTECTOR

HAS PROVED FOR FIVE YEARS AN ABSOLUTE
PROTECTION FROM SUNBURN, RABBITS, SQUIR-
RELS AND OTHER TREE PESTS. DO NOT INJURE
YOUR YOUNG TREES BY PUTTING AROUND THEM
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Cheapest, Best and Only One to Protect Trees and Vines
from Frost, Sunburn, Rabbits, Squirrels, Borers and Other
Tree Pests.

For Testimonials from Parties who are using them send
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Sole Manufacturer of Patent Tule Covers,

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A. T. DEWEY.

W. B. EWER.

G. H. STRONG.

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Scientific Press



Patent Agency.

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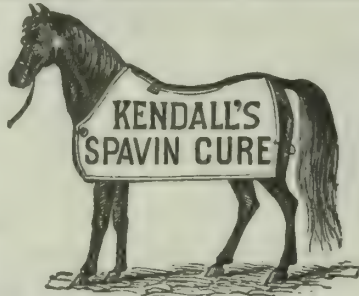
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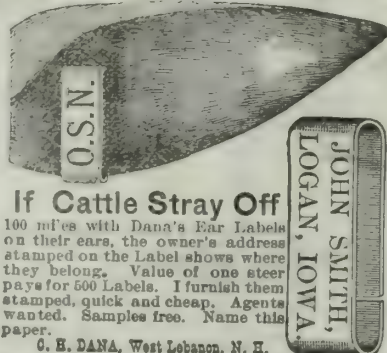


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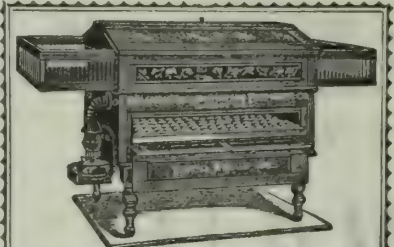
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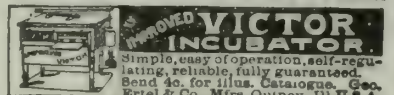
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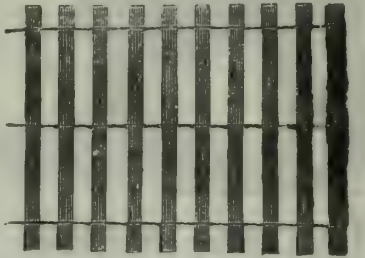
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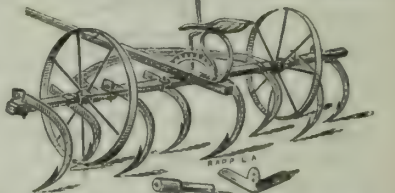


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Capital paid up and Reserve Fund.....800,000
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S. F. MARKET REPORT

Market Review.

SAN FRANCISCO, April 26, 1898.

The wheat market continues to drag heavily, manifesting at home and abroad substantially the same features that have been noticeable for some time past. During last week, prices which had recently shown material improvement again turned and tended downward. The Chicago corner on May wheat has not been sustained and figures are in line with other quotations. The depressing influence on prices just now seems to be the excellent condition of the coming crop abroad. Crop prospects in France, the largest European producer, have not been better for years, and other heavy-growing countries seem to be in fine shape. In the southern European countries there has been complaint of drought, but within the past several days rains are reported. It seems to be settled that Europe will produce a good crop, unless adverse conditions develop between now and harvest time. In the United States, however, there is a certainty of a shortage, estimated by some to be as high as 150,000,000 bushels. The minimum estimate is 50,000,000 bushels, so that the average expectation is 100,000,000. If the yield is so small, the excess in Europe ought not to counterbalance the deficit here, unless the former goes beyond reasonable expectation. It seems probable that the combined output of the two continents—America and Europe—will not equal the yield of 1892. As soon as the facts are known, they will have permanent effect on prices. As it is now, with indefinite knowledge as to prospects, the market is weak and wavering, and shows no permanent tendencies either way.

In California the prospects for a good general yield continue excellent. The distribution of fine prospects, however, is very uneven. In some counties there will not be much more than half a crop, while in others the output will be enormous. West of the San Joaquin it is roughly estimated that the excess over last year will be 7,000,000 bushels. With the usual spring rains and average weather conditions, the yield of the State will be fully up to average.

There is very little export of wheat from California at this time. Low prices have restricted sales.

Condition of Winter Wheat.

Reports from Illinois show that there has been little improvement in the condition of wheat. On the other hand, there has been no deterioration. The outlook continues bad in 60 per cent of the counties reporting.

In Indiana the crop is growing rapidly in many of the counties, and in many places is from four to six inches high. In some counties the prospects are much better than on the 1st of March. Reports from some localities show a deterioration.

In Ohio there has been improvement and the condition ranges from fair to good.

In Michigan the average condition is a little above fair. Some fields are being plowed up, but in most localities the condition is improving.

In Kentucky the present prospects are encouraging, 80 per cent of the correspondents reporting fair or good. There has been improvement within the last few weeks.

In Missouri the condition varies greatly, about one-third of the correspondents reporting good, one-third fair and one-third poor.

In Kansas the outlook is not propitious, and it is now nearly certain that the crop will be very short.

In Nebraska the condition of wheat averages fair. In Iowa the general average of wheat is still fair. In Wisconsin wheat prospects are good.

Other Cereals.

The tendency in the barley market continues lower, and prices are less than one week since. A favorable sign is the fact that large quantities of feed are going aboard ships for England. The quality of such shipments averages better than No. 1 feed, and nearly approaching brewing. Stocks of brewing have been greatly reduced by the unusually large purchases this season for export, and shippers now find it somewhat difficult to obtain supplies at prices coming within their limits. Spot trading in feed is limited.

Oat supplies have decreased, and the aspect is more favorable for sellers. Choice white oats are in light stock and holders insist on full figures. Some inquiry is developing for black oats, and prices for such product are gradually strengthening.

There is little doing in corn. Supplies are large and the demand light.

Oranges.

Reports from the East are to the effect that the orange market continues to improve, though slowly. Choice fruit is selling at figures that insure a profit to the grower, though it is by no means as large as could be desired. The market is altogether in the hands of buyers and commission men, shippers making little or no attempt to dictate terms. Floridas are pretty well out of the way, but there are more European oranges in the market than California growers would like to see. At home the situation is not very encouraging. The crop of navel in southern California has been almost cleared out, but there are still an immense number of seedlings on the trees. Many of these are getting into very poor condition and buyers don't like them. As a proof of this, it may be mentioned that a few days ago an eastern firm asked for a quotation on Mediterranean sweets, and promptly paid for three carloads at 75 cents a box more than the price at which they were offered seedlings. It is probable that there is still at least a third of the total crop of southern California on the trees, much of which will undoubtedly prove a loss to the growers unless it is hurried forward. From present appearances the total crop of southern California will exceed the outside estimate of 7000 carloads.

Locally, arrivals of oranges have been free, and has shown no change. Extra choice brings good buyers.

Fresh and Dried Fruits.

Strawberries have become a prominent feature of the market. They are beginning to assume a brighter appearance and to be a little more tasteful than early receipts. Twenty-five chests were received yesterday, the largest so far this season.

There is still vast room for improvement in the quality.

Siskiyou apples are rather plentiful, but the demand is good and prices are well sustained.

A large consignment of Mexican limes came in by Panama steamer Monday.

The dried-fruit market has an upward tendency, though prices are as yet unchanged. Dealings are entirely on lots in the hands of commission men, stocks from the interior being wholly exhausted. No shipments East are being made. The outlook is that the new season will open up with excellent prices.

Wool.

Activity characterizes the wool business, receipts being quite free and large sales are noted by several commission men. Reduced rates on wool to the Eastern markets have had sharp effect in stimulating purchases and shipments. The new rail freight schedule went into effect Tuesday, and 35 carloads were sent forward. The average amount of wool in each car was 22 tons, which made the total day's shipment 770 tons. The wool movement is taken up largely in six to eight months' growth and the better free grades, and Nevada is also in good demand. The large sales of last week, in anticipation of heavy shipments, stocked up dealers pretty well, and there is a lull at present. There is a fair prospect that all choice wools will be wanted, but at this stage of the season, when wools are crowding in, it is impossible to market even a fair portion of them, because the buyers are few and they cannot take wools all at once, their aim being to get the best selections the market will admit of, up to extent of any present orders they may have. Prices so far have been very firm for all choice light free wool, but for good stock that has defects or imperfections, or for shrunken, poor-conditioned wools, there is no demand except for an occasional parcel to fill some cheap outlet. The weekly report of Thomas D-nigan, Son & Co. says: "All shippers are buying quite freely, both here and in the country, when they can find good shipping wools. Cheap freights serve to stimulate trade. Good wools, therefore, sell for more money than was expected before the season opened, and quotations have been advanced to the extreme values ruling at this date. Scourers are not particularly busy, though one or two of the establishments are doing considerable."

Provisions.

There is an advance in California hams, while other lines show good tone. Conditions were such that the declining tendency recently noted could not long prevail. As to the general situation, the Chicago *Breeders' Gazette* says: "Regarding the future of prices there is, as usual, much difference of opinion. If there is to be any important decline it may be looked for within the next six weeks. There can be no reasonable doubt that prices will rule high during the summer and early autumn."

Vegetables.

The potato market, which last week gave some signs of slumping, has recovered and is decidedly firm. Conditions are just right for high prices, viz., good demand, light stocks and probable shortage in the new yield. Two or three weeks since the true situation dawned upon dealers and as a consequence prices advanced very rapidly. Last week, owing to falling off of consumption and to receipts from distant and unexpected sources, they became frightened and quotations dropped. Now, however, matters seem to be settling to a normal basis and there is every prospect for high figures for some time to come.

Onions are firm and receipts are light. Asparagus is in large supply and prices are easier, except for very fancy. The canning demand has prevented a collapse. Rhubarb is very plentiful and ranges greatly in quality, causing a wide difference in quotations. String beans are plentiful. The whole range of vegetables is lower, except turnips, which are scarce. They have advanced.

Poultry and Eggs.

Dealers complain of small business in poultry and figures are as a consequence generally lower than last week. Supplies have recently been quite large and much stock was carried over from last week to this. Both Eastern and California are coming in more freely for some little time. Young roosters, however, are scarce and to-day sold as high as \$10 per dozen. The market is yet in good condition and poultrymen have no complaint to offer.

Eggs are about the same as last week. The market is steady.

Butter and Cheese.

Butter continues in about the same condition as previously reported. Receipts are plentiful, though reports from the interior are that shippers are holding back and placing in keg a good part of their output. Some of the surplus product has been disposed of by shipment East.

Cheese is still weak and Young America has further declined. The situation still favors sellers.

Miscellaneous.

In March the shipments of hops from this State by rail were 158,000 pounds, making a total of 766,000 pounds since Jan. 1st. The shippers by sea and rail for the first three months of the year were 832,838 pounds, as against 491,321 pounds for the same period in 1892. There is nothing new in the general situation, except that the East shows signs of improvement.

Honey is firm and stocks are very light.

Trade in beans is quiet, and quotations are unchanged.

Consignments of hay are sold by auction, and the innovation on the old system so far seems to give satisfaction. It is apparently the intention of all interested parties to give the experiment fair trial. The market generally is easy, supplies being ample.

Bran and middlings, though generally reported firm, have been subject to some cutting of prices. Other articles remain as quoted for a long time past.

Fresh meats are weaker in all lines. Mutton has declined in price.

Canned Fruits.

In a trade review of the market for canned fruits, A. Lusk & Co. write as follows: "Growing crops are looking extremely well, with the exception of apricots. The Moorpark apricot, one of the leading varieties, will experience its triennial short year,

which will certainly affect the available canning stock. A year ago California packers, as well as jobbers East and West, were loaded up with canned fruits. At present stocks are the lightest since 1887. A year ago enormous quantities of goods were consigned by rail to the New York market, and, while present stocks there and afloat are considered somewhat heavy, they are not more than the distributive trade will take as soon as navigation opens. This, together with England buying freely by steamer, will soon clean up the market.

Grain Futures.

Liverpool.

The following are the closing prices paid for wheat options per cwt. for the past week:

	April	May	June	July	Aug.	Sept.
Thursday.....	58 1/2 d	58 1/2 d	58 1/2 d	58 1/2 d	58 1/2 d	58 1/2 d
Friday.....	58 1/2 d	58 1/2 d	58 1/2 d	58 1/2 d	58 1/2 d	58 1/2 d
Saturday.....	58 1/2 d	58 1/2 d	58 1/2 d	58 1/2 d	58 1/2 d	58 1/2 d
Monday.....	58 1/2 d	58 1/2 d	58 1/2 d	58 1/2 d	58 1/2 d	58 1/2 d
Tuesday.....	58 1/2 d	58 1/2 d	58 1/2 d	58 1/2 d	58 1/2 d	58 1/2 d

The following are the prices for California cargoes for off coast, nearly due and prompt shipments for the past week:

	O. C.	P. S.	N. D.	Market for P. S.
Thursday.....	29 3/4 d	30 3/4 d	29 3/4 d	Quiet
Friday.....	29 3/4 d	30 3/4 d	29 3/4 d	Quiet
Saturday.....	29 3/4 d	30 3/4 d	29 3/4 d	Quiet
Monday.....	29 3/4 d	30 3/4 d	29 3/4 d	Improving
Tuesday.....	29 3/4 d	30 3/4 d	29 3/4 d	Steady

To-day's cablegram is as follows:

LIVERPOOL, April 26.—More disposition to buy. California spot, 10s 1 1/2 d; off coast, 29s 9 d; just shipped, 31s; nearly due, 30s; cargoes off coast, easier; on passage, weaker; M r k Lane wheat, firm but not active; French country markets, firm; wheat and flour in Paris, slow; weather in England, brilliant.

Eastern Markets.

The following shows the closing prices per bushel of wheat for the past week at:

	April	May	June	Aug.
Thursday.....	74 1/2	74 1/2	74 1/2	74 1/2
Friday.....	74 1/2	74 1/2	74 1/2	74 1/2
Saturday.....	74 1/2	74 1/2	74 1/2	74 1/2
Monday.....	74 1/2	74 1/2	74 1/2	74 1/2
Tuesday.....	74 1/2	74 1/2	74 1/2	74 1/2

The following is to-day's telegram—per bushel:

NEW YORK, April 26.—April, 75 1/2; June, 77 1/2; August, 79 1/2.

Chicago.

	May	July	Sept.
Thursday.....	73 1/2	73 1/2	73 1/2
Friday.....	73 1/2	73 1/2	73 1/2
Saturday.....	73 1/2	73 1/2	73 1/2
Monday.....	73 1/2	73 1/2	73 1/2
Tuesday.....	73 1/2	73 1/2	73 1/2

The following is to-day's telegram—per bushel:

CHICAGO, April 26.—May, 71 1/2; July, 74 1/2; Sept., 75 1/2.

WHEAT.

	March	May
Thursday, highest.....	\$1 30	\$1 25 1/2
" lowest.....	1 26 1/2	1 22 1/2
Friday, highest.....	1 30	1 26 1/2
" lowest.....	1 26 1/2	1 22 1/2
Saturday, highest.....	1 30	1 26 1/2
" lowest.....	1 26 1/2	1 22 1/2
Monday, highest.....	1 32 1/2	1 27 1/2
" lowest.....	1 27 1/2	1 26 1/2
Tuesday, highest.....	1 32 1/2	1 27 1/2
" lowest.....	1 27 1/2	1 26 1/2

The following are to-day's recorded sales on Call:

Wheat—Morning Informal Session—December: 200 tons, \$1 32 1/2; 1300, \$1 32 1/2; May: 1500 tons, \$1 26 1/2 per cwt. Regular Session—December, 600 tons, \$1 32 1/2; 310, \$1 31 1/2; May: 400 tons, \$1 25 1/2; 20, \$1 26 per cwt. Afternoon—December: 100 tons, \$1 3 1/2; 2300, \$1 32 1/2; May: 500 tons, \$1 26 1/2; 500, \$1 26 1/2. Sell-r 1893, new—500 tons, \$1 27 1/2; 500, \$1 27 1/2 per cwt.

BARLEY.

	March	May
Thursday, highest.....	83 1/2	83 1/2
" lowest.....	83 1/2	83 1/2
Friday, highest.....	83 1/2	83 1/2
" lowest.....	83 1/2	83 1/2
Saturday, highest.....	83 1/2	83 1/2
" lowest.....	83 1/2	83 1/2
Monday, highest.....	83 1/2	83 1/2
" lowest.....	83 1/2	83 1/2
Tuesday, highest.....	83 1/2	83 1/2
" lowest.....	83 1/2	83 1/2

*Brewing.

The following are to-day's recorded sales on Call:

Barley—Regular Session—May: 600 tons, 83 1/2; 100, 83 1/2; Seller 1893, new—10 tons, 83 1/2 per cwt. Barley—Afternoon Session—December: 600 tons, 83 1/2; May—100 tons, 83 1/2; 20, 83 1/2 per cwt.

Markets by Telegraph.

British Grain Trade.

LONDON, April 24.—The *Mark Lane Express* says: Markets show signs of greater firmness in regard to future crops both here and in the United States. This is due to drought. The flour trade is firm for English, but holders of American are taking less. Low grades of American flour sold at 11s per sack for feeding.

Visible Supply of Grain.

NEW YORK, April 24.—The following is the visible grain supply: Wheat, 74 871,000 bushels, a decrease of 1,227,000; corn, 12 829,000 bushels, a decrease of 1,447,000; oats, 3,332,000 bushels, a decrease of 337,000; rye, 787,000 bushels, a decrease of 50,000; barley, 759,000 bushels, a decrease of 48,000.

California Products in the East.

NEW YORK, April 23.—Canned Fruit—More confidence and better-named rates have followed the recent action of several shrewd buyers who realized that apricots were offered below packing prices and took some round lots and placed them in the West and abroad. This has given the market a better pulse and better general-named prices, though sales have not told heavily upon stock. It is suggested that a system of arbitration should be found here to operate against unjustifiable rejections. England has one which gives satisfaction to buyers and sellers. In view of the great proportions which canned fruits will attain in this country it would be wise to establish a means of reference that would have an equitable bearing upon all parties. Prices at the close were asked as follows: For wholesale lines, Standard Apricots, \$1 43 1/2; Peaches, Crawford \$1 60; 1 62 1/2; Lemon Clings \$1 65; 1 70; Pears, Bartlett's \$1 55; 1 60; Plums, \$1 45; 1 50; White Cherries, \$2 30; 2 35.

Prunes—Quiet, unchanged.

Unpeeled peaches have no definite or guiding quotations. The market seems practically dead. Grocers have aimed for too much profit most of the seasons. Their rates have restricted consumption and now the warm weather is too near to favor either the wholesale or retail position.

Raisins—The stock is held with confidence. The movement is light. Two-crown, bags, 4 1/2; 4 1/2; three-crown, 5 1/2; loose, box, \$1 40; 1 60; layers, \$1 30; 1 85, most brands.

Apricots steady at 14@15c for good and 16 1/2c for fancy.

California Navel oranges sold at \$2 60; 8 25. The trade objects to the large sizes that have appeared. A car of Washingtons went to England by the Majestic and more are to go next week. Two hundred boxes of oranges are just here from San Domingo. This is the first commercial invoice of this fruit from that island. Unlike other West Indian oranges, they are boxed and paper-wrapped. An abundant yield of peaches east and south is considered beyond doubt.

(Continued on next page.)

The Largest Crop.

The hay crop is the largest in bulk and value the earth yields to man. Americans have done more to bring out and perfect machinery for handling this great crop than any other people. Walter A. Wood was one of the foremost in doing this. His machines are the evolution of 40 years practical experience in field and factory and have a world-wide reputation. The California demand for his mower is large, their powerful construction, easy draft and speed fitting them for our heaviest cutting.

HORSE COLLARS

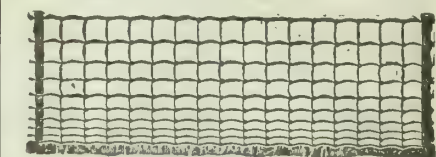
SADDLERY GOODS.

Davis & Son's Horse Collars are not filled with Self-Pulverizing Cork.

The U. S. Inspector of Harness Supplies and Horse Collars selected Davis & Son's make—both harness and collars. And so will all persons who want a solid, broad-faced, smooth collar which does not pinch the neck nor roll about unsteadily for three months before it settles down to a fitting shape or set squarely back on the shoulder. If you want a collar not stuffed with wads but our collars, as all other makes on this coast are wad collars. All wad-stuffed collars flatten down in a short time so that a sweat collar is needed to protect the horse from the wads or rags of straw. Davis & Son's Collars are all put under a powerful shaper or press before finishing, which solidifies them into a perfect shape, which allows the collar to set with its whole face against the shoulder. When a wad-stuffed collar is brought under this force it shows the old wad-stuffed collar to be merely a Puff Ball. Send or bring in to our factory in this city any collar and see this done, and see what a Pan Cake you have been selling to the people for collars. Our Boston Team long straw collars have no wads. The Rod of our Great Machine is supplied with small teeth on its lower surface like a fine saw. It picks up and carries with it as it flies through the straw a long straw in each tooth, all of which are deposited in the collar, one behind the other, with more precision and regularity than human skill could ever accomplish, thus avoiding all lumps and wads, not even two straws crossing each other.

HAME ROOM.

No Collars on this Coast or elsewhere have as good Hame Room as the Davis & Son's Collar.



An Ohio Man Was First

to report that his Page fence had outlived the first set of posts, which were of oak. He adds that he has now substituted Tennessee Red Cedar and his fence is better than when new. The April "Hustler" gives his report in full. Send for free copy.

PAGE WOVEN WIRE FENCE CO., Adrian, Mich.

ALPHA DE LAVAL SEPARATORS.

Capacity up to 3600 lbs.

Belt Power and Steam Turbine.

Complete Separation. Most Accessible. Most Durable.

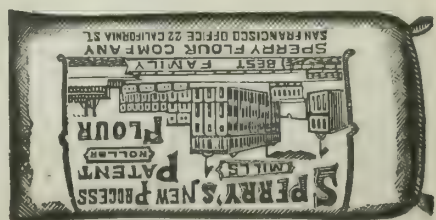
Send for Pamphlet.

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3 & 5 Front Street, San Francisco.

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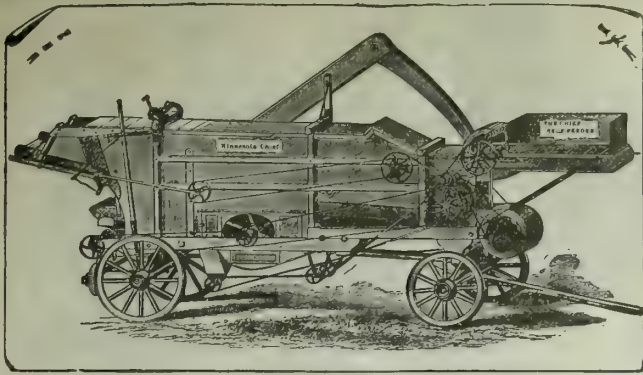


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First-Class Threshing Outfit

CHEAP.

FOR PARTICULAR Inquire of MRS. A. HOOK, Mountain View, California.



ROBERT BRAND & CO.,

—MANUFACTURERS OF—

"Minnesota Chief" Threshers and Self-Feeders.

The Most Perfect and Economical Grain and Bean Thresher in Use.

A full line of SEPARATOR, ENGINE AND HORSE-POWER REPAIRS AND EXTRAS always in stock.

Repairing and Machine Work of all descriptions.

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10, 12 and 14 ft.
Cheaper than any
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Every One
Guaranteed.

No bearings, no
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to get out of order.
The simplest mill in
the world.

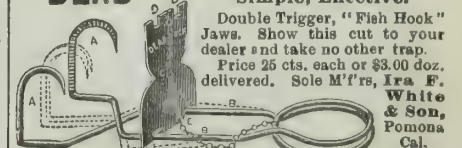
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12-foot..... for
14-foot..... Prices

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Simple, Effective.



Double Trigger, "Fish Hook"
Jaws. Show this cut to your
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ESTABLISHED 1864. Send for circular.

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"Greenbank" Powdered Caustic
Soda and Insecticide.

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ALL OTHER SO-CALLED BUCKEYE MOWERS ARE IMITATIONS.

Now tell me—Isn't it
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HIGH SPEED.

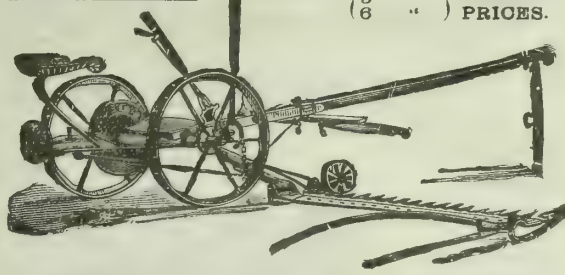
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It Excels
All Others for
Lightness
of Draft.

Simplicity.

Durability.

More Sold
than any other
Machine.



BEWARE OF IMITATIONS.

Ours is the Only Genuine Machine Sold.

America's most valuable crop is not wheat or corn,
but hay. Hay-cutting demands the best mechanism.
The Buckeye is the great hay-maker of the world. It was invented
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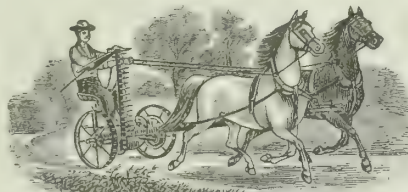
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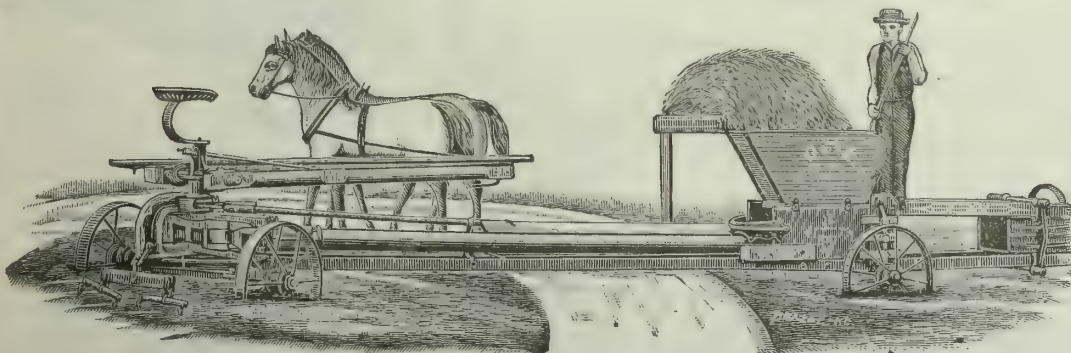
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With Folding and Floating Cutter Bar, Automatic Gear Shifter, found on No Other Mower.

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College instructs in Shorthand, Type Writing, Book-
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the best Illustrated and Leading Farming and Horticultural
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PATENT

Squirrel

Exterminator.

THIS is an apparatus for burning
straw and sulphur, and also
forces the fumes down their holes,
which never fails to kill. I will
give \$100 in case the Exterminator
does not kill (if properly applied)
every ground squirrel that its
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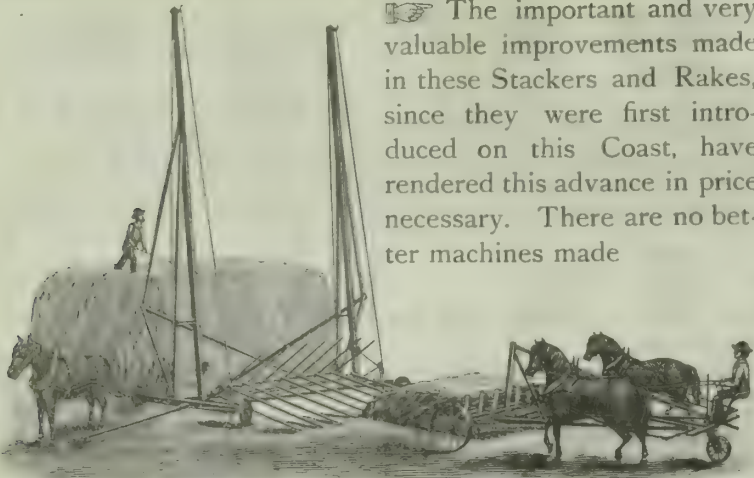
and all kinds of MACHINERY.



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PUMPS

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Is the Largest Illustrated and Leading Agricul-
tural and Horticultural Weekly of the West.
Established 1870. Trial Subscriptions, 50c for
3 mos. or \$2.40 a year (till further notice). DEWEY
PUBLISHING CO., 220 Market Street, San Francisco.



The important and very valuable improvements made in these Stackers and Rakes, since they were first introduced on this Coast, have rendered this advance in price necessary. There are no better machines made

Jackson's Improved "ECLIPSE" Stacker and Loader.

PRICE \$125.

PRICE OF STACKER AND TWO RAKES, \$245.

RAKES ARE \$60 EACH.

The above is our standard Stacker and is an improvement on all others, as it is lighter, stronger and dumps the hay at any desired height, instead of carrying it all up over itself, without regard to height of stack. This latter point is quite important in stacking in windy weather, as with the "ECLIPSE" the hay is only raised as high as necessary to dump it on the stack, and it is not scattered by the wind. The uprights of the "ECLIPSE" are made 28 feet high, and this is as long as they can be shipped, and with them it will stack nearly or quite that height; but the height may be made to stack is really unlimited, as these uprights may be spliced out as high as desired, and guyed with ropes.

This machine is made under the "Acme" and Oliver patents. It is mounted on wheels, and will build a stack 25 feet high.

With the rakes the hay is taken from the swath, when cured, just as left by the mower, or from the cock or windrow, if it is desired to rake it before it is cured sufficiently to stack; and when the Rake is loaded it is driven to the Stacker, the rake teeth entering between the pitcher teeth; the hay is pressed forward against the pitcher head. The horses then back the Rake off, leaving the hay in a compact mass upon the pitcher, and return to the field for another load. As soon as the rake is out of the way the horse attached to the pitcher rope is started, elevating the load the desired height, when the latch-rope is pulled and the hay is dropped in the center of the stack, the horse is backed up, the pitcher being brought back to the ground by its own weight, ready for another load.

The "ECLIPSE" has special advantages for stacking in windy weather, and for loading hay, etc., on wagons. It dumps the load at any desired height, from 5 to 25 feet, while it is easily moved, quickly set and simply strong.

This principle of making hay, by which the expenditure of manual labor is reduced to a minimum, is now almost too well known to need much description, as these machines are now in the hands of all the largest farmers and have proven entirely successful. The words "making hay" are used advisedly, for this Stacker and Rake do all the work from the time the mower cuts the hay until it is in the stack or on the wagon, and no other machines or implements, nor the expenditure of any manual labor, is either required or even desirable.

FOR FURTHER INFORMATION, ADDRESS:

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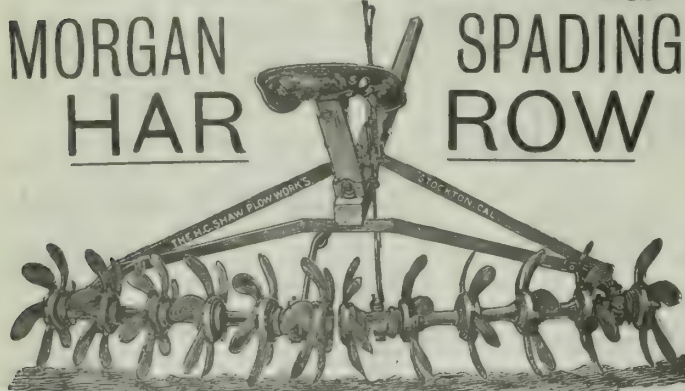
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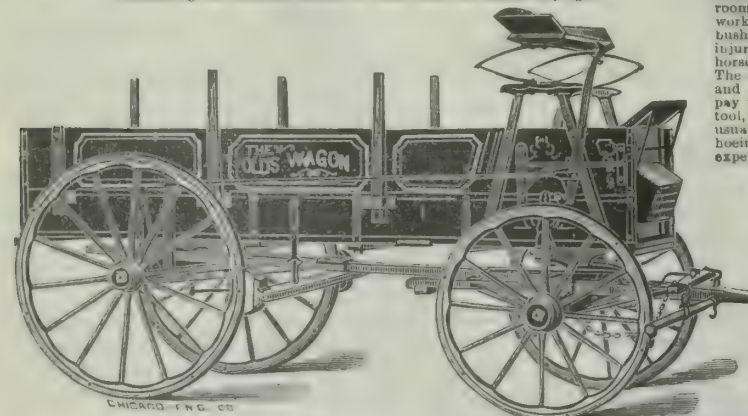
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THE BEST PULVERIZER IN THE WORLD!
HORTICULTURISTS AND FARMERS, TRY IT!

MORGAN HARROW SPADING ROW



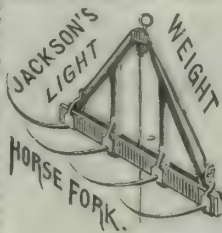
ESPECIALLY ADAPTED FOR ORCHARDS AND VINEYARDS!
Considering the immense amount of labor done the draft is very light.



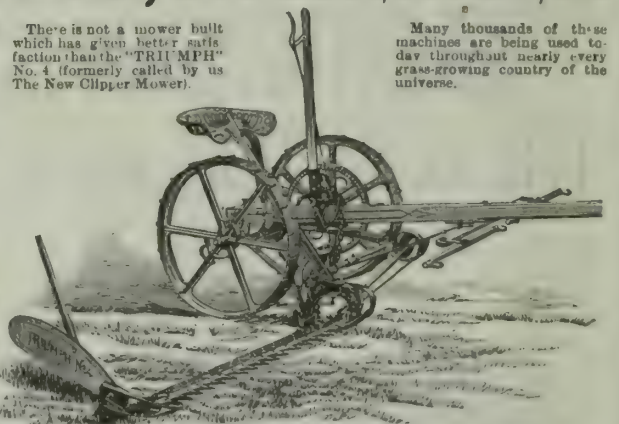
FRUIT GROWERS! Examine these Great Labor-Saving Tools.

THE TRIUMPH GRAPE HOE is one of the greatest labor-saving tools ever invented for use in culture of Orchards, and is especially adapted to Vineyard work. After cultivating between the rows, the Triumph Grape Hoe will take out all grass and weeds and will thoroughly stir the soil close to the vine or tree.

Without any careful attention to driving, the Hoe guided in and out around tree and vine by the Disc Castor wheel, to which handle is attached. The horse is hitched on one side of pole, which gives plenty of room for Plow to work under vines or bushes, and without injury to them from horse or wheel. The saving of time and labor will soon pay the cost of this tool, for this work is usually done by hand hoeing, a slow and expensive way.



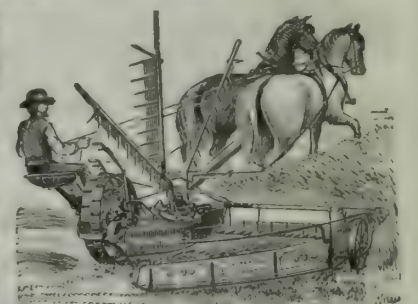
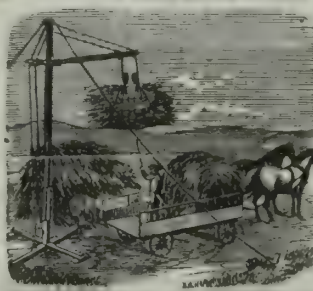
There is not a mower built which has given better satisfaction than the "TRIUMPH" No. 4 (formerly called by us The New Clipper Mower).



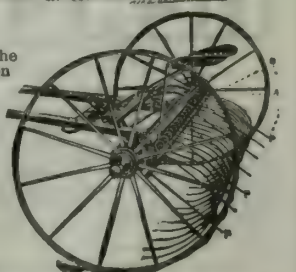
Many thousands of these machines are being used to-day throughout nearly every grass-growing country of the universe.

The steady growing demand again impresses upon us that it truly pays dealers to sell a good machine and the TRIUMPH REAPER NO. 3 has never been equaled or superior work.

We are Agents for the Rock Island Hay Loader. Please send for Circulars.



Warranted the Best Rake on Earth.



WHY IT IS THE BEST RAKE IN THE WORLD.

It has our sled-runner tooth to prevent scratching. It has no jar on the thills in dumping. Its thills work as freely as those on a carriage. Its oscillating cleaner keeps the hay from rolling and working out into the wheels. The oscillating cleaner has a lever in seat spring support so that the operator can raise the cleaner arms by pressing on the lever with his foot while sitting on the seat. The rake, all in all is better and will give better satisfaction than any other rake.

SEND FOR CATALOGUES AND CIRCULARS OF ALL ARTICLES HEREIN SHOWN.



Vol. XLV. No. 18.

SAN FRANCISCO, SATURDAY, MAY 6, 1893.

THE DEWEY PUBLISHING CO.
Office, 220 Market St.

Hawaiian Scenes.

Interest in Hawaiian affairs is held somewhat in abeyance while Mr. Cleveland is cautiously pursuing his investigation into the inmost moving of the Kanaka mind. He evidently does not believe in acquiring queens as William the Conqueror gained his, but is proceeding with such sublime respect in his wooing that we fear the dusky belle may doubt whether she is wanted or not, and the production of such an impression is usually, we believe, the rival's opportunity. However, we do not intend to proceed politically; if we don't get the islands we have done much to enable us to claim that we did not want them.

We have the pleasure of presenting on this page two views of Hawaiian scenery which depart somewhat from the usual type in that they show signs neither of a coconut palm nor a volcano. They exhibit two distinct phases of coast scenery, the broad, low beach made famous by the wonderful water-sports of the islanders and the rocky cove where the restless waves dash unceasingly upon unyielding barriers. The engravings are of exceptional excellence and are a part of a series made by the *Overland Monthly* to illustrate its timely articles upon island affairs brought out just at the time that the subject commanded most attention from American readers. The pictures are appropriate to the outing season and will win admiration from all who have not set their minds resolutely upon Pullman cars and Chicago caravansaries.

PHYLLXERA has been discovered in an old Orange county vineyard, the property of Fred Rohrs, near the city of Santa Ana. The local viticultural commissioners sent samples of the roots to C. J. Wetmore of San Francisco, chief Executive officer of the State commission, who, after a thorough examination telegraphed that he had found phylloxera. The infected vines have, however, been pulled up and burned on the spot. It is a fact, also, that the destructive pests have recently continued their inroads upon vineyards in the valleys north of the bay, reaching places which had heretofore escaped invasion. One vineyardist informs the *RURAL PRESS* that, when he found the phylloxera on a few of his vines, he pulled up his entire vineyard and planted it to prunes. It was a case of Hobson's choice—destruction, or resistant vines; and he compromised on prunes. Others have taken the same course and the vineyard area has been considerably reduced by the recourse to orchard planting.

THE "California cold process for storing fruits" is receiving extensive advertisement throughout the East by means of letters sent apparently by farmers' wives to news-

papers, detailing the vast benefit to be derived from its use, and offering to send the recipe to any inquirer. This is the salicylic acid swindle which the *RURAL PRESS* exposed last year. It is a fraud, huge, deliberate, shameless, and without a redeeming feature. Its promoters

to an asylum for the demented, now has a word to say. He is a Pomona man. He says he received \$400 an acre for his little orchard, a large portion of which is profit. He reads the newspapers, and he felt sure low prices would rule this year in view of probable enormous production. So he rises to inquire if the growers who wanted \$3 a box did not expect too much?

IN his letter to the *RURAL PRESS*, published this issue, Mr. B. F. Walton takes emphatic ground against the practice of double-cropping, and maintains that an orchardist must do one thing or the other—grow fruit, or grow vegetables. He cannot do both at the same time in the same place and not suffer severely sooner or later. In opposition to Mr. Walton's views and experience, however, is the method of the Outing Packing Company, which proposes to make a great fruit ranch out of the Isaac True place, near Napa, in all 475 acres, 440 of which are at the present time in young orchard, largely apricots, peaches and cherries. Three hundred acres are also to be devoted to tomatoes and 75 to peas. The packing company seems to have no fear of results. After all, the differences of the recent numerous contributors to the *RURAL PRESS* on this interesting subject are not irreconcilable. There is in fact a fairly general consensus of opinion that double-cropping is profitable until the fourth year of the young orchard; thereafter the practice as injurious and unprofitable.

REPORTS from southern California are to the effect that there has been a smaller number of new orange orchards set out this season than any similar period in three years, but never before has there been such a general planting of lemons. In some localities the acreage of lemons has been increased five-fold during the past few months. Deciduous fruit plantings have been heavier than in any season in six or seven years. Prune and apricot orchards have been set out where hitherto barley grew.

THE farmer who is turning his grain into hogs is becoming quite numerous in the land. Barley is one of the best fatteners in the world, if not the best. The celebrated Westphalia hams are said to be cut from hogs reared upon green feed and fattened on ground barley, mixed with water and allowed to sour just a little.

THE first shipment of cherries this season is reported by the Sacramento River Fruit Co., of Walnut Grove.

A box of luscious fruit was forwarded last Monday to the Duke of Veragua, the illustrious descendant of Columbus, now a guest of the United States at the Chicago fair. It is safe to say that his enjoyment of the California fruit will give the distinguished Duke added cause for congratulation that Columbus insisted on finding America!



ONOMEA CAVE, HAWAII.



DIMOND HEAD AND WAIKIKI BEACH.

make money by preying upon the unsuspecting and innocent. They should be punished.

THE southern California orange-grower who in December sold his coming crop for \$2 a box, and who was thought by some to be rapidly fitting himself for entrance

PACIFIC RURAL PRESS.

BY THE DEWEY PUBLISHING CO.

Office, 220 Market St.; Elevator, 12 Front St., San Francisco, Cal.

ANNUAL SUBSCRIPTION RATE THREE DOLLARS a year. While this notice appears, all subscribers paying \$3 in advance will receive 15 months' (one year and 13 weeks) credit. For \$2 in advance, 10 months. For \$1 in advance, five months. Trial subscriptions for twelve weeks, paid in advance, each 50 cents.

ADVERTISING RATES.

	1 Week.	1 Month.	3 Months.	1 Year.
Per Line (agate).....	\$.25	\$.50	\$ 1.25	\$ 4.00
Half inch (1 square).....	1.00	2.50	6.50	22.00
One inch.....	1.50	5.00	13.00	42.00

Large advertisements at favorable rates. Special or reading notices, legal advertisements, notices appearing in extraordinary type, or in particular parts of the paper, at special rates. Four insertions are rated in a month.

Our latest forms go to press Wednesday evening.

Registered at S. F. Post Office as second-class mail matter.

ANY subscriber sending an inquiry on any subject to the RURAL PRESS, with a postage stamp, will receive a reply, either through the columns of the paper or by personal letter. The answer will be given as promptly as practicable.

ALFRED HOLMAN.....General Manager

San Francisco, May 6, 1893.

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The Week.

People are just as anxious now for a little more rain as they were in March for less of it. The heavy downpours and the soaking overflows gave much puddled soil and large areas of grain and hay on heavy soil are now baking into a crust which interferes with their proper growth. Evaporation, too, from such a hard surface is rapid, and new moistening is needed to maintain the growth of feed. Though the season's aggregate rainfall is ample, the distribution has not been according to our notion and if the weather clerk hopes to improve his record this year he must not much longer delay. The upper half of the State has had a few showers this week; they should go further.

The graduation days at the schools and colleges are at hand. The State University this year will hold its commencement on May 17th, about six weeks earlier than usual, for a new division of the year now prevails.

The progress of the season and at the same time its dilatoriness is seen in the fact that the first carload of cherries went forward this week. Fruit thus might be counted all the way from two weeks to a month late this year and not much hastening weather has yet come along.

The Fruit Prospect.

So far as can be determined at this time, fruits of California will yield most abundantly for 1893. Reports from various parts of the State indicate that orchard fruits are in good condition, except apricots, for which the outlook as to aggregate yield is poor in nearly all sections, though of course the fruit will be exceptionally large and fine. Reports as to prunes are uniformly favorable and the prospect is that the best previous record of output will be distanced. Pears will yield well and peaches are somewhat uneven, though on the whole the prospect is good. Our leaf is complained of in places. Raisin vineyards are in very good condition, and there seems to be no doubt of an unusually heavy output in this line. Cherries will do well. All crops are late owing to the continued unfavorable weather.

The probable enormous excess in some lines of fruit, particularly prunes, emphasizes the need of cautious and economical methods of fruit marketing. While we see no reason to anticipate such overproduction that the market

will be glutted, it is reasonable to expect that high prices, such as prevailed last season, will not be secured in 1893. At the same time we may hope for and fairly count on a fair margin of profit in prunes as well as in other lines. But intelligent co-operation is the need of the hour.

May Flowers.

The picnic belt of May 1st has been successfully traversed, and we are in the region of flower shows and floral festivals. We take it these two things have different significances, and if we err in definition we court correction. The "flower show" may be said to mean the exhibition where the flowers are displayed for their own excellence and the income of the show goes to the exhibitors as rewards of merit. Such a show is held in accordance with published rules, and is divided into classes according to botanical or floricultural standards of classification. The "floral festival" is an affair in which the flowers are but lightly regarded for their own sakes, but rather as decorative material to produce attractive effects, and are joined with social and literary attractions for the express purpose of massing funds for charitable purposes or merely to meet the cost of the great event, the ultimate reward of effort to be found in social enjoyment or in spreading the fame of a delightful region. Sometimes the flower show and the flower festival are combined in one event, as was the case last month at Santa Barbara, where the flower show was held for a day in the pavilion, and awards made on culture points, while the flower festival continued three days thereafter, with floral processions, battles, games, etc., and culminated with a floral ball.

A floral festival is in progress this week in Santa Cruz under the auspices of the ladies' aid societies. The large pavilion is transformed into a region of booths representing all popular notions from Columbus to Hawaii. The floral decorations are of the finest, for Santa Cruz is unexcelled as a flower region, and the city welcomes visitors at a railway station surrounded with flower beds—a bit of civility and hospitality which too few towns take the trouble to put forth. The success of the festival is assured; for several years notable successes have been attained in this line.

There is also in progress this week the first flower show of the Santa Clara County Floral Society. It is held in Turn Verein Hall and is chiefly conducted by the ladies who, in this as in our other floral societies, constitute the greater part of the membership. The San Jose people know how to use flowers effectively, and now that they have organized a society to hold systematic exhibitions, very gratifying results may fairly be expected.

The two greatest flower shows of the bay region will come next week and the week after. In Oakland the rose show will open on May 10th and continue through the week in the Mills Tabernacle. Entries for exhibition are large, and a notable display is assured. The State Floral Society will hold its ninth semi-annual flower show in the Mechanics' Institute in this city beginning Wednesday, May 17th, and continuing four days. A very large amount is offered in premiums both in professional and amateur classes. The shows of the State Floral Society are the greatest fully classified exhibitions held on this coast, and are on a par at least with the shows of the large Eastern cities. All who wish to educate themselves in floral excellence, and to learn the varieties most satisfactory on this coast, should visit the displays during the third week of May.

The Chemistry of Our Fruits.

We give much space this week to the results of a chemical examination of several leading California fruits which is in progress in the Agricultural Department of the State University. During the last year there have been three similar publications from the University; one relating to citrus fruits, another to peaches, prunes and apricots, and the bulletin we publish this week is supplementary to the earlier one on stone fruits, including a greater number of analyses and representing a greater area of the State. These investigations comprise the fullest chemical investigation of fruits thus far undertaken in this country and, in addition to their horticultural value, are a notable contribution to science.

It is of course the industrial value of the results which has impelled the Experiment Station to the investigation. To know what are actually the contents of our fruits is of the greatest practical importance. First, it is desirable to know what elements the tree chiefly employs in perfecting its fruit, for it is these elements which will soonest need replacing in the orchard soil. Thus a knowledge of what the grower is really shipping away from his orchard carries with it a suggestion of what he should bring to it as a compensation, and intelligent fertilization becomes possible. Again, the statement of the contents of the fruit shows the relative proportions of nutritive matters and in-

dicates its value as human food. Still farther, the proportion of different substances indicates its curing properties, including both its action upon the palate and its amount of waste, and it also furnishes an index of the net nutritive contents of each variety which comes under examination. These and other factors enter into a numberless list of calculations of the desirability of the varieties which will be made from the several points of view of the grower, the drier and packer and the consumer, and may be truly said to lie at the foundation of correct notions of the different kinds of fruits.

These investigations have been undertaken in answer to the frequent requests of California fruitmen for exact local information of this kind. There are many fruit analyses in European chemical archives, but they will not properly represent fruits grown under the vastly better conditions of soil and climate which exist in this State. As our own examinations multiply, and it is intended to continue such work for several years, it will be possible to arrange comparative tables of European, Eastern and Californian analyses and this will show indisputably their inter-relations. Such comparisons, with data now available, show the superiority of our fruits, but it is just as well to multiply evidence before making out the case in the eyes of the world.

We trust these remarks may draw the attention of our readers to the bulletin on another page. It has a mazy look and its serried columns of figures may seem less juicy than the headlines indicate, and yet one who studies carefully the percentages of the different components of the fruits and compares them throughout according to the figures given, will clearly see why certain fruits are best for the uses for which experience has selected them and the degrees in which these values are great or small in the different varieties. The text of the bulletin aims to present the most obvious deductions to be made from the examination of each class of fruits, and, in individual varieties, the description of the fruit, the soil, and in some cases the method of cultivation followed. The fruit-grower should preserve the publication for future reference, as he will find it of permanent value.

We print on page 397 the chief transactions of the meeting of the State Board of Horticulture in this city last week, including the full text of the annual address of President Cooper. The president looked upon the dissatisfaction toward the board and its work, which has been loudly manifested in Los Angeles county, as a very serious matter and naturally concluded that those working under appointment of the board and at the same time opposing its measures should be put beyond the pale of the board's authority. Probably no other conclusion could be reached when the offense seemed so heinous. We regret, however, that a lighter construction could not be placed upon the action of the local commissioners and their services retained. This was probably impossible for the members unanimously voted to clear the skirts of the board of the malcontents. We fear the matter may stir up new strife but we hope not. Practical fruit-growers and those who disinterestedly look for the advancement of our fruit interests, should do everything in their power, not to perpetuate conflict, but to strengthen the board in every possible way that the public money may be wisely and effectively expended.

By a law passed by the Legislature the existence of the State Board of Forestry was terminated and the property thereof turned over to the State University. We believe this property consists solely of the two forestry stations at Santa Monica and Chico. A small appropriation was made for the maintenance of these stations by the University—enough, we imagine, to keep the trees cultivated and to extend the plantings so as to embrace larger collections of trees. If this be the case, the forestry stations will be included in the University's list of local establishments, governed, inspected and reported upon as the other stations are. This will make the results of the plantings generally available for the guidance of planters of forests and ornamental grounds, so far as they go. This is a fortunate solution of the question, for it was feared that, upon the dissolution of the State Board of Forestry those two tracts of land might be sold to the highest bidder along with the other junk which remains from a legislative session. We shall probably be able to speak more definitely regarding the future of the stations later on.

THE day is not far distant when the Santa Clara valley will be gridironed with electric railroads. Population is already thick enough to justify a beginning. Before many months we expect to see the electric "horse" flying through the shaded groves and fruitful fields of the valley. Electric roads can be made carriers of freight just as well as passengers. The trolly belongs in the country just as much as in the city.

From an Independent Standpoint.

The inauguration of the Columbian Exposition has occupied a large share of the public attention during the past week. The ceremonies began at Hampton Roads on the Virginia coast, (where thirty-nine war-ships, representing nearly all the civilized nations of the world, had previously assembled) with a grand naval review which was witnessed by two hundred thousand people. From there the ships steamed to New York harbor where there was another marine pageant witnessed by a million people. On the following day (Thursday) there was a procession in New York City in which the crews of the warships took part, and a banquet and ball in the evening. Throughout the week the weather was bad, but, nevertheless, the celebration is said to have been a splendid success.

At this distance, in spite of the columns upon columns of enthusiasm telegraphed to our daily papers, the proceedings look tame. Just what there is in the booming of heavy guns, in a general interchange of civilities between naval officers and foreign grandees, and in a general walk-around of ships—all away from shore and half obscured by rain—to entertain rational human beings we fail to see, but the fact remains that hundreds of thousands of people looked or tried to look on, that they shouted themselves hoarse, and that they were united in the judgment that nothing like it had ever occurred before. It is a splendid evidence of the strength of American imagination and the fervor of American patriotism.

The cost of this demonstration was enormous. First and last it will take three or four millions of dollars from Uncle Sam's pockets. Whether or not the game is worth the candle we very seriously question. We cannot see that such doings add to the strength or dignity of the nation, that they yield anything in the way of material benefit or that they teach anything in particular. In spite of all the talk about promoting international fellowship and bringing about the reign of universal peace, we can but feel that the whole business is very useless and very silly and that it is a sad waste of public money.

On Saturday night and Sunday the President, the members of the Cabinet, the foreign grandees and the military and naval officials went to Chicago, and on Monday the great fair was formally opened. Here again it rained, and the fair grounds were half flooded and unspeakably muddy, but this did not prevent half a million people from being on hand. The clouds cleared away toward midday, and the ceremonies were held in the open air. There was a splendid assemblage of notables, including the Spanish Duke of Veragua, a lineal descendant of Columbus, who is the guest of the American government. Mr. Cleveland delivered the formal address, which was admirable, both in its matter and in its brevity. He said:

I am here to join my fellow-citizens in congratulations which befit this occasion. Surrounded by the stupendous results of American enterprise and activity, and in view of the magnificent evidences of American skill and intelligence, we need not fear these congratulations will be exaggerated.

We stand to-day in the presence of the oldest nations in the world and point to the great achievements we here exhibit, asking no allowance on the score of youth. The enthusiasm with which we contemplate our work intensifies the warmth of greeting we extend to those who have come from foreign lands to illustrate with us the growth and progress of human endeavor in the direction of a higher civilization.

We, who believe popular education and the stimulation of the best impulses of our citizens lead the way to the realization of the proud national destiny which our faith promises, gladly welcome the opportunity here afforded to us to see the results accomplished by efforts which have been exerted longer than ours in the field of man's improvements, while in appreciative return we exhibit the unparalleled advancement and the wonderful accomplishment of a young nation, and present the triumphs of a vigorous, self-reliant and independent people.

We have built these splendid edifices, but we have also built a magnificent fabric of popular government, whose grand proportions are seen throughout the world. We have made, and here gathered together, objects of use and beauty, the products of American skill and invention. We have also made men who rule themselves. It is an exalted mission in which we and our guests from other lands are engaged as we co-operate in the inauguration of an enterprise devoted to human enlightenment; and in the undertaking we here enter upon we exemplify in the noblest sense the brotherhood of nations.

Let us hold fast to the meaning that underlies this ceremony, and let us not lose the impressiveness of this moment. As by a touch the machinery that gives life to this vast exposition is now set in motion, so at the same instant let our hopes and aspirations awaken forces which in all times to come shall influence the welfare, dignity and freedom of mankind.

We print this speech in full because it is worth everybody's reading. It emphasizes in the fewest words the real significance of the fair.

The President ceased speaking at ten minutes past noon. He paused a moment, then he grasped the electric button and pressed it firmly. Instantly the veil fell from the enormous golden statue of Liberty at the entrance of the lagoon, a hundred fountains spread their jets of water high in the air, a thousand banners were set free and fluttered in the wind, and 100,000 throats raised a mighty

shout, whistles on the boats belched forth a shrill, ear-splitting scream, out on the lakes big guns thundered, hats were flung in the air, and afar the locomotives, taking up the sound, added to the fast-increasing volume of noise with the loud tooting of their whistles. Buffalo Bill's Indians and cowboys added their yells, and everything capable of producing noise within a square mile did its best in that direction.

The crowd in front of the platform from which the President spoke was very great, and the fair police, although fifteen hundred strong, were unable to maintain proper order. So great was the pressure that thousands were jammed together like sardines in a box and a good many persons were badly hurt. Scores of women fainted, and it is little short of a miracle that nobody was actually killed. There was many amusing incidents, and one in particular must have astonished the foreign grandees accustomed to the ceremonies of courts. At one stage of the proceedings a railroad engineer, smutty from his labor and in working garb of overalls and jumper, pushed his way to where the President stood and shouted, "Hello, Grover; give us your paw!" Mr. Cleveland smiled and shook hands with the man and the crowd went wild with delight.

The great fair is actually open, but it is far from being complete. Not one of the big buildings is in the shape that it will finally take and it will be a full month before the fair is at its best. The California building is still in confusion and in the general building none of the California exhibits are complete. The only fresh fruits exhibited are oranges, and a correspondent bitterly complains that Michigan beats us in a display of ripe strawberries. Our season is late, to be sure, but strawberries grown in the open air have for some days been exposed at every fruit stall in San Francisco, and it does seem that some display should be made at Chicago. Our exhibit will cost, all told, about six hundred thousand dollars, and for that sum we should be able to show off our best points, and early fruits and berries are one of them.

The chief interest in the political world is the coming convention of the National Republican League which will meet at Louisville, Ky., on Tuesday next and continue in session for several days. It will be the first general meeting of Republicans since the great defeat of last November, and it is believed that upon its action—that is, upon the line of policy which it will develop—the future of the party depends. There will almost certainly be a clash of opinions at Louisville just as there was at Chicago. One element will wish to reorganize the party on new lines and another will wish to continue on the old lines. The following-named gentlemen have been invited to address the convention, and a majority of them have already accepted: General Russell A. Alger, Frank J. Cannon, Frederick Douglass, J. Sloat Fassett, D. H. Hastings, General James Longstreet, Thomas B. Reed, John C. Spooner, J. C. Burrows, Chauncy M. Depew, M. M. Estee, ex-President Benjamin Harrison, Robert T. Lincoln, Governor William McKinley, John S. Robinson, J. B. Foraker, W. H. Hepburn, Henry Cabot Lodge and Levi P. Morton.

The project of a competing railroad through the San Joaquin valley, to which reference was made in these columns last week, has been taken up seriously by the Traffic Association, and leading members of that body express the opinion that it will actually be built. The other project for a canal connecting Bakersfield with navigable water at Stockton is also being talked about, its advantage being that it would cost 50 per cent less than the proposed railroad. Manager Leeds of the Traffic Association is of the opinion that a canal would not be satisfactory. He says:

I regard a canal through the San Joaquin valley as a doubtful experiment, both physically and commercially. I doubt that the water supply would be sufficient to operate the canal the year through. I believe that with the San Joaquin valley under full cultivation the canal would fill up with mud every high water unless more money was spent in protecting it than would accrue in benefits. Commercially, the value of such a canal as has been discussed is doubtful, for the reason that transit by the canal would be so slow and cumbersome that only the cheapest and commonest kind of freight could be handled. I think that it would require at least fifteen days to move a canal-boat load of wheat from Tulare or Kern county to the bay of San Francisco. The canal boats cannot go faster than they can be drawn by mules or horses, which would be at a rate of fifteen to twenty miles per day. That is, a canal-boat would go about as far in a day, through the canal, as a freight train ought to go in an hour. The soil of which the canal banks would be constructed is of such a nature that it would be impossible to use propellers in the canal. A man engaged in buying and shipping wheat, unless he had a big bank account, would be unable to patronize the canal. It would mean certainly that the banks and shippers would be obliged to carry wheat that much longer. The price for canal shipment must be less than the rail shipment rate. The same class of objections apply to the canal for the movement of merchandise. The man who wants goods expects to have them in his store to-morrow. If he was to receive them by canal he would be compelled to order them fifteen or twenty days before he wanted them. I don't believe that a canal

would carry the merchandise trade of the San Joaquin valley, and it certainly would not carry the passenger business. No one but a tramp would have time enough to spare to voyage through the San Joaquin valley on a canal boat.

When asked what in his judgment the projected railroad would accomplish for the San Joaquin valley, Mr. Leeds replied:

It would do all that California wants done in that part of the State just now. It would settle the transportation question, and other questions intimately related to transportation would settle themselves soon. I make this remark because, in proportion to population, California pays for transportation from \$8,000,000 to \$10,000,000 per annum more than the States bordering on the Missouri and Mississippi rivers. If the Southern Pacific Company did not choose to put down its rates to all points in the San Joaquin valley to a proper basis to compete with places through which the competing railroad which we hope to build would pass, the immediate result would be the construction of branch competing lines to all parts of the valley.

One of the good results of this project is that it is waking up the merchants and capitalists of San Francisco to a sense of their interest in doing something for the benefit of the interior. Thus far they have had the interior trade because it was compelled to come to them. They have, in fact, sat by the Golden Gate and collected toll. All they have ever done has been to lend money or perfectly good security at heavy rates of interest. Now they are beginning to realize that if they are going to hold the interior to its allegiance they must make the benefits of the connection reciprocal. There is, in fact, no other plan for long-continued business relationship; and if San Francisco is going to be in the future as in the past, the business depot of the State, it must put out part of its enormous capital to give the interior a better market, better prices, and cheaper goods.

THE death of Robert M. Hamilton in this city on Wednesday deprives the well-known pioneer firm of Baker & Hamilton of its founders. Mr. Baker died last November, and at that time Mr. Hamilton was prostrate with an attack of paralysis. He never rose from that stroke, but lingered until death has just given him release from suffering. Many of our readers have long known Mr. Hamilton, either from dealings with him in hardware, tools and implements in Sacramento as early as 1852, or during the last quarter of a century in which the firm has had an establishment in this city. The firm has been one of the most prosperous as well as the oldest of its kind in the State. It has conducted the largest manufactory of agricultural implements in the State at Benicia, and its members have been respected and prominent in public affairs as well as in commercial circles. Mr. Hamilton was but 60 years of age, and leaves a widow and four children.

Vastness of the World's Fair.

The scope and immensity of the World's Fair are thus well set forth by Director-General Davis in his speech at the opening exercises:

"Fortunately, at the inception of this enterprise our Government was and still is at peace with the whole world. Commissioners were sent to Europe, Asia, Australia, British North America and the islands of the seas, so, to-day the whole world knows and is familiar with the significance of the great peace festival we are about to inaugurate upon this campus, and all nations join in celebrating the event which it commemorates.

"This inclosure, containing nearly 700 acres, is covered by more than 400 structures, from the small pavilion occupying an ordinary building site to the colossal structure of the Manufactures and Liberal Arts Building, covering over 30 acres, filled and crowded with a display of the achievements and products of the mind and hand of man, such as have never before been presented to mortal vision.

"Surrounding this grand plaza where we stand, and reaching from the north line to the extreme south, is the great mechanical, scientific, industrial and agricultural exhibition of the resources and products of the world. These have been secured from the four quarters of the globe and placed in systematic order under the supervision of these great departments, and while all material upon the grounds is not yet in place I am gratified to be able to present to the President of the United States at this time the official catalogue containing a description and the location of the exhibits of 40,000 participants in the Exposition. The number of exhibitors will exceed 60,000 when everything is in place.

"The citizens of our country are proud and always will be proud of the action of the Congress of the United States of America in authorizing and directing this celebration to take place; for the appropriation of more than \$5,000,000 in its aid, and for unswerving support and encouragement of the officers of the Government.

"To the states of the Union we are largely indebted for active and substantial support, to foreign nations which have representation upon these grounds never before witnessed at any exposition, as shown by the grand exhibits they have brought here, and the hundred of official representatives of foreign Governments, who are present on this occasion, we bow in grateful thanks. More than \$6,000,000 has been officially appropriated for these commissions in furtherance of their participation in the Exposition. The great nations of Europe and their dependencies are all represented upon these grounds. The Governments of Asia and Africa and the republics of the Western Hemisphere with but few exceptions are represented here.

To the citizens and the corporation of the city

of Chicago, who furnished \$11,000,000 as a contribution, and in addition loaned the management the sum of \$5,000,000 more, are due grateful acknowledgement. To our own people, and the honored guests who share with us the advantages of this great international festival, and to the tens of thousands of exhibitors who contributed a larger amount than all the others combined, we are under the deepest obligations for their interest and co-operation. "The grand, concerted illustration of modern progress which is here presented for the encouragement of art, of science, industry and commerce, has necessitated an expenditure, including the outlay of our exhibitors, largely in excess of \$100,000,000."

Mail for the World's Fair.

Local postal authorities have received from Washington information concerning the delivery of mail at the World's Fair station, and for the benefit of visitors the same is published. The circular received is as follows:

"For the benefit of persons who intend to visit the forthcoming World's Columbian Exposition at Chicago, notice is hereby given to the public, through postmasters, that there is now in operation, in the Government building on the grounds of the Exposition, a branch of the Chicago postoffice, known as the World's Fair station, and which will continue during the entire period of the great Fair.

"This station postoffice will make regular collections and deliveries through its own force of letter-carriers from and to all parts of the Exposition grounds and will transact money-order and registry business, as well as all other business pertaining to a first-class postoffice.

"Visitors to the Exposition, not knowing before leaving home their precise location in Chicago, may find it convenient to have their letters and other mail matter addressed to the World's Fair station, or to have money orders payable there rather than at the main office at Chicago. Afterward, if desirable, they can have their addresses changed, either by notice to their correspondents, or by application to the postmaster at Chicago, or the superintendent of the World's Fair station.

"Mail matter intended for delivery on the Exposition grounds should be plainly addressed 'World's Fair Station, Chicago, Ill.,' giving, if possible, also, the precise locality in the grounds to which the matter is to be delivered, so that carrier delivery can be easily effected."

The Western Fruit Crop.

MOAWEQUA, Ill., April 21.—Ice froze hard last night. The entire fruit crop of this section of the State is greatly damaged if not entirely ruined.—Special to St. Louis Republic.

ST. JOSEPH, Mo., April 21.—The apple crop of northwest Missouri and northeastern Kansas will be an almost total failure. Ice froze last night in this vicinity to a thickness of nearly half an inch, and great damage was done to the apple and peach trees, which were already in bloom.—Special Dispatch to Globe-Democrat.

ILLIOPOLIS, Ill., April 21.—The worst snowstorm ever known here at this time of year raged all day, and fruit-growers feel despondent.—Special to St. Louis Republic.

MOBERLY, Mo., April 21.—Ice to-day appeared on all fruit trees, and the prospects for even an average crop are slim.—Special to St. Louis Republic.

EMPORIA, Kan., April 21.—A very heavy frost occurred here last night, ice forming in many places over half an inch thick. All hopes of a fruit crop in this vicinity are now given up, those best informed alleging that no apples, peaches or pears can be expected. Early vegetables are also killed.—Special to St. Louis Republic.

Warts from Cows' Teats.

TO THE EDITOR:—In the RURAL PRESS of 15th inst., "Reader" wants to know how to remove warts from cows' teats. The question is answered, but I can give a better method. Take hold of the warts, one by one, with the finger and thumb and jerk them out. The roots and all will come, leaving a small cavity in the teat which should be dressed with some simple salve, and in a day or two the place will be all well. The pain caused by this method is inconsiderable compared with any of the methods mentioned in the answer referred to. I have removed a number of warts several times from cows without tying them up at all, and all I ever do is to simply tie the cow to a post. One milking of a cow whose teats are covered with sore warts will cause her more pain than removing them by this method. S. H. W.

Selma, Cal., April 24, 1893.

From Santa Barbara County.

TO THE EDITOR:—April has proved a very dry month with us. Only about three-eighths of an inch of rain fell up to the 6th of the month, since which time there has been much more than our average of drying, westerly winds. Farmers are busy planting beans, corn, etc.

Fruit trees are blooming. Apricots will be below the average in quantity. Some of the trees are full enough. Some will need thinning; many others have little or no fruit. As yet, it is too early to pass upon other fruits and nuts.

Hay-making has begun, and, if the dry weather continues, the crop will be secured in very fine order. Hay will not be a heavy yield. O. N. CADWELL.

Carpinteria, Cal., April 30, 1893.

THE first quarterly supplement, Volume X, of the *Advertiser Reporter* is at hand. It contains much recent information of great value to publishers. The *Advertiser Reporter* is always complete, accurate and fair.

SOME very interesting facts in regard to the GENUINE BUCKEYE MOWERS can be found on page 399. *

To Our Readers.

Any reader of the RURAL PRESS will do the publisher a favor by sending in a list of his or her neighbors who are not, but who ought to be, regular subscribers of the paper. We will send to all addresses thus furnished sample copies of the RURAL free of charge.

To any subscriber of the RURAL—or member of his family—who will undertake to act as local agent in the matter of getting new subscriptions, and of collecting from old ones, we will allow liberal cash commissions.

If any subscriber of the RURAL will send us three new names with cash for one year in advance (\$2.40 each) his own subscription will be credited one year on our books. Or, if he will send us one new name with payment in advance for one year, we will advance his own subscription four months.

We will gladly communicate with and give further directions to any of our readers who would like to co-operate with us in extending the circle of RURAL subscribers. Recent improvements in the paper are turning the attention of the public to it, and the business of bringing in new names is easier than ever before.

Deep or Shallow Plowing.

Mr. N. W. Blanchard of Santa Paula gives his experience in deep plowing in the *Venturian*. He says:

"I have found that on my place, which is of clay loam, that a system of shallow plowing has caused the fibrous roots to come to the surface. Last year I noticed that my trees, or some of them, did not look well and I concluded to investigate. The soil on the surface was moist, and there was nothing on top to indicate anything wrong. However, I dug in the soil to see how it looked, and found that just below the depth of cultivation the ground was hard and dry and, as a result, the fibrous roots were coming to the surface. I immediately had the ground plowed deep, cutting right through the small roots, and the result shows, to my mind, that deep cultivation was the best.

"Mr. Blanchard was also asked about his method of irrigating, and he said that he had no data as to quantity of water used per acre, as he owned his own supply, but should judge it to be about one inch to four acres. This, of course, depends upon the soil. On his place he cuts furrows about two feet apart through his orchard when irrigating and allows the water to soak thoroughly through the soil. He allows it to run forty-eight hours, or until the soil between the furrows show moisture. Care is taken to keep the water from the trunks of the trees. Following irrigation cultivation must come just in time. Some soil requires different methods, particularly if light or sandy. In the latter event some growers do not cultivate after each irrigation, but leave their ditches open for the next time."

A CONTRIBUTOR to the *Tulare Register* takes an encouraging view of the future of the raisin market. Production has increased enormously, but he thinks cheap prices have greatly stimulated consumption and that five pounds are used now where one was formerly. "Sixteen pounds of California raisins to the dollar," as advertised in the East, means that they are sold in bulk where formerly very small quantities sufficed. Raisins will soon be as commonly used as prunes or any other dried fruits. Then adds the writer: "The man that gets his raisins on the market in the best condition and at the least possible expense can generally expect to come out ahead." Quite correct. The grower who raises first-class raisins, or any other fruit, and prepares it well, need lose no sleep nights worrying about a market.

A Prunings Hasher.

TO THE EDITOR:—Is there a machine made to cut up the limbs that have been pruned from fruit trees, the same to be used to loosen the ground in the orchard.—B. Pasadena.

We publish inquiries about once a year for a machine of this kind, but we do not get replies. What is desired is a machine which can easily reduce orchard prunings into small chips which will decay in the soil and at the same time make a heavy soil lighter and looser. Has any one such a machine?

THE people of Yolo county are devising one very important plan to improve the markets for their products. The Woodland Street Railway Company proposes to build, equip and operate a narrow-gauge railway from Esparto, in the western part of the county, to the Sacramento river, via Woodland, provided it receives a guarantee of \$3000 per year for ten years. Fulfillment of the enterprise means cheaper freight rates and large increase of land values along the new route, and greater production. It is to be hoped the road will be built. What is true of Yolo may be applied to almost every other part of the State.

AN unfortunate rancher in Pomona valley the other day sustained a compound fracture of the leg caused by the kick of an ostrich on the ostrich farm there. His condition is serious. There have been three or four cases of broken legs among men on southern California ostrich farms from the same cause.

DEPUTY LABOR COMMISSIONER O'BRIEN, who for several weeks has been trying to ascertain whether the sweating system exists in the factories of this city, finished his labors on Saturday and reported to his chief that there are no sweaters in this city outside of Chinatown.

Gleanings.

THE papers of Oroville are agitating the subject of a fruit cannery. THE Earl Fruit Company, which has sent several carloads of oranges to England this season with varying success, is now trying the experiment of shipping five carloads with ice.

AT a meeting of the Porterville Horticultural Society last Saturday it was decided to hold the second annual Central California Citrus Fair on January 18, 1894. The district includes Fresno, Tulare, Kern and King counties.

THE *Venturian* is the name of a new paper at Ventura, published by Ali D. Bower, a well known newspaper man. Judging from the first issue, the *Venturian* is certain to be an interesting and able exponent of the resources and needs of Ventura county.

A SWARM OF BEES took possession of a church at Tustin, Orange county, the other day and the congregation was forced to sing its haliluhjabs with the blue vault of heaven for a roof. The busy bee can occasionally make himself an all-fired nuisance while improving each shining hour.

HERE is the latest from an exchange: Thomas Meadows went to his barn last night to milk in the dark, got into the wrong stall, undertook to milk a mule. He arrived from above about ten minutes later, and expects the bucket down in a few days. The barn will need a new roof.

ACCORDING to reports from most quarters of Marin county, the hay crop will be shorter than for many years past, owing to the backward season. The same is true of other sections around the bay, if our exchanges are to be believed. The price of hay is apt to touch boom figures in 1893.

THE California Entomological Society has elected the following officers: Pres., Dr. H. H. Bahr of the Academy of Sciences, San Francisco; Vice-Pres., Prof. E. J. Wickson, Berkeley; Sec'y, W. G. Johnson, Palo Alto; Treas., C. C. Riedy, San Francisco. Directors, Chas. Fuchs, San Francisco, and Emile Kellner, Berkeley.

PREPARATIONS are being made at the cannery for the canning season, and the tin department is turning out from 4000 to 5000 cans per day, says the *Sutter Farmer*. A can tester is also in operation. Last Wednesday a carload of fruit was shipped to the East consigned to St. Louis. Work will soon be commenced putting in another large boiler.

HO! for the Fair! the gilded youth doth cry,
As he tieth up his bundle and to Chicago doth him hie;
But the granger, merry granger, now what, oh, what doth he?
He stayeth home to fight rabbit, codlin moth, hog cholera, scab, scale,
bots, chicken lice, red spider, phylloxera, north wind, cut-worms
and coyo-tee.

THE *Anaheim Journal* asks: "Who says oranges are the only paying product of this country? It says that the past season Robert Mears of that place sold the potatoes raised on four acres of ground for \$57.50 gross. Less than \$100 was paid out for labor and the remainder ought to be pretty fair interest on his investment." Just at this time the potato has an eye to business—though, to be sure, one eye is quite enough.

"A MAN who will walk five miles and fish ten hours, and then lug the result of his piscatorial pastime (a huge carp weighing at least an ounce) home, as did Gene Marshall yesterday, is possessed of more than the usual amount of that cardinal virtue known as patience," says the *Willows Express*. To say nothing of his greater virtue, truth. No one who has not fished, caught nothing and lied about it can appreciate Mr. Marshall's colossal temptation to dally with the truth.

THE Contra Costa *Democrat* advises its farmers to raise hogs, as witness the following:

Contra Costa will change its tack
Of going to the dogs
When its farmers learn the knack
Of raising lots of hogs.

For as soon as the packing-house at Rodeo starts up there will be a constant demand for the product of porcine producers.

JUDGE CATLIN at Sacramento granted a writ of mandate requiring Surveyor-General Reichert to submit to public inspection all applications for lieu land filings that may now be in his office. Reichert has been receiving several hundred applications for filings sworn to by applicants supposed to be dummies and presented by land lawyers. Reichert claimed that these applications were not public documents, and kept them locked up in his safe. Under Judge Catlin's decision he will be required to open the safe and file the applications as he does other official documents.

FOLLOWING is a review of the orange shipments from Riverside for the current season:

	Boxes.	Cars
Crop of 1892-93.		
January shipments.	37,466	131
February.	57,772	208
March.	109,431	515
To April 27.	169,143	592
Total.	373,812	1,446

A MUCH-ABUSED EDITOR of a weekly paper published in Ohio, has drafted the following game law: "Book agents may be killed from September 1st to October 1st; Spring poets, March 1st to July 1st; scandal mongers, any time; whale, August 1st to January 1st; the man who waits until the editor is gone from home and then sneaks in and throws half a cord of elm-slag in the editorial wood-house in payment for a year's subscription, as well as the antiquarian, two-penny business men who think it does not pay to advertise, may be killed from January 1st to December 31st, without recourse or any relief from valuation or appraisal laws."

MR. J. S. CHAMBERS, of Des Moines, Iowa, has been visiting friends down in San Jacinto, and he has signally proven that a man may be a tenderfoot and no slouch at the same time. With a party he was out in the country the other day, when he was attacked by a female wild-cat, made extra ferocious and powerful by privation and hunger. Mr. Chambers was unarmed, but he promptly seized her cat-snip by the throat and after an exciting struggle, and with a little assistance from his friends, the animal was choked to death. Mr. Chambers is quite a hero now. People say it served the cat just right for her unladylike conduct.

AN ordinance was passed by the supervisors of San Bernardino county, the other day, having for its aim the collection of taxes from migratory sheep men. It provides that those who have in their possession 5000 sheep shall pay a license of \$500 per annum and for every additional 1000 sheep \$50, and for a less number a pro rata sum. Failure to take out a license shall constitute a misdemeanor punishable by a fine not exceeding \$500 or imprisonment of one day for each dollar of the fine. This legislation was instituted because of the habit of the sheep men of pasturing their sheep in the mountain forests, thus injuring the watersheds of the citrus belt by destroying the vegetation and growth of young trees.

AN EXCHANGE contains the following extraordinary advertisement: "Wanted—By a young lady, aged nineteen, of pleasing countenance, good figure, agreeable manners, general information and accomplishments, who has studied everything from the creation to crochet, a situation in the family of a gentleman. She will take the head of the table, manage the household, scold his servants, 'muse his babies, check his tradesmen's bills, accompany him to theater, cut the leaves of his new book, sew on his buttons, warm his slippers, and generally make his life happy." The ominous silence this rare and accomplished young woman maintains on the subject of building fires dispels any lurking notion that she is publicly seeking to be lured into matrimony.

SOME very interesting facts in regard to the GENUINE BUCKEYE MOWERS can be found on page 399. *

HORTICULTURE.

State Board of Horticulture.

The California State Board of Horticulture met April 28, 1893, in this city, at 220 Sutter street. There were present Commissioners Ellwood Cooper, of Santa Barbara; L. W. Buck, of Vacaville; Frank A. Kimball, of National City; A. Block, of Santa Clara; I. H. Thomas, of Visalia, and J. L. Mosher, of San Jose.

The report of the secretary was read and approved; it shows that \$8,690.55 has been expended during the present year, leaving a balance unexpended of \$1,309.45.

The number of trees and plants that arrive without some new pest upon them are few, and for this reason nearly all the shipments have been treated with hydrocyanic acid gas, or by dipping, before allowed to be distributed. There were 34 vessels inspected and 94,170 plants found on board, and 749 cases containing plants, 48 bales containing trees, and 29,435 trees. Besides these, nine carloads, containing about 64,000 trees, were quarantined until properly disinfected. Of this number 54,000 were citrus trees.

The report of the treasurer showed that warrants had been paid amounting to \$8,690.55.

The executive committee reported that it had examined the books of the secretary and found them correct in every particular.

An election of officers was then held and the following were chosen: President, Ellwood Cooper; vice-president, L. W. Buck; secretary, B. M. Lelong; treasurer, Fred C. Miles; auditor, J. L. Mosher; quarantine officer, Alexander Graw.

President Cooper delivered his annual address, as follows:

To the Honorable the State Board of Horticulture:—I have called you together on this occasion for several reasons. First, the official term of four of our members having expired, and, although three of the same officers have been re-appointed (one, no action yet taken), it is necessary to re-elect officers of the Board as if four different persons had been chosen.

Secondly, we must consider what action be taken since the defeat of the bill to appropriate ten thousand dollars for the purpose of continuing the search after predaceous insects. Before entering into this subject, I will mention the fact that of the important measures so earnestly recommended in my opening address, at the San Jose Convention, only one received sanction by the legislature, namely, the amended Olive Oil Act. I call your attention to this bill, which appears to be well drawn. It will aid the oil industry and protect the consumers from doubtful mixtures fraudulently sold to them as olive oil.

No effort, so far as I know, was made to further amend the vagrant act, so that farmers and fruit-growers in rural districts are burdened by a tramping population who roam the country and keep the people in constant fear. Much injury is done and occasionally serious crimes committed.

The bill asking for an appropriation and authorization to republish in an abridged form our reports was defeated. While I think this unfortunate (as such a book is badly needed and would have added greatly to the credit of California at the World's Columbian Exposition), yet I cannot help but congratulate you on escaping such burdensome labor. While it is possible to employ a competent compiler, it is only the practical fruit-grower who could determine what parts to leave out and what to republish. The Board would have been compelled to do most of this work.

The Pure Food Bill pending in the House of Representatives at the last session did not reach its passage. We forwarded resolutions asking the passage of this bill. It is most unfortunate that no measure nor means can be inaugurated to put a stop forever to the adulteration of every food product.

Forestry protection is rapidly gaining ground. The Government seems to be alive to the importance of forest preservation, and is determined to stop the wholesale devastation which has been going on in almost every part of the country. This is gratifying. Our fruit-growers have taken an active part in this discussion at all the conventions for many years.

The different branches of successful fruit growing, from the setting of the tree to the packing in the box ready for market, have been discussed so fully that our people are reasonably well informed, and pursue the business intelligently.

There are practically only two great questions upon which depend our future success—how to distribute our products and how to overcome insect pests. I will pass over the question of distribution at this meeting and take up that of insect pests, which brings me to the important point we have met to consider. The bill appropriating \$10,000 for the purpose of sending an entomologist to foreign countries, to search for parasitic or predaceous insects, passed the Senate with but one dissenting vote. In the Assembly a protest or petition was presented from Los Angeles, said to be signed by 700 fruit-growers of Los Angeles and adjoining counties. This petition defeated the measure.

Those interested tried to get this petition in order to have a copy and list of the names attached, but failed. I wrote to Mr. Talbot, our representative from Santa Barbara county, who introduced the bill, also to one of the parties who were instrumental in getting it up and circulating it, also to others whom I thought might obtain some clue of it, but I have not been successful in getting information, and the only evidence is the publication, on page 141, in the March number of the *Rural Californian*, C. M. Heintz, proprietor. I beg to call your attention to this petition. The ultimate object of the authors and promoters of this petition is not known to me. It was conceived by irresponsible persons having no interest in the prosperity of the State—foreigners who have not been very long in this country and of whom very little is known. The statement charging us with incompetency and doing injury instead of good, and that we had caused to be published statements that render artificial means no longer necessary, is false in every particular.

The statement in the petition that Australia is not the native place of the red and black scales or woolly aphids was copied from an anonymous letter published in the Los Angeles Times last summer. The author is supposed to be Prof. Riley of the Division of Entomology, Department of Agriculture, Washington. The promoters of said petition have no knowledge on this subject. I regret that such determined opposition to the investigations of this subject should have been made by the Government Division of Entomology. From the very start every obstacle was thrown in our way. When we asked for Mr. Koebele to be sent to search for parasitic or predaceous insects, we were refused, and it was only by appealing to the Ex-Secretary, the Hon. J. M. Rusk, that we succeeded. Mr. Koebele was sent and received his instructions direct from the Secretary, and not through the Division of Entomology. You will see in the report of Mr. Koebele, page 8, that some 40,000 specimens of ladybirds were collected by him and forwarded to California. Most of these were sent to the agent of the entomological division, and were reported in bad condition or dead. Was this purposely conceived as a part of the plan to defeat our purpose? Nearly every publication in Los Angeles and every letter on this subject was antagonistic. All county boards near enough to be contaminated with this spirit were in opposition. We were charged with opening packages addressed to the government agent and taking

part of their contents. The Collector of Port was written not to deliver to us such packages. These letters we have in our possession. All the circumstances and the evidence lead me to the conclusion that the spirit which culminated in the petition was a determination that we should fail. But, my fellow commissioners, time will determine the great good we have accomplished. Our experience, however, has convinced us that we cannot have anything to do with the Division of Entomology until every vestige of this spirit is weeded out of the Department.

It is well known by the fruit growers throughout the State that the discovery and introduction of the Vedalia practically saved Los Angeles and adjoining counties as a citrus growing region. The fact is, the whole region was rapidly approaching bankruptcy from the devastating ravages of the *Icerya purchasi*, commonly called white scale, yet at the very moment of escape, from this same region a petition to defeat the further prosecution of this work is presented. This effort, instigated by no laudable spirit, would, if final in its results, be a great misfortune, but it is not an irreparable injury. We can avoid it by raising the required sum through private subscription. I recommend that we issue a circular to the fruit growers of the state asking for donations of money to be placed at our disposal to prosecute this work to the extent of \$5000 for 1893 and \$5000 for 1894. And as the Los Angeles petition was the immediate cause of the defeat of the appropriation we will expect the fruit growers of that region to raise half the money. There is no doubt but that Los Angeles county contains as great a number of honorable and intelligent gentlemen as any other part of the State and that these gentlemen knew nothing of the petition in question, but it did originate there and it becomes their duty to denounce the authors and promoters and come forward with money to repair the damage. This money must be placed in our hands the same as if appropriated State money.

I call your attention to the report of the State Board of Agriculture of Massachusetts, designated as Senate No. 6, and signed by the Secretary, Wm. R. Sessions, January 10, 1893. This pamphlet treats of what has been done to exterminate the "gypsy moth." On page 6 it says: "Last year the committee asked for an appropriation of \$75,000, believing that sum was as much as could be economically expended." On page 8 it says: "The committee voted, at a meeting held in December, to ask for an appropriation of \$150,000," and on the same page is given an estimate of what they require, particularizing the items, which amount to \$165,770. The itemized account (for 1892) shows the total amount expended, \$74,520.96. On page 21 it states that in 1890 \$50,000 were appropriated, in 1891 \$50,000, 1892 \$75,000. On page 30 is the statement: "It is well known to entomologists that those of our insect pests which are of European origin have become far more injurious here than they were ever known to be in their native homes." Again, on page 31: "The increased ravages of our introduced insects result from the new conditions under which they are here placed. The relations that during the lapse of centuries have grown up between them and their food plants, their insect parasites and the enemies which had kept them in subjection have been left behind, and they are free to ply their destructive work and to increase and multiply without hindrance or molestation unless some of our native parasites shall at length acquire the habit of preying upon them, and other foes discover that they are good for food." Again, on page 36, the question is asked: "Why is the gypsy moth more destructive than our native insects?" Then comes the answer: "It was introduced without its native enemies." Now, what I find so remarkable in this is, that people comprehending the subject so well, and so willing to appropriate money, and so determined to completely exterminate the pest, had not made the effort to search for the parasite. Here we have the statement that \$175,000 had been expended in three years, and \$150,000 asked for the fourth year, making a total of \$325,000 in four years for the purpose of fighting one single pest.

Our modest request of only \$5,000 a year to prosecute this investigation seems so insignificant when compared with what a sister State is doing, that every right-thinking man should feel mortified that the Legislature did not grant it. I suggest that the Board authorize me to open correspondence with the State Board of Agriculture referred to above, to ask them to join us in this search for predaceous insects. Certainly such an intelligent body would be anxious to do so, when our plans are made known to them, as well as the work which we have done. Their entomologist could join with ours, and the two could prosecute the investigation with advantage to both. I have so often and so earnestly advanced this theory of preventing the devastation of our fruits that I refrain from entering into the subject at this time.

In closing my remarks, I recommend that all commissions given by this Board to quarantine officers who have signed the petition presented to the Legislature be withdrawn and that the Boards of Supervisors be notified that we will not commission any one who is known to be antagonistic.

That, after the circular previously recommended is sent to the fruit-growers of Los Angeles county and those adjoining who have taken part in the protest or petition referred to, in the event of no action condemnatory to the flagrant insult to this Board and its work, we hold no more conventions in that region.

The Executive Committee will meet in July to complete the examination of the accounts. The interval will give them ample time to act. Therefore you will at this time authorize the Executive Committee to determine at that meeting where the November convention shall be held.

I most respectfully submit all that I have said for your consideration.

The address of the president was adopted and ordered spread in full upon the minutes.

In the matter regarding the withdrawal of the commissions of horticultural commissioners, the following resolution was adopted:

Resolved, That the entire matter be referred to the Executive Committee with full power to act, and that they do revoke at their discretion the commissions of all those who signed such a petition presented to the legislature as that published in the various papers protesting against the appropriation to search for parasitic insects, which petition was condemnatory of the State Board of Horticulture and reflected upon the competency and integrity of the Board.

The resolution regarding the location of the next State Fruit Growers' Convention at Los Angeles was rescinded, and the matter referred to the Executive Committee.

Representative Geary.—Hon. T. J. Geary, Representative in Congress from California, addressed the board on the need of fruit-growers taking immediate action regarding the new tariff, and furnishing to the committee detailed statements concerning the different horticultural industries and products, and the need of a tariff on said products. He said Congress would meet about September 1st next, and will remain in session probably till July, 1894; also that it will not be an extra session. Congress meets once a year, and the President has the power to designate the date. He is simply going to call this Congress for an earlier date than usual. There are no politics about this session—it is for business. The tariff will be one of the first things, if not the first thing, to come up, and a new tariff will be adopted which will go into effect in July, 1894. The California fruit men want to prepare straight, detailed arguments for the California members to use, and they should be prepared as soon as possible.

The thanks of the board were extended to Mr. Geary. *Convention of Fruit-Growers.*—The following resolution was adopted:

Resolved, That a State Convention of Fruit-Growers and those in-

terested in fruit culture be called to meet in San Francisco, about July 15th next, to formulate such information as is desired by the California representatives in Congress, on the necessity for duties on fruit and fruit products.

The arrangement of the convention was referred to the executive committee, with full power to act.

Distillation of Brandy from Fruits.—Mr. Winfield Scott, secretary of the Board of State Viticultural Commissioners, addressed the board and asked their indorsement of a proposed bill providing for the distillation of brandy from all fruits, as follows:

Be It Enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That section thirty-two hundred and fifty five R. S. be amended by the insertion of the words "and all seed and stone fruits" immediately after the words "apples, peaches and grapes."

Referred to the coming State Convention.

Fruits for the Exposition.—Mr. John Markley, assistant secretary of the World's Fair Commission, addressed the board on the shipment of fresh fruits to the Columbian Exposition. He said arrangements would be made whereby shipments of fresh fruits be made in 5000-pound lots and after being exhibited a day or part of a day, to be sold and the proceeds turned over to the shipper. Fruit-growers desiring to avail themselves of this rare opportunity should address him for further information.

Convention of Olive-Growers.—It was determined to call a convention of olive-growers and those interested in olive culture, at San Francisco, in July next, and the executive committee was instructed to arrange for the same.

Executive Session.—The board then met in executive session, and adjourned to meet again at the call of the president.

The State Horticultural Society.

The State Horticultural Society held an interesting and well-attended meeting at its rooms in this city Friday of last week. After the usual preliminary business the president called for reports of fruit prospects in various parts of the State by members present, with the following result: *Livermore Valley.*—A. L. Perkins reported that fruit is in good shape, though the trees are overloaded.

Niles Region, Alameda County.—J. C. Shinn reported that large varieties of apricots are spotted; Royal and Blenheim fair crop; pears good, except Duchess and Nellis; prunes heavy. Cherries full; apples look well; peaches uneven and will produce a fair crop.

Sutter County.—B. F. Walton reported that apricots will produce only one-fourth of a crop. Peaches look fair. All plums and pears are full.

Upper Sonoma.—Mr. Markley reported that apricots are light; peaches spotted; cherries not large; prunes and plums heavily set.

Ventura.—Mr. Blanchard said apricots are light except Moorpark; but deciduous fruits generally look poorly.

Contra Costa.—Dr. Parkinson reported apricots nearly a failure and Moorpark a complete failure; peaches pretty good on young orchards. Languedoc almonds have nearly all fallen off within two weeks; seedling almonds are pretty well sustained; cherries a light crop.

Mendocino County.—Judge McGarvey said prospects are flattering for a good crop of Bartlett pears and very abundant crop of French prunes.

Sutter County.—Mr. Kells reported apricots were one-fourth of a crop about Biggs; peaches fair.

Sonoma County.—Cloverdale.—Mr. Heald said prospects are generally good though peaches are spotted; apples in full bloom.

Mr. Alexander Graw, State Quarantine Officer then read the following essay:

SPRAYING FOR CODLIN MOTH.

The codlin moth was introduced into the United States about the beginning of the present century, and now but few apple-growing sections in America are free from it. In 1872 an individual thought he would go ahead of his neighbors at the fair held in Sacramento, by importing a few boxes of the same kind of apples that still lingered in his memory of boyhood days of the East, where an apple was considered to grow to perfection in aroma and flavor. The exhibit received considerable attention and comment pro and con. Sol. Runyon, an extensive fruit-grower on the Sacramento river, noticed a number of the apples had worms and suggested that the lot be destroyed, or the fruit men would have reason to regret the bringing of that exhibit to the State. Nothing was done, however, and the following year worms were found in apples raised in the vicinity of Sacramento, and three years later it was carried in fruit to Los Angeles, and now it is found in all the counties in the State, with one exception. That this pest could be brought into the State in other ways than upon fruit there is no question, as the larva hibernates in boxes and all manner of articles that are constantly being carried by rail across the continent.

The late Matthew Cooke, of Sacramento, was one of the first to take up the fight against the new invader and under his directions a vigorous warfare of trapping the larvæ was commenced. Scraping the rough bark from the limbs and trunks and placing burlap bands and other traps around the stems was then considered all that could be done against this pest. This resulted in diminishing the number of moths, but was no protection to the fruit, for a single careless or indifferent neighbor could raise enough moths for the district. It is now a little over a decade since a new system of warfare was inaugurated that prevents to a great extent the larvæ damaging the fruit. This was the use of arsenical sprays. Some growers contend that any wash will have the same result, as the moth will avoid depositing her eggs upon fruit that has any foreign or offensive substance or smell about it. This is certainly an interesting subject and experiments should be conducted to determine this point. However, I desire to caution orchardists against using a formula I notice going the rounds of the press, and recommended as an effective summer remedy against codlin moth and fungus. It is lime, sulphur, salt, aqua ammonia and Paris green, in such proportions that if used upon the tender foliage of pear trees it will have a

disastrous effect and stunt the development of the fruit. If a fungicide for apple scab or pear cracking in combination with Paris green as an insecticide is desired, then the Bordeaux mixture, in the following proportions, will be found effective:

Unslacked lime, 20 pounds; sulphate of copper, 25 pounds; water to make, 200 gallons. The sulphate of copper should be dissolved in twenty gallons of water; slake the lime and add to the copper solution, strain into spray tank and when all is ready add one pound of Paris green. This should be kept in suspension by constant stirring of the solution in the spray tank, otherwise it will settle to the bottom. If the spraying is only intended for the destruction of codlin moth or leaf-eating caterpillars I would recommend Paris green, one pound to two hundred gallons of water. Make a paste of the Paris green, then add it to the water and keep it stirred as recommended for the fungicide. This should be applied with a force pump and fine spray nozzle as soon as the fruit has set and before it turns down.

Enough solution should be used to each tree to thoroughly moisten it without running off. Six or eight days after the eggs are deposited by the moths, the young larvae hatch and begin operations by eating a small patch of the skin of the fruit—say one-thirty-second to one-eighth of an inch surface—before burrowing into the pulp. In so doing they pick up sufficient poison to put a stop to their career. As the fruit expands, subsequent sprayings are necessary in order to keep the surface of the fruit coated, so that it will catch later broods. As we have but little rainfall in California during the season necessary to spray for codlin moth, less applications are required; still, a second spraying should be done about 16 or 18 days after the first, and a third three weeks later. With careful attention to mixing and application, this should give 75 per cent of sound, marketable fruit. Whereas, if this important work is neglected, from 50 to 75 per cent of the fruit will be damaged by worms. London purple is much cheaper than Paris green, but is not so reliable as to strength, and is more liable to injure the foliage.

No spraying should be done during a hot spell or when a north wind is blowing, as it will injure the young growth.

At the conclusion of Mr. Craw's paper, Professor Woodworth of the State University gave an informal talk on "Lichens on Fruit Trees" with microscopical illustrations, describing the results of an investigation by S. J. Holmes of Berkeley. An outline of this will be given in a later issue of the RURAL.

THINNING FRUIT.

The general subject of thinning fruit was taken up and discussed. Several new points were brought out. Among other things Mr. H. Overacker Jr. cautioned fruit growers against too much and too early thinning in years when rains hold on for a long time. It is better, he said, at such seasons to make two thinnings than to run the risk of a sudden occurrence of hot weather after general low temperature. The fruit is very likely to drop in such cases and much loss will ensue. Mr. Overacker found it difficult, however, to apply a general rule to all places, conditions being so different.

The question being asked as to whether it is advisable to thin prunes at all, Rev. A. T. Perkins gave it as his experience that such thinning is profitable. It is astonishing, he said, how much can be accomplished by one who will go at it systematically and diligently. A man will be able, soon, to use both hands, and to perform a great deal of work in a day.

Mr. Ramsey of Woodside and Mr. Ehrhorn of Mountain View both combated the statement that thinning prunes will pay. Some instances have been known where thinning with a long stick was a good thing, but as a rule they had not found it profitable in large prune orchards. Mr. Perkins, they said, might have found it profitable in a small orchard of a hundred trees or more, but on a large scale they did not think it would pay.

Mr. Perkins thought that if thinning would pay on one hundred prune trees it would be ten times more profitable on a thousand, but he was quite willing to admit that conditions differed in different places and that the rule that would apply to one would not apply to another. Mr. Ramsey's orchard, for instance, had suffered much from dropping, while he had never experienced the slightest loss from that cause.

Mr. Markley appeared before the Horticultural Society on behalf of the World's Fair Commission, and represented that it was the purpose of the commission to make displays of California fresh fruits at Chicago in turn and in season. For instance, about the second week in June it was designed to make a special effort to have a fine exhibit of cherries. At other times peaches would be made conspicuous; and so on throughout the entire list of important California fruits. Arrangements have been made by which the fruit so displayed would be sold after it had become soft and the proceeds would be returned to the original shipper. Mr. Markley asked co-operation on the part of the California fruit-growers to make the plan of the commission a success. The railroad company has granted a rate of 66 cents per hundred for fruits so displayed. The shipper can, therefore, deliver his fruit in Chicago at a comparatively small cost and it is expected it will bring, when sold, about 60 per cent of the highest market price for firm fruit. The loss to exhibitors, therefore, would be very small, if anything at all.

Subjects for the May meeting were selected as follows: "Apple Growing," John Markley; "Additional Facilities for Fruit Shipping," L. W. Buck and J. Z. Anderson.

Regular members elected B. F. Walton, Yuba City; John Markley, Geyserville, and Arthur Bull, 109 California street, San Francisco. Honorary members elected: Ellwood Cooper, Santa Barbara and Frank A. Kimball, National City.

Fruits and the Tariff.

The Executive Committee of the State Board of Horticulture, comprising J. L. Mosher, San Jose; Frank A. Kim-

ball, National City, and Ellwood Cooper, Santa Barbara, met in San Francisco Monday to consider the statements of Congressman Geary, made before the board Friday, were agreed on—first, to employ every possible agency immediately to secure desired information, and, second, to call a convention to formally indorse the demands for recognition in the new tariff.

It was agreed to call the convention to be held in this city about the middle of July.

Just what is wanted to be secured meanwhile, to be tabulated for the convention, was formulated as follows:

We want a list of all our fruits and the substances produced from them that now have a protected tariff duty.

We want also a list of our fruits that are now on the free list, with substances manufactured from them, and which ought to be protected.

We want the present tariff duty on our fruits.

We want the tariff duty on same that existed say for ten years or more previous.

We want to ascertain the prices ruling in New York for such fruit products as are now protected by tariff, for several years previous to the shipments of similar products from California.

We want the prices that are ruling in New York since the time that our products have been shipped in such quantities that have interfered with foreign importations.

We want the overland freight rates from terminal points to New York.

We want the price of land in Italy and South France upon which these fruits are grown. The price of land in California. The price of labor in the two countries.

We want to ascertain the prices that the mills and packing-houses pay to the growers of these fruits when brought to the markets.

We want the same rates that have to be paid here in California.

We want to show, if possible, that the oil manufacturers, pickle manufacturers, get the fruits delivered to them for a price that will not much more than pay for the pickling in California.

We want to show that in Europe the manufacturers and packers have not the care of these fruit orchards, nor any money invested in the lands, nor do they suffer by the elements or risks that often prevent crops.

We want to show that when delivered to the mills and packers that the cost of getting the product ready for market is less in Europe than here by reason of lower prices of labor and cheaper interest on capital invested.

We want to show that olive oil foots, so called, is entered free and that there is no such article. It is simply what you might call unfiltered—has a muddy appearance and can be filtered here at a very small expense, and put on the market as good table oil.

As a general proposition we want to show that the California productions of semi-tropical fruits have caused this great reduction in prices that has enabled the masses to enjoy the luxury of eating such products.

We want to show regarding olive oil: That the imported mixtures or substitutions that are fraudulently sold as olive oil, being made of low-priced articles, make it impossible to compete with the pure article, and that if the Revenue laws were such that true labels of the contents was required, no protection, or but little, would be asked for.

The great body of people are not aware of these dangerous mixtures, so that our pure olive-oil market is confined to the few who are aware of the danger.

We want to show the amount of importations of the different protected fruits. The consumption; what portion is foreign and what portion produced here. The actual probable increase throughout the United States. The actual increase in the quantity that will be produced here in five to ten years hence, comparing the trees now in bearing and those planted not in bearing. In making up our tables we want to take the whole product from a given locality, and average the product to the acreage, so as to overcome the booming literature that will be scattered broadcast at the Columbian Exposition.

We should have at least four years; five would be better, say, 1898-1899. In European statistics, we will take such books as A. Coutance compiled before any oil was made here.

We must show that owing to cotton seed oil adulteration that in large areas the olive trees have been rooted out and prune and apricot trees planted. The olive oil product has not diminished for the reason that when the olive product decreases they have only to increase cotton seed oil.

Every person interested in the progress of horticulture in the State is urged to assist the State Board or its agents, in getting together the information outlined above.

Mr. Walton Says. No Inter-Cultures.

TO THE EDITOR:—The answer to your request for a short article from me on the subject of "Inter-cultures," as applied to young orchards, I will say that both my observations and experience condemn such practice entirely where a permanent and profitable orchard is desired.

Here in Sacramento Valley where we grow all varieties of deciduous fruits successfully without irrigation, the effort to raise crops of vegetables, grain or small fruit among the growing trees is a waste of time and labor and only practiced by the over greedy or inexperienced. Such crops must necessarily be planted early in the spring before the season for cultivation is passed materially hindering the systematic and thorough working of all the surface soil. This cultivation, to produce the most satisfactory results, must be managed in such a way that when the dry season sets in (usually early in May) there will be provided a fine mulch of well pulverized surface soil from four to six inches in depth all over the orchard, the result of frequent and systematic cultivations from early in March up to this time, the object being to prevent the growth of weeds and keep the surface loose and fine to a reasonable depth. It prevents evaporation during the dry season when the moisture is largely supplied to the growing trees by a water stratum from 10 to 12 feet below the surface through the pores of the subsoil.

At the same time this mulch is gathering from the atmosphere and storing away the elements of plant-life for the future use of the orchard. Anything planted among the trees materially hinders, if it does not render this style of cultivation impossible, as it is necessary to work the ground at least two ways with tools large enough to do the work profitably. The dangers from sunburn, borers and insect pests is greatly increased by attempting to grow crops of any kind among the trees. Aside from the danger and inconvenience, the expense of producing such crops at so great a disadvantage is usually more than the crop is worth.

A better plan would be to reserve a small portion of the land to be planted to orchard on purpose for the growing of such crops as the owner felt he must raise among his trees; and, later on, when his orchard comes into bearing plant it to some choice variety of fruit that his experience had taught was extremely profitable.

There are other conditions where the evil effects of such

practice would not be so marked, notably where the soil is extremely fertile and well drained with an abundance of cheap fertilizers close at hand and a good supply of water for irrigation. But all practical growers very soon learn that a good healthy and thrifty growth of trees can only be secured where the entire plot is given up to their use and the most skillful attention paid to them.

Yuba City, April 29, 1893.

B. F. WALTON.

THE FIELD.

Potatoes and Potato Rot.

Mr. J. M. Parson has an excellent article on potatoes and potato rot in the current issue of the *Sonoma Republican* from which we take the following:

"The best potatoes produced in the State are grown, not in the hot valleys, nor yet in the spray of the sea. They are not found in the general market and comparatively few people know anything about them. They are the Burbanks, Peerless, Peach Blows, Early Rose, grown on the mountain sides from a few hundred to two thousand or more feet above the sea level. Ah! such potatoes. The pleasure of the eater is more than gustatory—it is æsthetic. They are a sprightly tuber. They are plump out of the kettle open-mouthed, laughing, 'jackets' thrown open, displaying soft and snowy bosoms as if in welcome anticipation of being eaten. Not so with the Humboldt or Bodega. They come out of the kettle or oven sodden and sullen, 'jackets' close buttoned to the skin and like 'Aunt Jemima's plaster, the more you try to get it off the more it sticks the faster.'

"The man whose farm lies along a mountain stream, furnishing water in August and September well up in the temperate zone, can always find on his place soil which will produce the perfection potato. Of course I am not talking of revolutionizing the potato market or of making a fortune. I am simply suggesting to a person so situated, the fact that he can supply his family and to some extent the local market with the best quality of a most necessary article of food at a much less cost than three or four cents per pound, which is the present retail price of potatoes at interior places.

"You will find on every mountain stream numerous 'patches' of loose 'chocolate soil' where the perfect potatoes will grow. Of course water is necessary to complete success, and after the virgin richness of the soil is exhausted, manuring will be necessary.

"And this brings me to the adverse side of the subject which is the principal occasion of my writing. With manuring comes rot. Is there no remedy for the potato rot? I will attempt to answer this question by relating my experience.

"Last year I planted my potatoes on ground heavily manured. I sent to San Francisco and purchased a Bean sprap pumy, (cost \$25).

"I examined my potatoes carefully to see whether any 'brown or rusty spots' had appeared on the leaves or stalks, which are indications that fungus is at work. I found no spots. Nevertheless I gave the vines a thorough spraying with the Bordeaux mixture when they had reached the height of four or five inches. I again gave them a spraying when in blossom. The spots did not appear at all on these potatoes during the season, though some garden potatoes not sprayed were spotted and rusty enough. Now for the result. For the last four years I have manured my potato ground heavily with stable manure kept under cover and not exposed to rain or sun until spread on the ground. The first three years I lost greatly by rot—not less than 10 per cent and nearer 25 per cent on the crop. Many were found rotten in the ground and more thrown out from the barn loft where they were spread after digging and always the fairest and largest were first to decay. Last year I found but two rotten potatoes and not more than a dozen were thrown out afterwards. The area of ground planted was about the same as in the three previous years. Furthermore the proportion of the tubers affected with the internal black spots or streaks so common in Peerless and Burbanks were greatly diminished.

"Now the true philosopher will not jump to a conclusion from the result of a single experiment; yet, I know of no condition or circumstance affecting the growth and care of my crop last year, except the spraying, which did not exist in previous years, when the decay was so discouraging.

"Yet, there remains a modicum of doubt whether to attribute the apparent success entirely to the spraying for the reason that the result was too nearly complete and perfect.

"To save trouble to any one who may be disposed to try the experiment I give the formula for preparing the Bordeaux mixture which I copy from a publication of the Agricultural Department at Washington, as follows:

"*Bordeaux Mixture.*—In a barrel that will hold forty-five gallons of water dissolve six pounds of copper sulphate (bluestone) in ten gallons of hot water and let cool. In another vessel slake four pounds of fresh lime and thin with water. Pour this slowly into the copper solution, using a coarse gunny sack over the head of the barrel. Then fill the barrel with water. It is important that the lime should be fresh, also well steamed to prevent clogging of the spray nozzle; also that the mixture be kept stirred and mixed when applied. My authority says to spray two times. First, when the vines are three or four inches high and the last time when they are in blossom."

THE editor of the *Colusa Sun* publishes the rather discouraging statement that on a recent trip "he did not see a single field of wheat that looked first-class" between Colusa and Sacramento, and he concludes that such experiences teach the farmer the necessity of diversity in farming. The man who depends on one crop must go to the wall sooner or later. Don't put all your eggs in one basket. These remarks apply just as well to fruits as grains. Even hogs won't always be all fat for the producer.

THE "ADRIANCE BUCKEYE" — THE ONLY ORIGINAL "BUCKEYE."

THE "ADRIANCE BUCKEYE" — THE ONLY GENUINE "BUCKEYE."

Which is the Original and Genuine "Buckeye" Mower?

In order that intending purchasers of "BUCKEYE" mowers may not be deceived by any false representations as to which is the ORIGINAL and GENUINE "BUCKEYE," we offer the following CONVINCING evidence in the shape of SWORN TESTIMONY and Testimonials in proof of our assertion that the ADRIANCE BUCKEYE MOWER, as manufactured by Adriance, Platt & Co., Poughkeepsie, New York, is the only Original and Genuine "BUCKEYE" manufactured:

The Trade-Mark "BUCKEYE" was registered in Washington, D. C., in the name of Adriance, Platt & Co. on the passage of the *first* Trade-Mark law by Congress. This statement we can verify by the official and original documents, if necessary.

Extracts from SWORN TESTIMONY of Cornelius Aultman, used in suit brought by ADRIANCE, PLATT & Co. to maintain their Trade-Mark "BUCKEYE:"

"STATE OF PENNSYLVANIA,
"COUNTY OF PHILADELPHIA. } SS.

"CORNELIUS AULTMAN, being duly sworn, deposes and says:

"He * * * * * resides in Canton, Ohio; is the same Aultman * * * * * who founded * * * * * the firm of Aultman, Miller & Co., of Akron, Ohio, manufacturers of Reaping and Mowing Machines. * * * * *

"That in the fall of 1857, JOHN P. ADRIANCE, of New York, visited deponent in the office of Ball, Aultman & Co., at Canton, Ohio. * * * * *

"That, before leaving Canton, the said ADRIANCE informed deponent or his associates * * * * * that he had named his machine, and intended calling it the 'BUCKEYE;' and that thereafter the said ADRIANCE did adopt the word 'BUCKEYE' as his Trade-Mark, and stencilled upon, advertised, and sold his machines as the 'BUCKEYE.' * * * * *

"That to deponent's" (said Cornelius Aultman's) "knowledge, the said ADRIANCE was the first to adopt the Trade-Mark 'BUCKEYE' and apply it to mowing and reaping machines.

"That he had never KNOWN, HEARD OF, OR SEEN, PRIOR THERETO, MOWING or REAPING MACHINES CALLED, MARKED 'ADVERTISED, or SOLD as the 'BUCKEYE.'

"Subscribed and sworn to before me, this 19th day of May, 1884.

"(Signed) CORNELIUS AULTMAN.

"(L. S.) (Signed) LISLE STOKES, Notary Public."

The above-mentioned firm of "Aultman, Miller & Co." manufacture the Buckeye which is now being offered on this Coast in competition with the Genuine ADRIANCE BUCKEYE.

We herewith give a Testimonial signed by residents of this State, whose word cannot be questioned, as they are men of sterling integrity, some of whom have used the ADRIANCE BUCKEYE MOWERS for 20 to 30 years. To those who are not aware of the facts we will say here, that the Akron so-called Buckeye has had nothing to do whatever with the high reputation earned by the "ADRIANCE BUCKEYE," as the Akron *has not been sold* in the San Francisco market until within the last two or three years.

"I have used the ADRIANCE BUCKEYE MOWER, as manufactured by ADRIANCE, PLATT & CO., of Poughkeepsie, N. Y., for many years and it has given entire satisfaction. I know it to be the ONLY GENUINE BUCKEYE MOWER manufactured."

(SIGNED.)

B. J. GLADSTONE, Cayucos.....20 years.
SAMUEL DONALD, Cayucos.....8 "
F. W. FREEMAN, Cayucos.....8 "
G. BIANCHINI, Cayucos.....8 "
JURGEN SCHRODER, Sunol.....20 "
PATRICK GEARY, Sunol.....15 "
H. CARPENTER, Suisun.....20 "
MICHAEL GRENNAN, Suisun.....20 "
HORACE NELSON, Half Moon Bay.....10 "
D. G. BARTNETT, Pacheco.....Has sold it for 28 "
J. S. HOOK, Pacheco.....18 "
And on his father's farm, Pacheco.....30 "
H. H. WHITMAN, Pacheco.....9 "
THOS. H. GREEN, Dougherty's Station.....15 "
ELISHA C. HARLAN, Dougherty's Station.....15 "
JAMES HIGGINS, Tracy.....30 "
D. B. WRIGHT, Byron.....7 "
JOHN S. ARMSTRONG, Byron.....7 "
F. R. BUCKHOLTZ, Byron.....7 "
T. C. PUTNAM, Petaluma.....22 "
WM. HILL, Petaluma.....20 "
A. C. CHURCH, Rio Vista.....24 "

N. C. BUTTER, Rio Vista.....24 years.
G. KILBURN, Newman.....Many years.
A. J. JAMISON, Waterford.....Many years.
R. J. ROGERS, King City.....8 years.
PHILIP ETTING, St. Helena.....20 "
M. M. LYMAN, St. Helena.....20 "
JAMES BLACK, Mission San Jose.....15 "
R. THRELFALL, Irvington.....20 "
W. L. COOLEY, Menlo Park.....8 "
SAMUEL NASH, Menlo Park.....10 "
M. POLSON, Menlo Park.....18 "
JOHN MONAHAN, Menlo Park.....6 "
JOHN RUSSELL, Volta.....8 "
E. CORR, Warm Springs.....20 "
T. TWOHIG, Warm Springs.....26 "
RICHARD BYRNE, Warm Springs.....20 "
AUG. MOORE, Warm Springs.....15 "
PATRICK BARD, Warm Springs.....23 "
GEO. H. LONG, Lompoc.....30 "
E. D. HUYCK, Lompoc.....Many years.
F. S. MOREHEAD, Lompoc.....Many years.
W. W. ZELLER, Lompoc.....13 years.

CAUTION! Be sure that the "BUCKEYE" mower you purchase is branded "ADRIANCE BUCKEYE. Insist upon having it. Take no other. It will not fail to give you full satisfaction.

SAN FRANCISCO **BAKER & HAMILTON** SACRAMENTO
SOLE AGENTS FOR CALIFORNIA AND NEVADA.

POULTRY YARD.

Does Poultry Farming Pay?

[Read before the recent Farmers' Institute at Nordhoff, by Mrs. H. A. CLAYTON.]

To the man who wrote an article in *The Ojai* the other week saying he did not care how much butter one sold in a year, or how many eggs each hen laid in a year, all he wanted was a library; to the man who has a lot of money and wants a fruit farm—neither will heed what I have to say, as they are independent. To the one who has no large farm or great amount of money, to the old bachelor, if there is one who wants a good income, let him get a helpmeet who will start a poultry farm; and also to the farmer's daughter who has not enough pin-money to buy Easter bonnets and Christmas jewels—to these I speak.

The great trouble with many who start in to raising poultry for profit is that they want to earn big profit from the start. If this idea does not materialize, they become discouraged. Many also start with meagre capital, forgetting that time means expense, and a small amount of either will not suffice should unseen delay occur. Capital, good judgment and determination to succeed are essential. Eggs are always at a profit in summer. A farmer can then sell, or he can store for higher prices when eggs are low. In eggs alone he can be assured a fair income. On a plot of five or ten acres a perfect paradise could exist, under proper management. A better living, more peace, happiness and contentment can be enjoyed than is experienced by the richest merchant.

Breeding at five dollars a head ought to pay any farmer, and I know one who gets this for his high-bred birds. It costs no more to raise these than the common barn-yard mongrel.

In my own experience, I have kept a precise account of the cost of feeding, and find that chickens can be kept for one and one-half cents per week for each one, making a cost of seventy-eight cents per year for each hen. We will now count up the income from the much-despised nuisance. Any hen well managed will lay fifteen dozen eggs per year, at an average of twenty cents per dozen, making the receipts three dollars for each one. Subtracting the cost of keeping, you have two dollars and twenty-two cents clear from each hen—and the old hen to do the same work next year. I never keep them over eighteen months, though, as they then become less profitable. To manage properly is to hatch out young fowls so as to have them laying when eggs bring the good round sum of forty or fifty cents, instead of fifteen to twenty cents.

It is the opinion of many, if poultry-keepers would form themselves into a union it would not be necessary for the people of the State to annually send East three million dollars, as is now done each year, for eggs and poultry.

From an investment of seven dollars and fifty cents in October, 1891, to 1892, I have sold above expense \$95 worth of eggs and chickens, or an income of twenty-six cents a day for that time. Some may say these are big figures, but I have day and date, to whom sold, and price, set down in my diary.

Again, you will say, I say nothing about loss by cholera, gapes, coyotes, etc. When I give the proper attention I am not troubled with these any more than the orchardist is with scale, moth, or other insects on fruit trees.

To the man or woman who wants to make the valley more beautiful by planting orchards, and only has a meagre capital, try the old hen for a starter. I do believe more money can be made from poultry than any other kind of farming, oranges not excepted. We do not have to wait from three to five years for this fruit to bear. Count the cost and care of a fruit farm for five years, and the income of the same for that time, and compare. Four hundred chickens can be kept on an acre of good ground at a profit of two dollars each, marking \$800 per acre. If you do not want to do the work yourself, hire a man at \$300 per year, and you still have \$500 an acre a year to place in the golden goblet.

Let those who want fruit farms buy trees if they wish, and take the hen to lift the mortgage.

I want to be a robin, and it would just suit me,
While all the birds are singing there to perch upon the tree.
But if I cannot be the bird with breast of red, why then
With eggs at forty cents a dozen, I'd gladly be a hen.

Scalded and Raw Food.

It sometimes happens that the fowls will not show a partiality for soft feed. This depends not so much upon the quality of the food as upon its preparation. When middlings or ship-stuff is added, the fowls prefer it cooked or in a scalded condition. A mixture of corn and oats, ground, may be fed raw at times to adult fowls and be highly relished by them, but for chicks it should be scalded. When ship-stuff is added, the mass becomes somewhat sticky and does not crumble very readily. All soft food should be mixed with scalding water. It not only renders it more palatable, but also more digestible, and the birds will eat a larger quantity. When they seem disgusted with any kind of soft food, let the ingredients be varied somewhat. A little ground meat added and scalded with the grain, changes the character of the food and provides a new dish. Fowls will prefer raw food at times, as a change, but, as a rule, all the soft food should be well scalded, in order to avoid waste and loss.

Judging the Age of Poultry.

Examine the feet and legs; the size and appearance of the spurs form a guide, as we are told by an expert in the *New York World*. The skin of the pullet or cockerel is smooth and has a fresh appearance, while that of the adult fowl yearly grows coarse and more shriveled. Place the thumb and forefinger on each side of the back near the "pope's nose" and press. In young birds the part is supple, in old ones it is difficult to bend. If, in feeling the tip

of the breastbone, the grizzle forming there is tender and supple, the bird is young. Ducks that have arrived at the age of two or three years have a deep depression down below the breast feathers, and their waddle becomes more and more ungainly.

Poultry Notes.

No single breed of fowls will answer all requirements. Salt should be given in small quantities with soft food.

Geese are very profitable and hardy. They live on food that would kill a chicken.

Linseed cake or oil cake that is fit for cattle may be used in moderation for poultry.

Gapes come to chickens that run on damp, low places, and are caused by small worms in the windpipe.

Separate the males from the females as soon as they begin to mature. They will thrive the better for it.

For young turkeys and fowls a good feed is made with biscuit or dry baked bread, chopped onions and curd.

Handle the birds gently and keep them tame. Do not frighten them so that they will run and hide when you visit them.

Sick fowls should not be doctored unless you are sure of the disease the suffer from. Remove them from the flock, place them by themselves in warm quarters, change their diet completely, and give them soft food easily digested.

Chickens hatched in May do well, and those breaking shell in June get on far enough before hot weather to make little trouble, but it is little short of cruelty to bring out chicks in July and August, and as futile usually as chucks. Like swarms of bees the earliest pay best.

The white Leghorn is highly esteemed as a breed that is most profitable. They are good as winter layers, and early hatched pullets will, with good care lay next winter. As a table fowl though smaller than the Brahma, Plymouth Rock, Langshan or Wyandotte, what they do dress is sweet and juicy.

When roup begins you will notice a watery discharge from the nostrils of either chickens or turkeys, accompanied by an offensive smell. In its first stage it is easily cured by a free use of kerosene oil. Fill up a small spring-bottom oil can, separate the sick fowls from the others, put them in a dry coop well bedded with straw, wash the beak and heads of each with a little salt water, take the oil can and pour some up each nostril and give a little inwardly. Do this daily until the sick are better or well. Sweet oil added to the kerosene is very good and makes the remedy more mild.

The best method of packing dressed poultry for shipment to market in warm weather is to pack in ice if possible. In fact, it is difficult to ship poultry in any other way during summer without it deteriorating on arrival at market, when the dealers of course put it on ice. The next best thing to do is to let the poultry stand in very cold water over night after killing, in the coldest part of the cellar. Pack and ship early so that it may start in good condition. If you are so situated that your shipments will arrive in market by daylight, forward them late the previous evening, then let your poultry remain in cold water right up to the time of shipment. Change the water frequently so as to keep it as cold as possible.—Farm and Home.

The Small Boy Tells What Hens Are.

A boy's composition on hens reads as follows: "Hens is curious animals. They don't have no nose, nor no teeth, nor no ears. They swaller their vittles whole, and chew it up in their crops inside of 'em. The outside of hens is generally put into pillars and feather dusters. The inside of a hen is sometimes filled up with marbles and shirt buttons and sich. A hen is very much smaller than a good many other animals, but they'll dig up more tomato plants than anything that ain't a hen. Hens is very useful to lay eggs for plum pudding. Bet yer life I like plum pudding. Skinny Bates eat so much plum pudding once that it set him into the colliery. Hens has got wings, and can fly when they are scart. I cut my uncle William's hen's neck off with a hatchet, and it scart her to death. Hens sometimes make very fine spring chickens."

The Sitting Hen and Lice.

The sitting hen hatches more lice than chicks sometimes. The heat of her body on the nest provides the lice with the most favorable conditions for propagation, and they do not hesitate to take advantage of their opportunities. A broken egg, or even the filth from a rotten egg that has been crushed, is just what the lice desire. Hence be very careful to have all the nests clean. Use Persian insect powder liberally on the nests, and dust the sitting hens well with it at least three times a week, and the young chicks will be saved from annoyance when they get out of the shells.—Poultry-Keeper.

THE DAIRY.

Breeding and Rearing Calves.

An address by Prof. I. P. Roberts, director of Cornell University Agricultural Experiment Station, Geneva, on the subject, "Breeding and Rearing Calves for the Dairy," was delivered at a meeting of the New York Dairy Association. Prof. Roberts said in substance:

The calf is father to the cow. As the calf is raised the cow is inclined. It might be put much stronger: As the calf is raised the cow will be, and, it might also be added, as the habitual condition of the parents was, so to a great extent will the future cow tend. The calf, if it be the product of a cross or an out-cross, then it will be natural for it

to vary somewhat from both its ancestors, and it appears to be a law of both plants and animals that crosses not too radical produce increase in production. In and close breeding serve to make qualities constant and produce prepotency, while crossing tends to produce variation which, under the best of conditions, results in increased power. The dairy calf, because of its environment before birth, tends to be delicate, and this is not so objectionable as at first might be supposed, for, if no tendency is strong at birth, then, by food and care, it may be molded to suit the uses to which it is to be put in after life. The calf is likely to do better at first if it is fed three times daily with new, warm milk which contains but two or three per cent of butter fats. Calves up to two or three weeks old should be fed sparingly, not more than four quarts at a time, for it is far better to have slow growth than to weaken the viscera of the bowels and stomach by feeding so liberally as to produce diarrhea. When the calf is not more than two or three weeks old it may be taught to eat a little bright clover hay, which is far better than green grass or clover, even in summer. At or soon after this time the calf may be taught to eat a little concentrated food. The amount of nutrition furnished to the calf in these foods is small, but the great object sought in feeding them is gained, that of inducing the calf to ruminate. As soon as this is accomplished the calf is ready to subsist on skim milk, supplemented by hay and other suitable foods, among which should always be found a small amount of linseed, or old-process linseed meal. The dairy calf should be raised in the barn in a box stall until it is nearly a year old, for the heat and flies of summer and the cold of winter all seriously injure the power of the tender calf to grow and develop in the best and most economical manner. It is not good economy to give expensive food to good calves in order to have tender fly-bait. At six or eight months it is a fall calf, and at a year old, if it is a spring calf, it may be turned out to pasture. At about 15 months old the calf should be bred, and if conception takes place and the pasture is good, the animal will make flesh and grow rapidly, and will often become quite fat, but this will do no injury if the calf has the true dairy instincts. If the best methods of feeding, care, selection and breeding should be practiced for a few years, the entire milk product of the country could easily be secured from one-half of the present number of cows.

What Humboldt Creameries Are Doing.

The creameries in the Eel River valley are handling large quantities of milk this spring, larger than in any previous year. Nearly all the dairymen sell their milk to the creameries, where it is made into butter and shipped to market, says the Humboldt Standard.

The Humboldt creamery, near Ferndale, the pioneer in the business on this coast, was established in 1889. The first year was one of bitter experience, but subsequent success has made a handsome balance on the profit side of their ledger. The creamery is now handling 33,900 pounds of milk daily and making 1356 pounds of butter. This amount will increase as the season advances. They are putting up 2000 ten-pound tubs, which Mr. Smith, the superintendent, thinks will become a popular merchantable article.

Neal Freil's Valley creamery, on Salt river, is putting in a steam boiler and engine to take the place of a treadmill. This creamery is handling 4000 pounds of milk daily. The season's average will be 6500 pounds.

John Hansen, a mile east of Ferndale, is running the Star creamery. He is handling 5400 pounds of milk daily and is turning out about 220 pounds of butter. It requires about 24 pounds of milk to make one pound of butter. Last year Mr. Hansen made 50,000 pounds of butter, which sold for \$12,006.

The Eel River creamery, of which Charles Regli is superintendent, is handling 13,000 pounds of milk daily.

One of the finest dairy farms in Humboldt county is the one owned by John T. Pollard, three miles east of Ferndale. Mr. Pollard is an advocate of Jersey cows for butter-makers, basing his arguments on his experience. He has a large herd of graded Jerseys and several thoroughbreds. Mr. Pollard runs a dairy, in which he makes choice butter, taking particular pains with it. As a result he has built up a demand for his product, which always finds a good market at the best prices. Mr. Pollard's little Jerseys are giving over 1200 pounds of milk daily.

Teaching Calves to Drink.

The successful calf-feeder will always use more tact than force in teaching a calf to drink, and never allow a foolish calf to betray him into a passion or display of brute force. Do not allow the calf to suck the whole hand, or a single finger, but placing the palm of either hand over its nose, give it the tips of two fingers to try to suck. In this position you can gently force the nose into the milk held in a convenient sized pail in the other hand. By separating the fingers, you hold back the sides of the tongue, and insure the entrance of the milk when the calf draws. If the milk is warm there will be less trouble, and you will give the calf more or less of the two fingers according to the success in keeping its nose down to business. When he does well you will hardly be touching his tongue or lips, but if it acts badly, give much more surface, and allow it to suck the fingers and get a sup of milk now and then to encourage it. I have been obliged to dip my hand into the milk repeatedly, and thus give a taste of it before the calf would take hold and allow its nose to be turned down into the milk.

Some calves will drink from the first to the third trial, and others will persist in needing the fingers for a much longer time.—North Carolina Experiment Station Bulletin.

How to Kill a Sheep Humanely.

It should first be stunned by a blow given with a broad mallet in the middle of the forehead, about two inches above the eyes. Then cut the throat at the upper end of the windpipe, using a sharp knife.

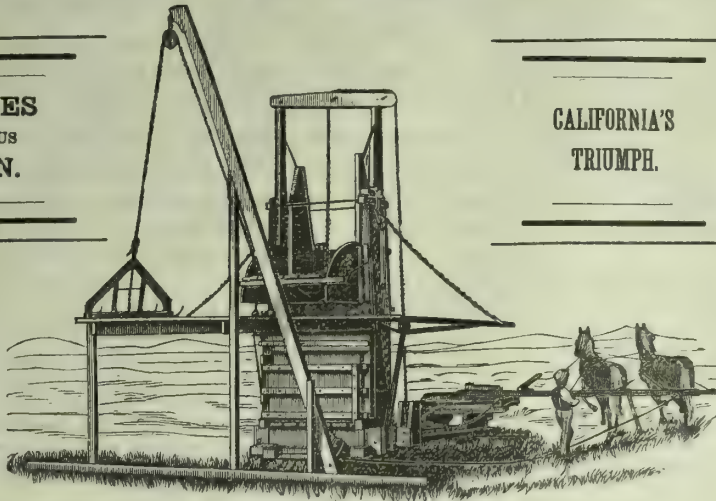
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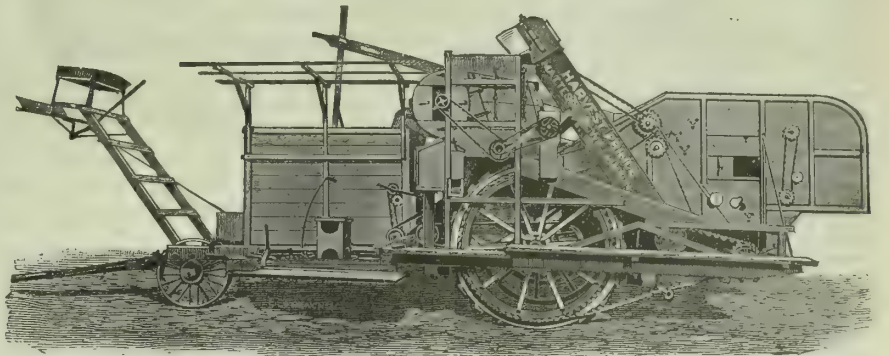
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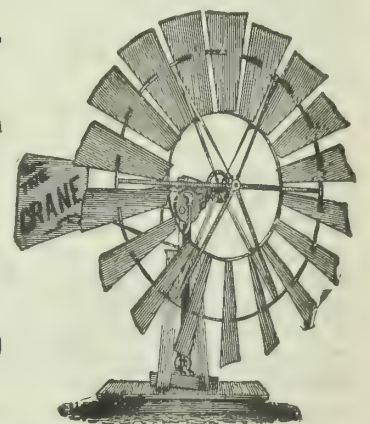
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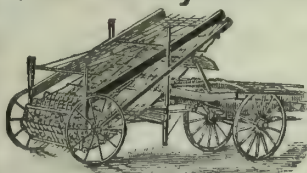
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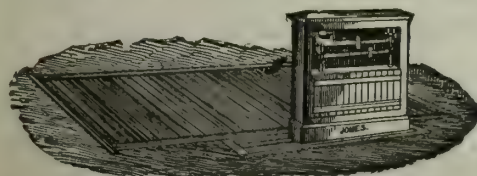
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Further Examination of California Prunes, Apricots, Plums and Nectarines.

University Experiment Station Bulletin No. 101.

NOTE.—For the purposes of this discussion a distinction is made between plums and prunes, as is common in the horticultural literature of this State. By the term "prune" is signified a plum which dries successfully without removal of the pit, and produces a sweet dried fruit, though in the confusion of our nomenclature, not even this broad classification is faithfully followed. For example, we have the "Hungarian prune" as a local traditional name for Pond's Seedling plum, which has no value as a prune; and we have also Coe's Golden Drop plum which does answer the requirements for a dried prune, and in that form is marketed as a prune, and sometimes given fancy names by packers. We do not, however, in this publication, attempt to correct the classification, but follow the popular arrangement.

The order of enumeration of fruits in the head line above, and in the tabular statements which follow, is based upon the relative commercial importance of the fruits in this State. An arrangement of the chief table of analyses is also made to bring into juxtaposition the varieties from adjacent regions of the State that effects of local climates and soils upon the same variety may be disclosed if such exist. As this is only the beginning of such investigation, the results in this regard should be looked upon as tentative. Many more analyses are required to demonstrate constant differences of this nature, and we invite the sending of representative samples of named varieties from all parts of the State. It is well to send about ten pounds of each variety, each specimen being wrapped to prevent bruising. Such samples may be sent by express at our expense. Each shipment should be accompanied by a letter giving name of variety, age of tree and stock upon which it is budded or grafted, location of orchard, and name of grower; also notes of culture, irrigation, etc. Address such shipments to "Agricultural Experiment Station, University of California, Berkeley, Calif."

This bulletin is a continuation of the work reported in Bulletin 97 of this Station, and in some paragraphs the text is reproduced, only changing figures to include the results of a greater number of analyses. It is perhaps only fair to Mr. Colby to state that the analyses of the fruit grown in 1892 are his personal work, and have been made without assistance.

E. J. WICKSON.

The subjects discussed in this paper are summarily set forth in the following quotation from Bulletin 93 of this department:

"The purpose of this work is to show comprehensively the proximate and ash composition of the leading varieties of fruit as grown in the principal fruit regions; and inferentially, the influence exercised upon them by the prominent conditions of soil, climate, fertilizers, etc. The physical data (proportion of pits to flesh, etc.) are of interest from a commercial standpoint, as showing what is being purchased as to available and waste material, etc."

"The consumer, though usually considering fruit as a luxury, would derive much valuable knowledge from studying the fruits in their relative values as foods. The nourishing portions, shown especially by the nitrogenous and saccharine contents, vary greatly with the variety and conditions of growth. It is not, then, a matter of indifference to the consumer what fruit he uses, but an important question of domestic economy."

"The ash ingredients, together with the nitrogen contents of the standard varieties, are of high interest in connection with vital question of soil exhaustion and fertilization. The soil ingredients extracted by an ordinary crop are a serious drain upon the supporting soil, and the lines of heaviest draft can only become known by the actual determination of the constituents withdrawn."

Description of Prunes, Apricots and Plums Received in 1892.

(For a description of these fruits received and analyzed in 1891 see bulletin No. 97, of this station.)

PRUNES.

No. 31, French, Auburn, Placer Co.—Young Bros., growers; sample received Oct. 7, 1892; condition good; size, large; taste, very sweet; flesh firm and juicy. "The soil is red slate, well drained with southern exposure; very little irrigation used."

No. 32, French, Newcastle, Placer Co.—E. B. Silva, grower; sample received Sept. 23, 1892; condition somewhat poor—fruit a little shriveled and very ripe; size, small; flesh rather juicy and very sweet.

No. 33, French, Yuba City, Sutter Co.—R. C. Kells, grower; sample received Sept. 27, 1892; condition fair, but very ripe. "The soil is a sandy loam with a dark clay sub-soil—top soil being of a dark gray or light brown color; ranch lays about three-quarters of a mile from west bank of the Feather river, drainage good. Trees eight years old on peach root."

Nos. 34, 35 and 36, French, Campbell, Santa Clara Co.—Campbell Fruit-Growers' Union, growers. Samples Nos. 34 and 35 received Sept. 1, '92; No. 36, Sept. 21, '92. No. 34 (unirrigated). Condition only fair, fruit being slightly shriveled; flesh not as firm as that of No. 35; size large, taste very sweet. No. 35 (winter irrigated). Condition good, fruit full, well-rounded and firm-fleshed; oversized, flesh tender and more juicy than that of No. 34. No. 36 (irrigated in June). Condition fair, fruit slightly shriveled and very ripe, not as large as either No. 34 or 35; flesh, like that of No. 34, rather

coarse-textured and not as juicy or tender as that of No. 35.

F. M. Righter, vice president of the Campbell Fruit Growers' Union, writes: "There is a great variety of soil in this valley; it is generally a gravelly loam—a sediment deposited by the Los Gatos creek—and upon this the prunes were grown. This soil is very porous, trees cannot be injured by water during winter—have had several feet of water around some of my trees as late as June without injuring them. The soil varies in depth from 10 to 18 feet, in some places the soil to the depth of four or five feet is very sandy, below that there is more clay."

Nos. 40 and 41 French, Ventura, Ventura Co.—J. W. Anderson, grower; samples received Sept. 5, 1892. No. 40 "large" is usual in size; flesh, firm, rather juicy and sweet tasted. No. 41 "small," undersized, large-pitted fruit. "These prunes are from a mountain-valley orchard 2½ miles from sea, elevation 700 feet, with mountains 2000 feet high between the valley and ocean. The larger (No. 40) was raised on sandy soil; the smaller (No. 41) ones on heavier soil."

No. 42, French, Pomona, Los Angeles Co.—P. M. Doyle, grower, sample received Sept. 6, 1892. Condition, good; size, usual; fruit, hard and juicy, but not very sweet. Mr. John S. Calkins, who procured this sample for the Station, writes: "These prunes are from an orchard 7 years old, growing on sandy loam soil, 1½ miles north-east of Pomona, on the Kingsley tract. Trees bore good crop last year, also being very full this year."

No. 44, French, Chino, San Bernardino Co.—J. W. Lawson, grower; samples received Sept. 20, 1892. Conditions, good; flesh, tender and juicy. "Soil, sandy loam; elevation, 300–400 feet; orchard situated 2 miles due north of Chino Exp't. Station. Trees, 5 years old; irrigation resorted to once each month during dry season. Ground has been fertilized but once and then stable-manure only was used."

No. 37, Robe de Sergeant, San Jose, Santa Clara Co.—John Rock, grower; sample received Aug. 25, 1892. Condition, good; fully ripe and more juicy than that of No. 5; flesh, tender and sweeter than the previous year's sample.

No. 38, Fellenberg, San Jose, Santa Clara Co.—John Rock, grower; sample received Aug. 25, 1892. Condition, good; fully ripe; flesh, hard and juicy, only moderately sweet.

No. 39, Bulgarian, San Jose, Santa Clara Co.—John Rock, grower; sample received Sept. 30, 1892. Condition, rather poor, over-ripe and shriveled; examined for the sake of comparing sugar contents with that of No. 8, the same variety of crop of 1891.

Of these samples Nos. 37, 38, 39, Mr. Rock says: "Last season (1891) they were all overbearing and lacked flavor, this year (1892) the crop is light and the fruit better. The land on which the prunes were grown is a sandy alluvial soil, made by deposits from Coyote Creek. These deposits are from four to six feet deep, under which lays a stratum of three to four feet of loam, under this a sandy layer lighter than the surface soil. During the summer the ground water is from fourteen to eighteen feet below the surface."

PLUMS.

No. 45, Coe's Golden Drop, Auburn, Placer Co.—Young Bros., growers; sample received Oct. 7, 1892; condition good—sample somewhat larger than that from Marysville (No. 46); flesh firm and not as juicy as the French prunes.

No. 46; Coe's Golden Drop, Marysville, Yuba Co.—Dr. S. Jewett, grower; sample received Aug. 30, 1892; condition excellent; flesh firm and juicy.

No. 47, Yellow Egg, Marysville, Yuba Co.—Dr. S. Jewett, grower; sample received Aug. 30, 1892; condition very good; flesh firm and more juicy than that of the other plums. Both No. 46 and 47 were from trees six years old grown on heavy sandy loam soil with clay sub-soil.

APRICOTS.

No. 25, Royal, Concord, Contra Costa Co.—J. T. Sutton, grower; sample received Aug. 1, 1892; condition good; sample fully ripe and very large, from young trees three years old.

No. 26, Royal Oleander, Fresno Co.—J. H. Harding, grower; sample received June 24, 1892; condition excellent; undersized; flesh quite juicy, but not very sweet; flavor peachy. "This year my trees are so heavily loaded that the fruit is very small, the trees have not had any irrigation for two years; age of trees nine years, have made only medium growth and have borne very heavily for five years. Soil sandy, slightly tending to white ash, sub-water level ten feet below surface."

No. 27, Royal, Santa Maria, San Luis Obispo Co.—L. E. Blochman, grower;

sample received Aug. 10, 1892; condition good, quite ripe, color high; usual size; flesh firm and rather juicy.

No. 28, Royal, North Pomona, Los Angeles Co.—Mrs. J. L. Loomis, grower; sample received July 2, 1892; condition excellent; fruit fully ripe and quite large; flesh tender and very juicy. Mr. J. S. Calkins, who obtained the samples for the Station, writes: "Trees seven years old, in gravelly loam soil, irrigated once this year. The location is about three miles south of the foothills of the Sierra Madre mountains."

No. 29, Hemskirk, Oleander, Fresno Co.—A. Allision, grower; sample received June 25, 1892; condition good; flesh firm and juicy. "Trees nine years old, heavy regular bearers, soil white ash, water level seven and a half feet below surface."

No. 30, Moorpark, Oleander, Fresno Co.—J. H. Harding, grower; sample received, June 25, 1892; condition very good; color light. "Soil sandy; trees nine years old and unirrigated; water level, ten feet."

NECTARINE.

No. 48, "The New White," Yuba City, Sutter Co.—H. P. Stabler, grower; sample received, Sept. 1, 1892; condition excellent; a very large-sized light-colored fruit, very juicy and pleasantly tart to taste; flesh very delicate.

Discussion of Results of Analyses.

The table given below shows the results of the analytical work for the seasons 1891 and 1892, that of 1892 covering a greater area of the State than that of 1891, which dealt mostly with Santa Clara valley fruits. Subdivision A gives the physical and general proximate analyses, and under this head we have added to that of the previous season the separation of the pit into its component parts—shells and kernels—and reported upon the nitrogen contents of these separate parts. Subdivision B gives the results of the complete analysis of the ash, in which we have considerably extended the work, as compared with that of 1891, to northern and southern California fruits.

In the following discussion of the chief points illustrated by the tables, we shall use such parts of Bulletin 97 as answer for comparison, etc., without further reference to it.

Proportions of Pits to Flesh.

Prunes.—The range in the percentages of pits is from 3.7, in Hungarian, No. 7, to 7.5 in Robe de Sergeant, No. 5; 5.8 per cent representing the general averages for both the French (No. 49) and all prunes (No. 50) (No. 39, Bulgarian, with 9.2 per cent pits, by reason of its over-ripeness, is not included in the above statement.) The later work then verifies our previous conclusion that these fruits contain about 17 times as much flesh as pits.

Plums.—In these the range in the percentages of pits, somewhat less than that for prunes, is from 3.4 per cent in Coe's Golden Drop, No. 45, to 6.1 per cent in Yellow Egg, No. 47, the average being 4.8 per cent, leaving nearly 20 times as much flesh as pits.

The consumer thus finds that the plums possess a small advantage over the prunes, and the prunes, on the whole, amongst themselves, no appreciable advantage in regard to the proportion of pits to flesh.

Apricots.—For the fully-ripe and largely-grown varieties from all localities the variation of pit percentages is from 5.3 (Moorpark, No. 30) to 7.1 (Royal, No. 26), a smaller difference than is found in the prunes or plums, viz., 3.8 per cent for prunes and 2.7 for plums as against 1.8 for apricots. The average pit contents is 6.2 per cent; the flesh, then, is 15 times more in amount than pits. Here, again, there is but a trifling advantage in choice of varieties, so far as the proportion between flesh and pit is concerned.

For equal weights of prunes and apricots, whole fresh fruit, the consumer receives nearly the same amount of flesh or available matter; but the apricots being about 2.7 times larger than the prunes, we have, on the average, 7.5 apricots as against 20.3 prunes per pound avoirdupois. This same difference seems to exist between the plums and prunes.

European analyses of these fruits report figures which do not differ materially from those furnished in the above table; the average pit percentages for prunes is 5.4, for apricots 5.3, the weights for whole fruits not being given in the analyses at hand."

The proportion, on the average, of shells to kernels in the pits of the prunes and apricots examined seems to be very constant and nearly the same for both fruits, or about as 3 to 1. The kernels of all these fruits were full and well developed; the largest pits, however, do not show, for either of these fruits, correspondingly heavy kernels.

Proportion of Juice to Flesh.

Prunes and Plums.—The French prune on the average shows the largest proportion

of free juice, 4.3 per cent more than the average for all the prunes, namely, 83 per cent, or about four-fifths of the flesh. No. 7, Hungarian, while the largest of the prunes has 13 per cent less juice than the average French prune, i. e., 70 as against 83 per cent. The plums, although not as large as the Hungarian prune, are, on an average, about 5 per cent higher in juice, a figure which nearly expresses the difference between the French prunes and the plums. Three-fourths of the flesh of the plum, average, is juice, thus showing the prune-flesh one-twentieth more juicy than that of of the plum.

Apricots.—The proportion of juice to flesh is nearly the same for all the samples, 90 per cent, or nine-tenths of the flesh being juice. No. 29, Hemskirk, with 93 per cent, being the juiciest, and No. 15, Blenheim, with 85 per cent, the driest of the series.

The average flesh of the apricots, from this latest showing, is more juicy than that of the prunes, in the ratio of 9 to 8.

Sugar Contents of the Juice, Flesh and Fruit.

The work undertaken for the crops of 1891 and 1892 did not comprehend the determination of the different sugars (dextrose, levulose, cane sugar, etc.), contained in prunes and apricots; the length of time necessary to complete such an investigation for each sample, required us to limit the work to the determination of the most important point—the total sugars.

Prunes.—The ripe, juicy soft-fleshed French prunes from all localities yield the highest sugar percentages, averaging (No. 49), in the juice, 28.69 per cent; the hard-fleshed ripe prunes, represented by Nos. 4, 5, 37, 6, 38, 7, 8, 9, 10 and 12 yield an average of 15.24 per cent sugar—6.24 per cent less, while the average sugar for the average of all prunes (No. 50) is 20.00 per cent, or 8.5 per cent less than that of the French prunes. We note, for the later crop French prunes, a difference of five weeks between the earliest and latest picking, No. 34 picked on Sept. 1, and No. 31 gathered on Oct. 7, yet in the juice these contain nearly identical amounts of sugar, 25.80 per cent, which, when referred to the fresh fruit, shows the earlier sample to stand one per cent lower than the later, on account of its being more juicy. The maximum sugar percentage, 26.45, in the juice is seen in No. 32 from Newcastle, picked on Sept. 23—1.45 per cent higher than the earliest and latest French prunes contain. This sample (No. 32) and the others from the various localities gathered in the third and fourth week of September point to that time as yielding the juiciest and sweetest fruits of their kind. No. 42, from Pomona, shows the least sugar in the juice, 17.68 per cent; this sample as No. 43, after keeping three weeks at a temperature of 60° F., was still only a little shriveled and quite edible, showed that its juice contained 33.10 per cent sugar, or nearly double what the original sample had.

Referring again to the so-called hard-fleshed varieties, Robe de Sergeant, Fellenberg, Bulgarian, etc., we note some differences in the sugar contents in favor of the later crop samples. No. 37, Robe de Sergeant, shows 5.38 per cent more than No. 5; No. 38, Fellenberg, 2.5 per cent more than No. 6; No. 39, Bulgarian, nearly 13 per cent more than No. 8, a difference rather greater than we could probably expect if the samples were more nearly alike in maturity. No. 39, as above stated in its description, was far over-ripe. Some of these results may be explained as due to the evident difference in maturity at the time of the examination for two crops, and, as Mr. Rock writes in the description above, to the general inferiority of the earlier crop ('91).

The plums, among themselves show, in the juice, a narrow range in sugar and average about 18.0 per cent of that substance—some 5.5 per cent less than the French prunes, and about 3.5 more than the hard-fleshed varieties.

Apricots.—The fruit from early localities (picked in June) and from later localities (picked in August) show a remarkably close resemblance to each other in regard to sugar contents; the Royal, No. 16, with 15.06 per cent, and Peach, No. 17, with 15.72, the highest in sugar, showing but about 2 per cent more than the general average, 13.31 per cent, for the juice. Taking the general averages of sugar in the juice of prunes and apricots (Nos. 50 and 52), we find that the prunes run over 6 per cent higher; for the whole fruit, 4.2 per cent higher. And as compared with the average French prune (No. 49) the apricots show for the juice some 10 per cent less sugar; for the whole fruit, somewhat over 7 per cent less. On the whole fruit, the sugars of the apricots and plums more nearly resemble each other

(Continued on page 404.)

AUCTION SALE! OF VALUABLE LANDS.

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THE LAS POSAS LAND AND WATER COMPANY

Will offer for sale to the highest bidder, at public auction, at the Hueneme Public Hall, in the Town of Hueneme, Ventura County, California, beginning on **Tuesday, the 16th day of May, 1893**, and continuing the sale from day to day, but not longer than three days thereafter, all of the unsold lands of the company, consisting of subdivisions of the Rancho Las Posas, ranging in area from three acres to fifteen hundred acres each, and embracing some of the **FINEST LANDS in Ventura County**, and now under good cultivation; well supplied with roads, schools, water and telephone lines; distant five to eight miles from Saticoy, the nearest railroad station, and from nine to sixteen miles from Hueneme, the principal seaport. Each tract has apportioned to it stock in a corporation holding the water-rights and pipe-line system, by which all of the subdivisions, with a few exceptions, are supplied with water for domestic and stock purposes, irrigation not being required. **Terms of Sale:** Ten per cent of the purchase money on day of sale; balance of one-third of the purchase money within ten days after sale, the remaining two-thirds to be paid in three equal annual installments of one-third thereof each, bearing interest from date of sale at the rate of eight per cent per annum, payable annually, and secured by mortgage of the premises; or a discount of two and one-half per cent on the deferred payments will be allowed for cash. The sales will be subject to existing leases expiring November 1, 1893, the company reserving the rents for the present year, but will pay all taxes for the year 1893-4. No bid for any parcel will be accepted, unless it be at least eighty per cent of the price fixed for such parcel by the schedule now in force.

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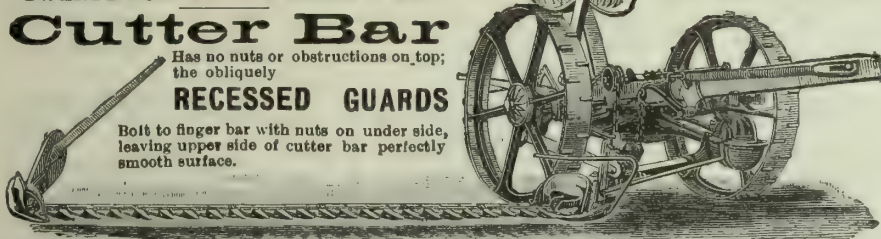
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Has no nuts or obstructions on top; the obliquely

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Bolt to finger bar with nuts on under side, leaving upper side of cutter bar perfectly smooth surface.



NO SIDE DRAFT

as CUTTER BAR is carried entirely on Main Wheels.

7-FOOT mower will do as much with one team as two 4-foot machines, SAVING half the corners.

MAIN WHEELS made interchangeable—one wheel fits either side of mower. THE FOOT LIFT raises cutter bar with perfect ease without the aid of hand lever, the first ever made. EASILY TILTED. THE STANDARD MOWER can be entirely taken apart and put together again by the farmer with a common wrench. SEND FOR SPECIAL CIRCULAR.

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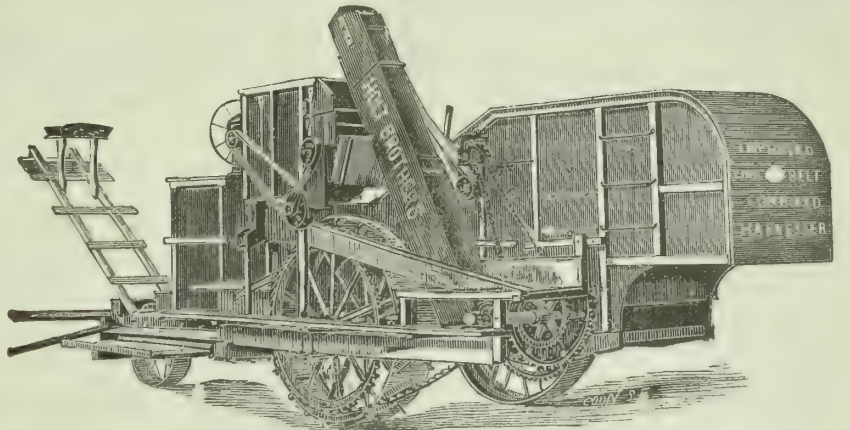
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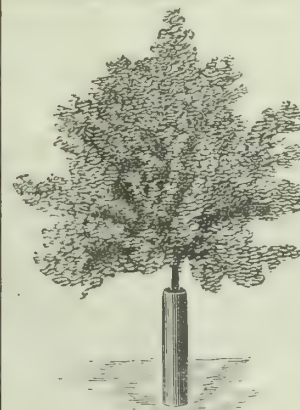
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Further Examination of California Prunes, Apricots, Plums and Nectarines.

(Continued from page 402.)

in amount, the average difference being 1.79 per cent in favor of the plums. From the results at hand, it seems that the Nectarine, No. 48, has in the juice nearly 4 per cent more sugar than the apricot, following in this respect very closely the plums.

European reports of these fruits show that the juice of prunes, on the average, contains 6.15 per cent sugar, apricots 4.69 per cent (one case is reported of a small variety of apricots with 16.5 per cent sugar), these figures being about three times less than those herein presented for these fruits as grown in California. There seems thus to be good cause for the preference they have so quickly attained in the market.

By reference to the small table following the relations to each other of the average sugar and acid contents of some California fruits will readily be seen. For convenience of comparison, the acid is expressed in terms of sulphuric acid (SO₃).

PERCENTAGES OF SUGAR AND ACID.

FRUITS.	JUICE.		FLESH.	WHOLE FRUIT.
	Acid, per cent.	Sugar, per cent.		
11 Apricots.....	.68	13.31	11.93	11.10
23 Prunes.....	.40	20.00	16.11	15.35
23 French prunes.....	.31	23.69	19.70	18.63
3 Plums.....	.48	17.97	13.25	12.89
2 Peaches from Shasta and Butte Cos.....	.24	17.00	13.40	12.50
1 Nectarine.....	.62	17.17	15.13	14.11
Grapes from various localities.....	.50	24.00	23.00	20.70
80 Oranges from various localities.....	1.28	10.68	7.12	5.40
2 Figs (White Adriatic) from Kern and Fresno Cos.....	.15	23.90		19.20

Acid in the Juice.

Prunes.—The maximum, nearly one per cent, is at once seen in Hungarian, No. 7; the minimum, .23 per cent, in the Prune d'Agen, No. 1; the average, .40 per cent, being almost twice the minimum.

Plums.—Here again we find a very wide difference, even greater than the prunes show; the maximum being 1.00 per cent, the minimum .20 per cent and average .48 per cent.

Apricots.—While the acids differ from .50 per cent to .90 per cent, they do not show as great a diversity as the prunes in this respect but on the average contain like the nectarine about .20 per cent more acid.

In all these fruits it appears that low acids are combined with high sugars. European analyses, which report the acid in terms of Malic, when corrected for Sulphuric, give for prunes .51 per cent, apricots, .70 per cent, and peaches .55 per cent, which do not differ much, except for peaches, from those we report.

Nutritive Values—Nitrogen Contents.

"The flesh-forming ingredients of any article of food being of great importance as regards its proper uses (see Bulletin 93 of the department, relating to oranges and lemons), it is of especial interest to compare in this respect the prune, plum and apricot to other fruits, and the different varieties of prunes, plums and apricots amongst themselves."

The following little table shows how these different fruits we have studied, may be rated in their albuminoid contents, and distribution of the same in the several parts of the fruit, as well as how they compare with European fruits.

AVERAGE PERCENTAGES OF ALBUMINOIDS.

FRUITS.	Number of Analyses.	IN	IN THE FRESH	IN FRESH
		WHOLE FRUIT. TOTAL.	FLESH, OR EDIBLE PORTION	PITS, OR RIND.
Calculated upon whole fresh fruit.				
ORANGES.				
California	35	1.14	.760	.380
European (Sicilian)		1.78	.....	.....
APRICOTS.				
California	11	1.25	1.088	.162
European .....		.49	.....	.....
PRUNES.				
California	20	1.012	.887	.175
European .....		.780	.....	.....
PLUMS.				
California	3	1.13	1.00	.130
European .....		.40	.....	.....
APPLES & PEARS.				
European .....		.375	.....	.....
FIGS.				
California	2	1.50	(1.50)	
(White Adriatic)				
European (Smyrna)		1.42		
NECTARINES.				
European .....		.731	.625	.106

So far then, the fig rates first in flesh-form-

ANALYSES OF CALIFORNIA PRUNES, APRICOTS AND PLUMS, CROPS OF 1891 AND 1892.

A—PROXIMATE ANALYSES.

Number.....	VARIETY.	PLACE OF PRODUCTION.	SENDER OR GROWER.	DATE OF RECEIPT AND ANALYSIS.	Average Weight in Grams.....	Number per pound	Flesh, per cent.....	Pits, per cent.....	FRESH.		JUICE.	SUGAR.		NITROGEN.		ASH (PURE).		Total.....	Number.....														
									Pulp, Pressed, per cent.....	Juice, Pressed, per cent.....		Acid. in terms of Sulphuric (SO ₃) per ct.	In Fresh Flesh per cent.,....	In Fresh Fruit per cent.....	Total.....	In Fresh Pits, per cent.....	Kernels.....			Shells.....	In Whole Fresh Fruit, per cent.....	In Fresh Flesh per cent.,....	In Fresh Pits, per cent.....										
1	French ("large")	Auburn, Placer Co.	Young Bros.	Oct. 7, 1892	25.0	18.0	94.8	5.2	85.2	95.25	23.39	17.1	715	.043	.737	100.00	31	French ("large")	Auburn, Placer Co.	Young Bros.	Oct. 7, 1892	25.0	18.0	94.8	5.2	85.2	95.25	23.39	17.1	715	.043	.737	100.00
2	French ("small")	French ("small")	E. B. Silve.	Sept. 23, 1892	16.2	28.0	92.6	7.4	83.7	26.43	17.2	192	.035	.734	100.00	32	French ("small")	French ("small")	E. B. Silve.	Sept. 23, 1892	16.2	28.0	92.6	7.4	83.7	26.43	17.2	192	.035	.734	100.00		
3	French ("small")	Yuba City, Sutter Co.	R. C. Kells.	Sept. 23, 1892	23.0	20.0	94.8	5.2	87.2	25.00	20.65	.237	.920	.020	.567	100.00	33	French ("small")	Yuba City, Sutter Co.	R. C. Kells.	Sept. 23, 1892	23.0	20.0	94.8	5.2	87.2	25.00	20.65	.237	.920	.020	.567	100.00
4	French ("small")	Mt. View, Santa Clara Co.	S. F. Leab.	Sept. 23, 1891	22.5	20.4	94.5	5.5	72.5	31.60	17.8	1112	.651	.613	.600	100.00	34	French ("small")	Mt. View, Santa Clara Co.	S. F. Leab.	Sept. 23, 1891	22.5	20.4	94.5	5.5	72.5	31.60	17.8	1112	.651	.613	.600	100.00
5	French ("small")	French ("small")	Wm. Morimer.	Aug. 26, 1891	23.8	20.4	94.5	5.5	81.2	21.59	15.63	142	.765	.387	75.95	100.00	35	French ("small")	French ("small")	Wm. Morimer.	Aug. 26, 1891	23.8	20.4	94.5	5.5	81.2	21.59	15.63	142	.765	.387	75.95	100.00
6	French ("small")	San Jose, Santa Clara Co.	J. H. Kock.	Sept. 8, 1892	34.8	16.0	93.4	6.6	85.3	25.30	17.64	163	.796	.442	83.7	100.00	36	French ("small")	San Jose, Santa Clara Co.	J. H. Kock.	Sept. 8, 1892	34.8	16.0	93.4	6.6	85.3	25.30	17.64	163	.796	.442	83.7	100.00
7	French ("small")	Campbell, Santa Clara Co.	Campbell Fruit-Growers Union.	Sept. 1, 1892	35.0	13.0	95.2	4.8	85.3	23.63	19.94	.218	.655	.100	.585	100.00	37	French ("small")	Campbell, Santa Clara Co.	Campbell Fruit-Growers Union.	Sept. 1, 1892	35.0	13.0	95.2	4.8	85.3	23.63	19.94	.218	.655	.100	.585	100.00
8	French ("small")	Campbell, Santa Clara Co.	Campbell Fruit-Growers Union.	Sept. 21, 1892	24.1	19.0	93.9	6.1	82.6	24.39	20.13	18.89	.36	.620	.620	100.00	38	French ("small")	Campbell, Santa Clara Co.	Campbell Fruit-Growers Union.	Sept. 21, 1892	24.1	19.0	93.9	6.1	82.6	24.39	20.13	18.89	.36	.620	.620	100.00
9	French ("small")	San Jose, Santa Clara Co.	J. H. Kock.	Sept. 8, 1891	19.5	24.6	95.0	5.0	60.9	33.45	8.80	140	.588	.62	.365	100.00	39	French ("small")	San Jose, Santa Clara Co.	J. H. Kock.	Sept. 8, 1891	19.5	24.6	95.0	5.0	60.9	33.45	8.80	140	.588	.62	.365	100.00
10	French ("small")	San Jose, Santa Clara Co.	Robt de Sere nt.	Sept. 8, 1891	20.7	22.0	92.5	7.5	78.2	14.00	13.8	134	.083	.37	.347	100.00	40	French ("small")	San Jose, Santa Clara Co.	Robt de Sere nt.	Sept. 8, 1891	20.7	22.0	92.5	7.5	78.2	14.00	13.8	134	.083	.37	.347	100.00
11	French ("small")	San Jose, Santa Clara Co.	John Kock.	Aug. 2, 1892	27.0	17.5	94.1	5.9	86.2	19.38	16.71	180	.113	.485	.410	100.00	41	French ("small")	San Jose, Santa Clara Co.	John Kock.	Aug. 2, 1892	27.0	17.5	94.1	5.9	86.2	19.38	16.71	180	.113	.485	.410	100.00
12	French ("small")	San Jose, Santa Clara Co.	John Kock.	Aug. 2, 1892	26.0	17.5	94.1	5.9	86.2	14.68	16.71	180	.113	.485	.410	100.00	42	French ("small")	San Jose, Santa Clara Co.	John Kock.	Aug. 2, 1892	26.0	17.5	94.1	5.9	86.2	14.68	16.71	180	.113	.485	.410	100.00
13	French ("small")	San Jose, Santa Clara Co.	John Kock.	Aug. 2, 1892	26.0	17.5	94.1	5.9	86.2	14.68	16.71	180	.113	.485	.410	100.00	43	French ("small")	San Jose, Santa Clara Co.	John Kock.	Aug. 2, 1892	26.0	17.5	94.1	5.9	86.2	14.68	16.71	180	.113	.485	.410	100.00
14	French ("small")	San Jose, Santa Clara Co.	John Kock.	Aug. 2, 1892	26.0	17.5	94.1	5.9	86.2	14.68	16.71	180	.113	.485	.410	100.00	44	French ("small")	San Jose, Santa Clara Co.	John Kock.	Aug. 2, 1892	26.0	17.5	94.1	5.9	86.2	14.68	16.71	180	.113	.485	.410	100.00
15	French ("small")	San Jose, Santa Clara Co.	John Kock.	Aug. 2, 1892	26.0	17.5	94.1	5.9	86.2	14.68	16.71	180	.113	.485	.410	100.00	45	French ("small")	San Jose, Santa Clara Co.	John Kock.	Aug. 2, 1892	26.0	17.5	94.1	5.9	86.2	14.68	16.71	180	.113	.485	.410	100.00
16	French ("small")	San Jose, Santa Clara Co.	John Kock.	Aug. 2, 1892	26.0	17.5	94.1	5.9	86.2	14.68	16.71	180	.113	.485	.410	100.00	46	French ("small")	San Jose, Santa Clara Co.	John Kock.	Aug. 2, 1892	26.0	17.5	94.1	5.9	86.2	14.68	16.71	180	.113	.485	.410	100.00
17	French ("small")	San Jose, Santa Clara Co.	John Kock.	Aug. 2, 1892	26.0	17.5	94.1	5.9	86.2	14.68	16.71	180	.113	.485	.410	100.00	47	French ("small")	San Jose, Santa Clara Co.	John Kock.	Aug. 2, 1892	26.0	17.5	94.1	5.9	86.2	14.68	16.71	180	.113	.485	.410	100.00
18	French ("small")	San Jose, Santa Clara Co.	John Kock.	Aug. 2, 1892	26.0	17.5	94.1	5.9	86.2	14.68	16.71	180	.113	.485	.410	100.00	48	French ("small")	San Jose, Santa Clara Co.	John Kock.	Aug. 2, 1892	26.0	17.5	94.1	5.9	86.2	14.68	16.71	180	.113	.485	.410	100.00
19	French ("small")	San Jose, Santa Clara Co.	John Kock.	Aug. 2, 1892	26.0	17.5	94.1	5.9	86.2	14.68	16.71	180	.113	.485	.410	100.00	49	French ("small")	San Jose, Santa Clara Co.	John Kock.	Aug. 2, 1892	26.0	17.5	94.1	5.9	86.2	14.68	16.71	180	.113	.485	.410	100.00
20	French ("small")	San Jose, Santa Clara Co.	John Kock.	Aug. 2, 1892	26.0	17.5	94.1	5.9	86.2	14.68	16.71	180	.113	.485	.410	100.00	50	French ("small")	San Jose, Santa Clara Co.	John Kock.	Aug. 2, 1892	26.0	17.5	94.1	5.9	86.2	14.68	16.71	180	.113	.485	.410	100.00
21	French ("small")	San Jose, Santa Clara Co.	John Kock.	Aug. 2, 1892	26.0	17.5	94.1	5.9	86.2	14.68	16.71	180	.113	.485	.410	100.00	51	French ("small")	San Jose, Santa Clara Co.	John Kock.	Aug. 2, 1892	26.0	17.5	94.1	5.9	86.2	14.68	16.71	180	.113	.485	.410	100.00
22	French ("small")	San Jose, Santa Clara Co.	John Kock.	Aug. 2, 1892	26.0	17.5	94.1	5.9	86.2	14.68	16.71	180	.113	.485	.410	100.00	52	French ("small")	San Jose, Santa Clara Co.	John Kock.	Aug. 2, 1892	26.0	17.5	94.1	5.9	86.2	14.68	16.71	180	.113	.485	.410	100.00
23	French ("small")	San Jose, Santa Clara Co.	John Kock.	Aug. 2, 1892	26.0	17.5	94.1	5.9	86.2	14.68	16.71	180	.113	.485	.410	100.00	53	French ("small")	San Jose, Santa Clara Co.	John Kock.	Aug. 2, 1892	26.0	17.5	94.1	5.9	86.2	14.68	16.71	180	.113	.485	.410	100.00
24	French ("small")	San Jose, Santa Clara Co.	John Kock.	Aug. 2, 1892	26.0	17.5	94.1	5.9	86.2	14.68	16.71	180	.113	.485	.410	100.00	54	French ("small")	San Jose, Santa Clara Co.	John Kock.	Aug. 2, 1892	26.0	17.5	94.1	5.9	86.2	14.68	16.71	180	.113	.485	.410	100.00
25	French ("small")	San Jose, Santa Clara Co.	John Kock.	Aug. 2, 1892	26.0	17.5	94.1	5.9	86.2	14.68	16.71	180	.113	.485	.410	100.00	55	French ("small")	San Jose, Santa Clara Co.	John Kock.	Aug. 2, 1892	26.0	17.5	94.1	5.9	86.2	14.68	16.71	180	.113	.485	.410	100.00
26	French ("small")	San Jose, Santa Clara Co.	John Kock.	Aug. 2, 1892	26.0	17.5	94.1	5.9	86.2	14.68	16.71	180	.113	.485	.410	100.00	56	French ("small")	San Jose, Santa Clara Co.	John Kock.	Aug. 2, 1892	26.0	17.5	94.1	5.9	86.2	14.68	16.71	180	.113	.485	.410	100.00
27	French ("small")	San Jose, Santa Clara Co.	John Kock.	Aug. 2, 1892	26.0	17.5	94.1	5.9	86.2	14.68	16.71	180	.113	.485	.410	100.00	57	French ("small")	San Jose, Santa Clara Co.	John Kock.	Aug. 2, 1892	26.0	17.5	94.1	5.9	86.2	14.68	16.71	180	.113	.485	.410	100.00
28	French ("small")	San Jose, Santa Clara Co.	John Kock.	Aug. 2, 1892	26.0	17.5	94.1	5.9	86.2	14.68	16.71	180	.113	.485	.410	100.00	58	French ("small")	San Jose, Santa Clara Co.	John Kock.	Aug. 2, 1892	26.0	17.5	94.1	5.9	86.2	14.68	16.71	180	.113	.485	.410	100.00
29	French ("small")	San Jose, Santa Clara Co.	John Kock.	Aug. 2, 1892	26.0	17.5	94.1	5.9	86.2	14.68	16.71	180	.113	.485	.410	100.00	59	French ("small")	San Jose, Santa Clara Co.	John Kock.	Aug. 2, 1892	26.0	17.5	94.1	5.9	86.2	14.68	16.71	180	.113	.485	.410	100.00
30	French ("small")	San Jose, Santa Clara Co.	John Kock.	Aug. 2, 1892	26.0	17.5	94.1	5.9	86.2	14.68	16.71	180	.113	.485	.410	100.00	60	French ("small")	San Jose, Santa Clara Co.	John Kock.	Aug. 2, 1892	26.0	17.5	94.1	5.9	86.2	14.68	16.71	180	.113	.485	.410	100.00
31	French ("small")	San Jose, Santa Clara Co.	John Kock.	Aug. 2, 1892	26.0	17.5	94.1	5.9	86.2	14.68	16.71	180	.113	.485	.410	100.00	61	French ("small")	San Jose, Santa Clara Co.	John Kock.	Aug. 2, 1892	26.0	17.5	94.1	5.9	86.2	14.68	16.71	180	.113	.485	.410	100.00
32	French ("small")	San Jose, Santa Clara Co.	John Kock.	Aug. 2, 1892	26.0	17.5	94.1	5.9	86.2	14.68	16.71	180	.113	.485	.410	100.00	62	French ("small")	San Jose, Santa Clara Co.	John Kock.	Aug. 2, 1892	26.0	17.5	94.1	5.9	86.2	14.68	16.71	180	.113	.485	.410	100.00
33	French ("small")	San Jose, Santa Clara Co.	John Kock.	Aug. 2, 1892	26.0	17.5	94.1	5.9	86.2	14.68	16.71	180	.113	.485	.410	100.00	63	French ("small")	San Jose, Santa Clara Co.	John Kock.	Aug. 2, 1892	26.0	17.5	94.1	5.9	86.2	14.68	16.71	180	.113	.485	.410	100.00
34	French ("small")	San Jose, Santa Clara Co.	John Kock.	Aug. 2, 1892	26.0	17.5	94.1	5.9	86.2	14.68	16.71	180	.113	.485	.410	100.00	64	French ("small")	San Jose, Santa Clara Co.	John Kock.	Aug. 2, 1892	26.0	17.5	94.1	5.9	86.2	14.68	16.71	180	.113	.485	.410	100.00
35	French ("small")	San Jose, Santa Clara Co.	John Kock.	Aug. 2, 1892	26.0	17.5	94.1	5.9	86.2	14.68	16.71	180	.113	.485	.410	100.00	65	French ("small")	San Jose, Santa Clara Co.	John Kock.	Aug. 2, 1892	26.0	17.5	94.1	5.9	86.2	14.68	16.71	180	.113	.485	.410	100.00
36	French ("small")	San Jose, Santa Clara Co.	John Kock.	Aug. 2, 1892	26.0	17.5	94.1	5.9	86.2	14.68	16.71	180	.113	.485	.410	100.00	66	French ("small")	San Jose, Santa Clara Co.	John Kock.	Aug. 2, 1892	26.0	17.5	94.1	5.9	86.2	14.68	16.71	180	.113	.485	.410	100.00
37	French ("small")	San Jose, Santa Clara Co.	John Kock.	Aug. 2, 1892	26.0	17.5	94.1	5.9	86.2	14.68	16.71	180	.113	.485	.410	100.00	67	French ("small")	San Jose, Santa Clara Co.	John Kock.	Aug. 2, 1892	26.0	17.5	94.1	5.9	86.2	14.68	16.71	180	.113	.485	.410	100.00
38	French ("small")	San Jose, Santa Clara Co.	John Kock.	Aug. 2, 1892	26.0	17.5	94.1	5.9	86.2	14.68	16.71	180	.113	.485	.410	100.00	68	French ("small")	San Jose, Santa Clara Co.	John Kock.	Aug. 2, 1892	26.0	17.5	94.1	5.9	86.2							

ing ingredients, with little choice between the apricots and plums for *second*; and for *third* place, the prunes and oranges run nearly even. Apparently, the Nectarine falls far short of the above fruits in these ingredients, but still ranges considerably higher than apples and pears (from European data only).

The *prunes* of the last crop ('92), have, in general, yielded a higher average albuminoid contents in the flesh, for we find .84 as against .76 per cent for crop '91. The maximum of the series is seen in Nos. 33 and 44, French prunes, which contain, in the edible portion alone, 1.30 per cent albuminoids, or .36 per cent more than the maximum (.94 per cent) of the crop of '91. At no great distance we see placed No. 34, with 1.12 per cent of these materials; No. 5, Robe de Sergeant, still shows the minimum amount, .52 per cent. The French prunes and *plums* have the same quantity of albuminoids in the flesh, 1.12 per cent. In as far as these flesh-forming ingredients were determined in the hard-fleshed varieties, we do not find such differences as in the French prunes in total amounts between the two crops; Nos. 6 and 38, Fallenberg, having respectively .139 and .140 per cents total, and .117 and .113 per cents in the fresh flesh; Nos. 5 and 37, Robe de Sergeant yield for totals respectively .134 and .130 per cents, and for fresh flesh .083 and .113 per cents.

Among the *apricots*, the flesh shows wide differences in albuminoids, that of central California fruits yielding the highest figures in most instances, and as compared with prune flesh, much greater variation. The maximum of 1.44 per cent albuminoids, in the flesh, is at once seen in No. 25, Royal, from Contra Costa Co., and the minimum of .737 per cent in No. 30, Moorpark, Fresno Co.; with an average of 1.0 per cent for all.

With this portion of our work we give below a summary of the food constituents of some of our dried (cured) commercial French prunes, dried apricots, grapes and figs. The results, while inadequate as a basis for general conclusions as to the relative food values of these fruits, nevertheless indicate plainly that the nutrients, notably the sugar and crude protein (albuminoids) differ very widely, e. g. the sugar in the grape food is 20 per cent more than that of either the apricot or apple, 12 per cent more than that in the French prune, and only 5 per cent less than what is given for the dried fig (white Adriatic). Again, the fig with 4.50 crude protein is 1.60 per cent richer than the grape, apricot, and French prune; however, these latter fruits are all nearly twice as rich as the apple in albuminoids. The maximum ash is in the fig—on the average about 1 per cent more than that in the other fruits.

PERCENTAGE COMPOSITION OF DRIED FRUITS.

CONTENTS.	French Prunes.	Apricots.	Grapes.	Figs.	Apples.
PER CENT.	Dried. Edible Portion.	Dried. Edible Portion.	Dried. Edible Portion.	Dried. Edible Portion.	Dried. Edible Portion.
Water.....	25.20	3.44	34.83	25.00	33.00
Ash.....	1.60	1.38	1.16	2.24	2.45
Albuminoids (Crude Protein).....	2.80	2.90	2.94	4.50	5.70
Crude Fiber.....	29.77	32.18	2.17	10.11	13.82
Nitrogen-free extract.....	40.53	29.59	62.50	57.60	58.00
Fat.....			.56		
Sugar.....					
Free Acid, calculated as Sulphuric (SO ₃).....	.40	1.51	.28	.45	2.00
Tannin.....			1.29		
Total.....	100.00	100.00	100.00	100.00	100.00

*Dried and ground by R. E. Wood, Rutherford, Napa Co., Cal.

Under this head, *nitrogen contents*, it is worth referring again to the large table to call attention to the distribution of the *nitrogen* in the several portions of these fruits. First, then, it is readily seen that the flesh holds 85 per cent of all the nitrogen, leaving 15 per cent of it as waste, so far as food values are concerned. Second, the distribution of the nitrogen of the pits of the prunes and apricots, to the kernels and shells appears to rate on the whole about the same, (12 to 1) although we note great variation in this respect in both fruits.

Ash Composition and Nitrogen Contents.

Contrary to statements in our previous publications (Bulletins 88 and 93 of this department), in which, according to European data, the orange stands second (grapes being first) among fruits in the quantity of mineral matter withdrawn from the soil, we find that,

weight for weight, the fig has *second* place, the orange *third*, and the prune, apricot and plum *fourth* place; thus more than ever bringing before us the fact that we cannot safely use European results, as heretofore, as a basis of comparison for our fruits.

Upon the basis of the preceding table of this publication, those given in Bulletins 93 and 97 and the yet unpublished work upon our figs, we have prepared the following tabular view of the amounts, in pounds, of vital soil ingredients extracted by the different fruit crops (poor fruit alone) that will have to be replaced by fertilization.

SOIL INGREDIENTS EXTRACTED BY DIFFERENT FRUIT CROPS.

FRUITS.	Total Ash lbs.	Potash lbs.	Phos. acid lbs.	Nitrogen lbs.
GRAPES.				
European.				
In each 1000 lbs.....	8.8	5.00	1.52	1.70
CRAPICOTS.				
European.				
In each 1000 lbs.....	4.90			.86
Crop of 30,000 lbs.....	147.00			25.80
California.				
In each 1000 lbs.....	4.91	2.90	.64	1.94
Crop of 30,000 lbs.....	147.30	87.00	19.20	59.20
PRUNES.				
European.				
In each 1000 lbs.....	6.3	3.73	.95	1.22
Crop of 30,000 lbs.....	189.00	111.90	28.53	36.60
California.				
In each 1000 lbs.....	4.86	3.10	.68	1.62
Crop of 30,000 lbs.....	145.80	93.00	20.40	48.60
PLUMS.				
In each 1000 lbs.....	5.35			1.81
ORANGES.				
European.				
In each 1000 lbs.....	6.07	2.78	.67	2.69
Crop of 20,000 lbs.....	121.40	55.60	13.40	53.80
California.				
In each 1000 lbs.....	4.32	2.11	.53	1.83
Crop of 20,000 lbs.....	86.40	42.20	10.60	36.60
FIGS.				
European.				
In each 1000 lbs.....	8.00	2.27	.10	2.27
Crop of 15,000 lbs.....	120.00	34.05	1.50	34.05
California.				
(White Adriatic.)				
In each 1000 lbs.....	7.81	4.69	.86	2.38
Crop of 15,000 lbs.....	117.15	70.45	12.90	35.70

California *prunes* thus appear to draw much less upon all the mineral ingredients which have to be replaced by fertilization than the European; the latter, however, draw much more lightly than the former upon nitrogen. *Apricots* both of California and European growth stand, in total amount, about equal as to mineral ingredients withdrawn; as to nitrogen, the California fruit draws twice as much, showing the only very material difference in the relative proportions of the vital soil ingredients among themselves as far as these two fruits are concerned.

Potash.—In the ashes of prunes and apricots and in the orange, potash is seen to be the leading ingredient; in the prunes and apricots fully three-fifths of the whole ash and in orange at least one-half. In its distribution as between pits and flesh, the greatest difference is shown by the European prune; for apricots we have no foreign data. Although potash constitutes so large a portion of the ash of these fruits its replenishment to the soil will be delayed long beyond the addition of other fertilizing ingredients, because most California soils are naturally so well stocked with it that available potash for the current demand will, in many cases be adequately supplied for many years.

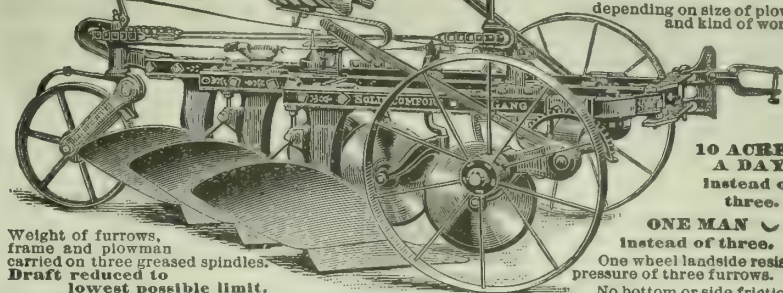
Phosphoric Acid is not so heavily drawn upon in this respect as the European. Its distribution between pits and flesh, also, is not quite so variable as that of potash. Since our soils usually contain a limited supply of phosphoric acid, the prune and apricot as well as the orange orchards will require *phosphatic* fertilizers first, when they are used.

Nitrogen.—Among our pitted fruits the apricot leads in its demand upon the soil in this substance, plums being quite the average of the apricots and prunes and resemble very much the orange in this respect. Thus we find that, for the southern localities especially, the same necessity of early replacement of nitrogen in pitted fruit as for orange orchards and partly for the same reason, viz., that California soils are usually not rich in their natural supply of this substance.

Of the other ash ingredients, it will be seen that *lime* is quite constant, although much less in amount (for prunes) than European standards show. Especially is this difference seen in the comparison of the ash analyses of the flesh and pits. In the orange ash the lime content far exceeds that of either the prune or apricot; accordingly, as our soils generally contain plenty of lime, even for oranges, we would rarely expect to fertilize with a view to its replacement. *Soda* is seen to be much higher here than in European analyses of the ash of the prune; this is probably explained by the fact that California soils, like those of other arid regions, contain much more soda than the European.

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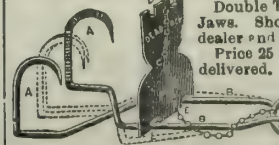
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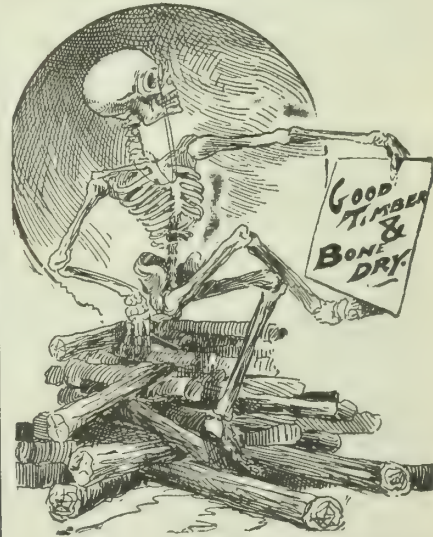
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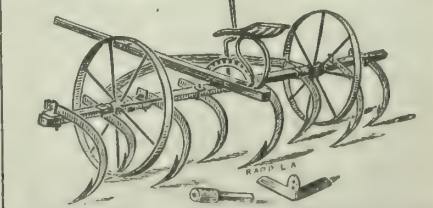
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THE HOME CIRCLE.

Them Flowers.

Take a feller 'at's sick and laid up on the shelf,
All shaky and ga'nted and pore—
Jes' all so knocked out he can't handle his self
With a stiff upper lip any more;
Shet him up all alone in the gloom of a room
As dark as a tomb, and as grim,
And then take and send him some roses in bloom,
And you can have fun out o' him!

You've ketcht him 'fore now—when his liver was
sound
And his appetite notched like a saw—
A-mockin' you, maybe, fer romancin' round
With a big posy-bunch in yer paw;
But you ketch him, say, when his health is away,
And he's flat on his back in distress,
And then you can trot out your little bokay
And not be insulted, I guess!

You see, it's like this, what his weakness is—
Them flowers makes him think of the days
Of his innocent youth, and that mother o' his,
And the roses that she us't to raise;
So here, all alone with the roses you send,
Bein' sick and all trimbly and faint—
My eyes is—my eyes is—my eyes is—old friend—
Is a-leakin'—I'm blamed ef they ain't!

—James Whitcomb Riley.

Early in the Spring.

Light foot and tight foot
And green grass spread;
Early in the morning—
But hope is on ahead.

Stout foot and proud foot
And gray dust spread;
Early in the evening,
And hope lies dead.

Long life and short life—
The last word said—
Early in the evening,
There lies the bed.

Brief day and bright day
And sunset red,
Early in the evening
The stars are overhead.

—Robert Louis Stevenson, in Scribner's Magazine.

So He Giveth.

That lonely cry,—far off,
In night's deep veil,
What means it to my soul?
An unknown life is there,—
A voice so sad, so wistful, so lone.
Cuckoo! aha! is that the cry,
So sudden now, and near?
What now? what seekest thou,
Wild wanderer, in thy flight?
Hast thou no fear? lov'st thou the night?
The moon and stars are thine,—
The sleeping flowers, and cooling drops of dew,
The mockbird's nocturne,
And the sea's soft pulsing beat?
Thou keepest on a footstool—
Close by Nature's feet!
Thou sendest prayers up to her,
When darkness hides her face,
And ever thus she finds thee,
Still trusting to her grace!

—Hope Hayward.

Old Brothers.



BLIND BOB is a well-known figure in the streets of Chicago. He came to this city years ago, having run away from his Kentucky home of bondage. He had fought dogs, he said, on an island in the Ohio river, and he used to bare his arms and show the children where the fierce animals had torn his flesh. He was ever known as a kind-hearted man, and when a dangerous duty presented itself he faced it with a cheerful fearlessness. One night an old tenement house on Lake street caught fire, and when the flames shot high in the air the cry was raised that a crippled man had been left in an upper front room. Bob did not wait a moment after hearing the cry. He bounded up the burning stairway and brought the crippled man down with him, but left his eyesight behind. For a time he was a hero. The newspapers "wrote him up" and people flocked to see him as he lay in his room. A subscription was opened and a sum of money, not large but promising to be larger, was raised for him; but apathy, the sure follower of enthusiasm, soon came, and Bob was no longer a hero but an unfortunate negro that lost his eyesight in a fire.

The old man, led about by a large brindle dog, lived on charity. His voice, with mendicancy's earliest trick, became peculiarly soft and persuasive, and it was declared that the dog had cultivated the knack of throwing tender appeal into his anxious look.

The growth of the city gradually drove the old man southward. Young men remember when he lived on Madison street in a closet under a stairway, and the newsboys have seen him move three times within the past three years, and now his wretched

lodging place is in a cellar just off Van Buren street.

I have talked many times with the old man. Indeed, I held a strong interest for him, not that I could say anything that might tend to brighten his future, but that I held in common with him a certain memory of the past—I had lived near his old home in Kentucky.

"Ef I could git my eyes back ergin," he once remarked, does you know what I'd do? Hah, does you know? Doan reckon you does. You reckons dat I'd stomp round yere an' look at deze yer high houses dat I yere folks talk so much erbout, but I lay I wouldn't. I'd go right off down yander in Kaintucky an' look at dat spring branch whar I used ter wade. Recollect dat big oak tree whar de Mount Hope road crossed de Bardstown pike? Wall, sah, right under dat tree I killed de bigges' black snake one day I eber seed in my life; an' de triflin' raskil fit me, too, he did. Yaller Tony wuz wid me an' bless yo' life holler dat boy did run; an' I tuck the snake and hung him on de fence ter make it rain, an' now you neenter laugh but it did make it rain sho's you bo'n. Mars' Wiley—dat wuz old marster—he 'lowed dat it did make it rain, but he tole me not ter tell de uder white folks dat he bleved it caze da'd laugh at him. An' you say Yaller Tony is er preacher now? Wall, wall. Sorter strange dat er boy dat wuz er feered o' er snake would turn out ter be er man ter fight Satan, but den I reckon ef Eve had been er little skeerder o' er snake it would 'a' been er good 'eal better for us all."

Several days ago, late in the afternoon, I was passing Old Bob's cellar, when I heard him talking louder and harsher than I had ever known him to talk before, and stepping down into the den I saw the old man sitting with his back against the wall, frowning upon his old brindle dog.

"What's the matter, Uncle Bob?" I asked.

"Oh, is dat you? Er good 'eal de matter, sah. Dis ole raskil dun lead me whar I almos' cripple mysef ergin er pile o' bricks. He's gittin' tired o' me, too, de ole scoundul."

The dog whined piteously.

"Oh, you's sorry now, is you? You ain't ha' ez sorry ez I ez, you good fur nothin' houn'. Come er lookin' roun' atter uder dogs an' let me breck my ole bones. Git away from me"—the dog was trying to rub his head against him—"git er way, caze I doan want er nuthin' ter do wid er traitor. Oh, you mer whine but I ain't neber gwine be yo' frien' no mo'."

The dog turned toward me. I shall never forget the scene. The old guide—the safe conduct through many years—was blind.

"Uncle Bob," said I, "the poor old dog is now in closer kinship with you—he is blind."

The old man sobbed, and feeling about him—feeling for the dog—said:

"Come yere, my po' ole frien' an' bruder; come yere. Dar, now, doan cry 'an' whine. Did you think I wuz mad at you? Bless yo' life, I wouldn't scold you. Dar, dat's it. Lay down, now; lay down."—Opie P. Reed.

The Healthfulness of Farm Life.

It is an open question whether the time has not come to throw, as it were, a halo of sentiment about the life of the farm, and to cause this halo to permeate all departments of farm life, and so to rob the occupation of much that now seems to make it distasteful.

To be sure, farm work is hard work; but that it is harder work than trucking or brick-laying, carpenter work or a thousand and one trades of the city, it would be difficult to prove. The hours are longer, but they are spent out of doors, in the healthful, clear, bracing, fresh air, and health and peace of mind are likely to come with them.

Once his day's work is done, the town-dweller has his club-room, headquarters, saloon or some other favorite lounging place, where he can discuss timely topics with his fellows. That this discussion is any benefit to him, there is grave reason to question. It makes him dissatisfied, uneasy and rebellious; but, all the same, he has it, and that, too, because he wants it.

The farm-dweller lacks this source of amusement; but he can, in most localities, go to the corner grocery and learn what is going on in the world, and it is safe to say that he gets a far more reasonable and healthy idea of current events than the man in the city.

As the country becomes more thickly settled and land is cut up into smaller sections, it would be the easiest thing imaginable to have a general place of meeting in every community. A reading-room, with the agricultural books, papers and general literature of the business, a weekly lecture on all the newest ideas belonging to the occupations of the farm, and an evening or so a week for

purely social pleasure and amusement, would do much toward making farming communities desirable places of residence.

There are many who contend that farm hours are too long. On this subject it may be said that men who follow it live longer and have better health than in almost any other profession. And it is but just to say that the pleasures of driving, riding, the garden, flowers and fruit are too highly appreciated by many persons to be willingly surrendered, even though they involve a good deal of hard work and no end of care. New York Ledger.

Washington's Graphic Picture of a Night Retreat.

The shocking scenes which presented themselves in this night's march are not to be described—the dead, the dying, the groans, lamentations and cries along the road of the wounded for help (for those under the latter descriptions endeavored from the first commencement of the action or rather confusion to escape to ye second division) were enough to pierce a heart of adamant; the gloom and horror of which was not a little increased by the impervious darkness occasioned by the close shade of thick woods which in places rendered it impossible for the two guides which attended to know when they were in or out of the track, but by groping on the ground with their hands. Happy was it for him and the remains of the first division that they left such a quantity of valuable and enticing baggage on the field as to occasion a scramble and contention in the seizure and distribution of it among the enemy, for, had a pursuit taken place, by passing the defile which we had avoided, and they had got into our rear, the whole, except a few woodsmen, would have fallen victims to the merciless savages. Of about 1200 or 1300 who were in this action, 800 or 900 were either killed or wounded, among whom a large proportion of brave and valuable officers were included. The folly and consequence of opposing compact bodies to the sparse manner of Indian fighting in woods, which had in a manner been predicted, was now so clearly verified that from henceforward another mode obtained in all future operations.—From "An Unpublished Autograph Narrative by Washington," in Scribner's Magazine.

What a Woman Can Do.

She can come to a conclusion without the slightest trouble of reasoning on it, and no sane man can do that.

Six of them can talk at once and get along first rate, and no two men can do that.

She can safely stick fifty pins in her dress while he is getting one under his thumb nail.

She is as cool as a cucumber in half a dozen tight dresses and skirts, while a man will sweat and fume and growl in one loose shirt.

She can talk as sweet as peaches and cream to the woman she hates, while two men would be punching each other's heads before they had exchanged ten words.

She can say "no" in such a low voice that it means "yes."

She can sharpen a lead pencil if you give her plenty of time and plenty of pencils.

She can appreciate a kiss from her husband seventy years after the marriage ceremony was performed.

She can go to church and afterward tell you what every woman in the congregation had on, and in some rare instances can give you some faint idea of what the text was.

She can do more in a minute than a man can do in an hour, and do it better.

She can drive a man crazy in twenty-four hours, and then bring him to paradise in two seconds by simply tickling him under the chin, and there does not live that mortal son of Adam's misery who can do it.

Ventilation of Sleeping-Rooms.

The proper arrangement of draughts for the ventilation of sleeping-rooms has perplexed all, says the New York Times. One thing, however, is certain. It has been proved by actual experiment that a layer of air lies against the walls which is subject to very little movement, even when there is a strong circulation in the middle of the room. It is, therefore, important that a bed should not be placed close to the wall. If kept there during the daytime, it should be moved at least several inches out into the room at night. Alcoves and curtains should be avoided. In an alcove enclosed on three sides, a lake of air forms, which may be compared to the stagnant pools often observed along the margins of rivers. A few yards away a rushing tide may be moving swiftly along, but these placid pools are unruffled by the current.

While placing the bed, especially the head of it, where it will be shielded from the

strongest draught, there should still be enough motion to the air in that vicinity to insure fresh supplies constantly throughout the night. The prevailing lack of appetite for breakfast, as well as many cases of anæmia and worse diseases, are due to the breathing over and over again of the same air in restricted bedrooms, where beds are too often placed in alcoves or are shielded by curtains, which are too seldom shaken out in the fresh air.

Farm Pests.

Some years ago the farm was literally overrun by rats. They were all through the house from cellar to garret, writes R. M. Bell in an exchange. They were in full possession of cribs, granaries, barns, sheds and outhouses; they were in hay-stacks, straw-stacks and corn-fodder shocks all over the farm. All measures for driving them off were the least possible avail. It was of no use to kill them, since two seemed to come for every one that was killed. The situation was so annoying that "the rats" was a topic of conversation among neighbors when they met, even on Sundays. We had a Pennsylvania Quaker for a neighbor, a very intelligent man and one of the best and neatest farmers in the country. He came to see us on business one day, and among other subjects that came up for remark was "the rat nuisance," with which we were all afflicted. To our astonishment this good farmer, unlike anybody else, took the opposite side of the question from us and everybody else, and said the farmers were to blame for the whole flood of rats. He said he had none to speak of about his farm or buildings, because he had no harbors for them; there were no places for them to hide and breed that his dog and cats could not follow them. He said the few he had were in the wood-pile, and he was ashamed of the fact, because he ought to have had his men pile the wood when it was prepared for the house, instead of leaving it in one great, loose pile. He said what we call pests were sent to make us more tidy and careful. I thought I could catch him on weeds on the farm, but he took the lead even better than on the former question, by saying weeds made us better farmers, more industrious, more thorough cultivators of the soil. The thought was a new one, and 30 years of observation has confirmed the small impression made by this good man, that pests serve a valuable purpose in farm economy.

Artificially Coloring Flowers.

Place the cut flowers in solutions of aniline and similar dyes, says a writer in *Gardener's Chronicle*. Aniline-scarlet dissolved in water to about the transparency of claret, has a very rapid action on flowers, coloring them pink and scarlet. Indigo-carmin produces beautiful blue tints. The two combined dye various shades of purple, with curious mottled effects, some parts of the flowers becoming pink and other parts blue and purple. Greens are produced by using the blue dye with yellow. Indigo and cochineal are not very satisfactory. Among some of the effects produced are the following: Lily-of-the-valley flowers become beautifully tinged with pink or blue in six hours; narcissuses are changed from pure white to deep scarlet in 12 hours, and delicate shades of pink are imparted to them in a very short time. Yellow daffodils are beautifully striped with dark scarlet in 12 hours; the edges of the corona also become deeply tinged and the veining of the perianth strongly marked. It is well to note that it is by the passage of the colored solutions through the vascular tissue of the flowers that the effect is produced, and the effect is beautifully seen in white tulips, which in a few hours become prettily marked with pink, blue, or whatever the color of the solution may be.

To Wash Silk Handkerchiefs.

Almost every one possesses at least one silk handkerchief, and lots of us do not know how to wash them so that they may look their best. There is a way that is just right and other ways that are not. Make a tepid suds with the best white castile soap and rub the handkerchief loosely and carefully with the hands till clean; then rinse several times, shake out but do not wring at all; hang out to dry. While still damp, iron on wrong side with an iron that is only hot enough to iron—not too hot, as that invariably changes the color or yellows a white silk.

Oldest Tree in the World.

The Rev. W. Tuckwell, in "Tongues in Trees and Sermons in Stones," says, page 85: "The oldest living tree in the world is said to be the Soma cypress of Lombardy. It was a tree 40 years before the birth of Christ." But Alphonse Karr, in his "Voyage Autour de Mon Jardin," says, page 39, of

the baobab (*Adansonia digitata*): "It is asserted that some exist in Senegal that are 5000 years old."—Notes and Queries.

Hints to Housekeepers.

To brighten and freshen leather chairs they should be rubbed with well-beaten white of egg.

To restore polished furniture, mix together one part of alcohol and three parts of sweet oil. Rub this on the furniture with soft, old flannel; then polish off with a clean piece of soft flannel.

A physician of experience said recently, "Don't always be guided by your feelings in the matter of exercise, for when one feels like taking exercise the least, that is just the time he generally needs to take it the most."

When oiled walnut furniture begins to grow dingy, it can be made to look as fresh as new by reoiling. Linseed or even olive oil can be used, but pure, good kerosene oil is much the best. Rub it well in with a soft woolen rag and polish with clean, dry flannel.

The secret of scrambled eggs is not to beat them before cooking, to have a hot skillet, and to take them off while they are yet very soft; they cook a half-minute after they are taken off, which many cooks do not allow for. A dash of lemon-juice just as they are going to the table in a hot dish is an addition.

Oilcloth is ruined by the application of lye soap, as the lye eats the cloth, and, after being washed, it should be wiped perfectly dry or the dampness will soon rot it. If laid down where the sun will shine on it much, it will be apt to stick fast to the floor unless paper is laid under it.

It is said that the green sprigs of parsley eaten with onions will entirely remove the odor of onions, which is so unpleasant, and with many persons the only objection to onions as an article of food. It is also claimed that parsley is very invigorating to tired nerves and bodies, and contains strong tonic properties.

A bit of pumice won't take up much room in the soap-dish, but it will keep feet and fingers smooth and dainty, and, by the way, there is no reason why the feet should not be kept as dainty as the hands. They are certainly much less exposed to changes of temperature than the latter, and, from the greater heat, the skin should be softer and finer.

It sometimes happens that a pricked finger will leave a blood stain upon some delicate work. It is a good thing to know that a paste made of uncooked laundry starch, if spread upon the stain immediately and left to dry, may then be scraped off, and with it will disappear all traces of the stain without injury to the fabric.

A goose or duck egg may be converted into a match-box. Break the egg and use the larger part of the shell for the box, allowing the edge to present a broken, uneven appearance. Paint with liquid bronze a conventional design around the base of the egg, and fit it into a pasteboard standard painted in a similar manner. The effect is very pretty and graceful.

Stuffed eggs with sardines is an appetizing luncheon dish. Boil three eggs till hard, shell them, cut in halves, and remove the yolks carefully; put them in a mortar with three or four sardines drained from the oil, skinned, and the center bones removed, a little butter and a dust of red pepper; pound till smooth; refill the whites with the mixture, cut off the tips so that they will stand firm, and serve each on a diamond of fried or toasted bread.

The simplest way to ebonize wood is as follows: Take one-quarter pound of log-wood chips and boil them in one pint of water for about an hour; while still hot, brush this solution over the carving. When the latter is dry, give another coat of the hot liquid. When this second coat is quite dry, coat with a solution of one-half ounce green copperas dissolved in one pint of hot water. This will give a really good black, and wood so ebonized can be sized or polished or oiled as required.

The nursery should be provided with a reliable thermometer, hung in a place where it will not be too near the fire or the windows, so that it will register the average temperature of the room. The temperature should be about 70° in the day-time, and at night a few degrees lower. The temperature can be determined in some measure by the child itself. If it is an active, warm-blooded child, it will be more comfortable in a temperature two or three degrees lower than that required by a less active child. Changes in the temperature should be avoided, lest the child should take cold.

The walls of the nursery should be painted

so that they may be frequently and thoroughly cleansed. If the room is papered, be careful that there is no trace of arsenic in the paper. The same care should be exercised in selecting any draperies that may be in the nursery. Many cretonnes and Indian muslins contain arsenic, and, though there may be but very little of the poisonous matter in them, yet it may account for obscure illnesses. As a matter of health, however pretty draperies may be, they should be banished from the nursery, as they serve to collect dust. —American Cultivator.

Talmage's Idea of Heaven.

Rev. Dr. Talmage, having been measurably relieved from the debt pressure which threatened to cost him his big Brooklyn tabernacle, turned his thoughts in the direction of Heaven on a recent Sunday, and ventured upon this description of the future home of the elect:

"Plenty of occupation in Heaven. I suppose Broadway, New York, in the busiest season of the year at noonday, is not so busy as Heaven is all the time. Grand projects of mercy for other worlds. Victories to be celebrated. The downfall of despotisms on earth to be announced. Great songs to be learned and sung. Great expeditions on which God shall send forth his children. Plenty to do but no fatigue. If you are seated under the trees of life it will not be to rest but to talk over with some old comrade old times—the battles where you fought shoulder to shoulder."

Judicious Placing of Mirrors.

Says a writer in the *Observer*: "I once noticed a pleasing effect in a dining-room of rather small dimensions. During the repast I enjoyed the delightful impression of looking through an open window directly opposite, and of gazing upon a cool expanse of green meadow and flowering apple trees. Not until afterwards did I discover that I had been placidly looking into a mirror placed so as to reflect the one window in the little room. It opened a line of suggestions of which I was glad to avail myself. In fact, the pleasing optical illusions which the mirror can be made to furnish are not half appreciated by the home decorator. As we all know, it doubles the size of a room, and enhances the brilliancy of the lamp. If properly placed, it will catch a gleam of color, and throw a bit of scenery in unexpected corners."

Elephants Like Children.

A very remarkable story comes from Calcutta about the well-known fondness which elephants have for children. An English officer owned an elephant, and, one day, the elephant had the toothache. He rolled about with pain until it was found necessary to extract the tooth to save his life. But how was the dental work to be done? It was at length decided to hammer out the tooth with a chisel placed under the roots. The elephant was induced to have the chisel in his mouth, but at the first blow he roared and snorted and refused to let his keeper approach him again. The little son of the officer, who was present, offered to sit on the elephant's head and "hold" him during the operation. The elephant let his baby friend "hold" him, and the tooth was soon knocked out. The story is a hard one to believe, but it will keep in mind this peculiar love of the big brutes for children.

A Story of the Flag.

At the close of the revolutionary war, on Nov. 25, 1783, when the British evacuated New York, they left the British flag flying from the flagstaff of St. George. They had taken down the steps leading to it, that it might not be removed. But as the British departed, the American army with General Washington and his aids, accompanied by many former citizens, entered the place. Shortly a boy was seen ascending the staff, nailing on cleat after cleat as he went up. He reached the top, and amid the roaring of artillery and the cheers of a delighted people, the ensign of the British gave place to the stars and stripes. Even the British, still in sight of the place, doffed their hats and bowed their acknowledgement of American freedom.

What Brings Success.

Whatever employment you follow with perseverance and assiduity will be found fit for you; it will be your support in youth and comfort in age. In learning the useful part of every profession very moderate abilities will suffice; even if the mind be a little balanced by stupidity, it may in this case be useful. Great abilities have always been less serviceable to the possessors than moderate ones. Life has been compared to a race, but the allusion still improves by observing that the most swift are ever the least manageable.—Oliver Goldsmith.

YOUNG HOLKS' COLUMN.

The Groceryman's Cat.

Written for the RURAL PRESS by MARY E. BAMFORD.



HE groceryman's cat was perfectly white, and had blue eyes, and was named Wilhelm. Wilhelm was quite accustomed to the boxes of soap in blue papers near the door, and to the cans of tomatoes with their flaming red pictures, and to the barrel of sugar by the counter. Wilhelm supposed that all the world was chiefly made up of boxes of soap, and cans of tomatoes, and barrels of sugar. The groceryman had never told Wilhelm any better. The groceryman knew better himself, for he drove to as many as fifty streets a day in his wagon. But Wilhelm stayed in the store, and looked at the boxes of soap in blue papers, and at the cans of tomatoes with their flaming red pictures, and at the barrel of sugar by the counter.

"The world is just the same all the time," thought Wilhelm. "I am glad! I like to have things just the same!"

And he purred very loudly, rubbing against the side of the sugar-barrel, as he stood on the floor.

But one day the world was not the same! When Wilhelm walked into the grocery store from the back room that morning, he jumped upon the counter, and looked over at the barrel of sugar. It was there, as usual, but another barrel stood beside it. The new barrel was closed, so Wilhelm could not see what was in it.

Wilhelm put out one white paw, and touched the top of the new barrel. It was strong. He jumped on the barrel, and sat on it, and looked at the old sugar-barrel.

"The world is different to-day!" thought Wilhelm joyfully. "There is a new barrel in the world!"

It was astonishing, truly! Wilhelm was pleased! He thought a great deal of the new barrel. He looked with contempt at the boxes of soap in blue papers, and at the cans of tomatoes with their red pictures, and at his former friend, the sugar-barrel.

"How delightful it is to have the world different!" said Wilhelm to himself. "How delightful it is to have a new friend!"

And he purred very loudly, sitting on top of the new barrel.

"A beautiful new barrel!" thought Wilhelm. "What fine things there must be inside of it!"

He sniffed at the top of the barrel, but he could not discover what was inside.

"But it must be something very much better than sugar," thought Wilhelm. "Sugar!"

And he glanced contemptuously at his former friend, the sugar-barrel.

And so affairs went on for quite a long time. Wilhelm spent most of his days on top of the new barrel, and entirely neglected the boxes of soap, and the tomato cans, and his old friend, the sugar-barrel. The groceryman did not notice how Wilhelm behaved, for the groceryman had to go to so many streets in his wagon that he could not stop to pay much attention to Wilhelm. And so Wilhelm did as he pleased for many days.

But one morning the world was not different any more! The world had become the same again. When Wilhelm walked into the grocery store from the back room that morning, he jumped upon the counter, and looked over at the new barrel. But it was not there. Only the sugar-barrel stood in the place where it always stood.

"The world is the same again!" thought Wilhelm, staring. "The new barrel has gone out of the world!"

It was astonishing, truly! Wilhelm did not like it at all. He went around the store, looking for the new barrel. He hunted a long time, but he could not find any place where the new barrel was hidden. It had gone entirely away. Wilhelm had lost his new friend.

"One barrel has gone out of the world," Wilhelm thought at last. "If one barrel goes out, may not another go out, too?"

He had never thought of that before. Would it not be very lonesome if his old friend, the sugar-barrel, should go away also?

"The world would be different!" thought Wilhelm in alarm. "It would be too different! The sugar-barrel is my good, old friend!"

Wilhelm ran back as fast as he could go, and rubbed against the sugar-barrel, and purred very loudly indeed. The sugar-barrel was much too sweet to reproach Wilhelm for his past misconduct.

Wilhelm lay down on the floor, next the sugar barrel, and felt happier than he had felt that day. Indeed, he believed he was

happier than he had been for many days.

"The world is the same again!" thought Wilhelm. "I am glad! I am—glad!"

Just as he went to sleep, he thought of something else.

"I shall never know what was in the new barrel!" he thought.

And he never did know. But you may know, if you wish. What did the new barrel really have in it? Nothing, my dears, absolutely nothing!

"Pin-Money."

"Here is your pin-money, Maud," said Uncle Hugh, as he handed his niece a bright silver dollar.

"Thank you, uncle; I was just wishing for some spare change," and Maud's eyes fairly beamed as she took the offered money.

"Uncle Hugh, when you give me money to spend just as I please, why do you always call it 'pin-money'?" Maud asked.

"Well, my dear, I will tell you the origin of the term 'pin-money.' Pins were introduced into England by Catharine, first wife of Henry VIII. They were not, however, the well-known small pointed instruments such as we use, but were made of gold, silver, ivory and brass, many of them weighing as much as six or eight ounces. Such pins as those were worn in the hair and used on different parts of the clothing to fasten folds or drapery, and were quite ornamental. Thus, you see, the first pins were much more useful to ladies than gentlemen.

"The Spanish manufacturers were permitted to sell their pins only during the Christmas holidays, and in that way gentlemen began to give the ladies of their respective families money with which to buy pins. At first they were very expensive, costing as much as we now have to pay for a valuable piece of jewelry. However, after pins had become common and cheap, gentlemen continued the practice of giving their wives, daughters and sisters money to buy pins; in that way the term 'pin-money' originated, and it is now applied to an allowance made to a lady to buy any small articles she may need or desire."

"I am glad you told me all about it, uncle," said Maud, "and I thank you very much."—Harper's Young People.

DOMESTIC ECONOMY.

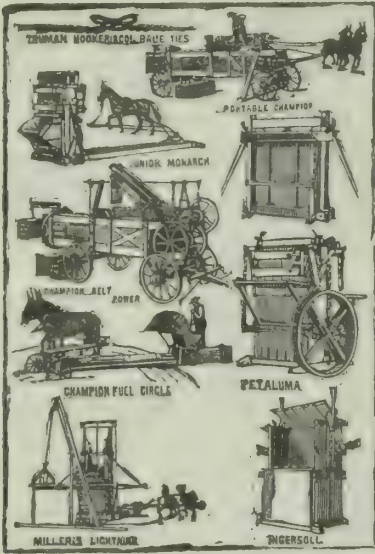
RASPBERRY SHERBET.—Mash one quart of raspberries with one pint of sugar, and let the mixture stand for an hour. Then add one pint of water and the juice and grated rind of one lemon; strain and freeze.

WASHINGTON PIE.—Cream together one cup of "A" sugar and one large tablespoonful of butter; add one egg; then one cup of sweet milk and three cups of flour sifted with two teaspoonfuls of baking powder. Beat hard and bake in jelly tins in a quick oven for eight minutes. Fill two layers with custard filling flavored with vanilla, sprinkle with powdered sugar. The remaining layers may be filled with jelly.

MEAT TURNOVERS.—Stew the dry, tough portions of cold roast beef until tender, letting the water stew nearly all away. Chop fine, and mix with it twice as much hot mashed potato, and to each cup of the mixture add a tablespoonful of green tomato pickle, minced fine. Add salt to taste, and moisten with the meat water. Shape into flat, thin cakes, brown in sausage fat, and turn when brown on one side.

STEAMED BATTER PUDDING.—Beat two eggs, broken without separating, until light. Add one cup of milk, and, when thoroughly mixed, two cups of flour, and beat until smooth and light; then add one teaspoonful of melted butter, half a teaspoonful of salt, and beat again. Lastly, add one heaping teaspoonful of baking powder and one-quarter of a pound of candied cherries, cut in halves and floured. Stir quickly into the pudding and turn into a greased melon-mold. Boil or steam continuously for two hours, and serve with foamy sauce.

POACHED EGGS.—A deep saucepan should be used and the water should reach the boiling point before the egg is carefully dropped in. Some cooks squeeze not more than two or three drops of lemon-juice into the water and always use a teaspoonful of salt. A full minute should poach the egg sufficiently, when it is lifted out with the skimmer and laid upon the square of toast already prepared on a hot platter. Some of the best chefs claim that the poaching pan, to do half a dozen eggs at once, does not insure the same perfection to each as when they are done separately. Eggs may be poached in an almost perfect sphere by giving to the water a rapid rotary motion with a spoon or fork, and dropping the egg in the heart of the whirlpool thus formed.



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FRANK H. BURKE,
Breeder of Registered Holsteins and Berkshires.
Menlo Park, Cal., January 22d, 1889.

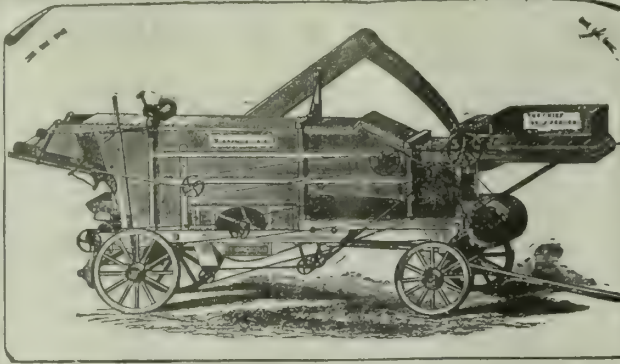
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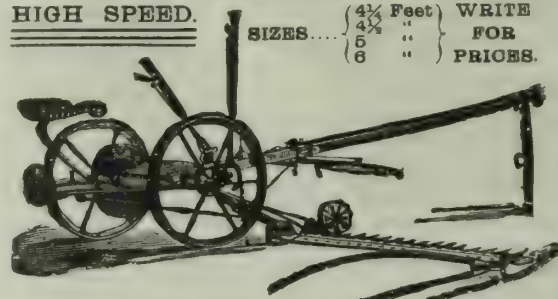
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PATRONS OF HUSBANDRY.

The Grange Temple.

Letter from Mr. Amos Adams on the Action of the National Grange.

TO THE EDITOR:—Frequent appeals are being made by circulars and through our grange organs for contributions to aid in building a grange temple at Washington, D. C. These appeals are so frequent that those outside the gates may think that granges and grangers are indifferent to the success of the project. Not so, however. We believe and know the granges will contribute liberally for that purpose whenever the National Grange takes any intelligent action in that direction.

The confusion of thought, the conflict of ideas and dilatory resolutions adopted by the National Grange on this question lead many to believe it to be a huge effort on its part to teach people "how not to do it," or else it feels itself incompetent to handle questions of this magnitude and wishes to place the burden of finally passing upon the plans and specifications for a suitable building, together with labor of obtaining \$30,000 for that purpose upon the women of the grange. We quote the action of the National Grange on this subject. At its session in 1890, the following action was taken:

WHEREAS, It has been intimated that if the National Grange will appropriate \$20,000, the further sum of \$30,000 will be added to build a temple; therefore,

Resolved, That when \$30,000 shall be raised the National Grange hereby pledges \$20,000 to purchase a suitable site and the erection of a building.

This resolution was referred to the Executive Committee with power to act.

At the session of 1891 by request the following was read:

WHEREAS A proposal has been made to build a Grange Temple to Agriculture with free will offerings of the Patrons of Husbandry and their friends; and

Whereas, The National Grange has never taken any action as a body; therefore be it

Resolved, That a full voice of this grange be taken and a committee in every State to aid the sisters and insure success in their undertaking.

Immediately after the above was read Brother Ellis offered the following, which was adopted:

Resolved, That the whole subject of the erection of a temple to Ceres or Agriculture be referred to the Executive Committee with instructions to develop plans and specifications for such a temple, and when it has done so and has submitted said plans and specifications to the members of the National Grange Committee on Woman's Work in the Grange, and it has received their approval, it shall at once inaugurate a plan for raising funds for the construction of said temple, and forward such plans to the Worthy Master of each State Grange, to be communicated by him to the members of the State Grange Committee on Woman's Work.

A little later in the day the following was read and adopted:

WHEREAS, It is now conceded by all that we are to build a temple dedicated to the order and

Whereas, It is of the highest importance that we should and on a good business foundation, therefore

Resolved, That the Executive Committee of the National Grange be and is hereby authorized to prepare plans and specifications and propose a system of securing funds to consummate the desired result.

The Executive Committee must have felt itself pretty well instructed on the passage of the last resolution. It will be observed that one resolution provides that the women of the grange shall secure the necessary funds and the other that the Executive Committee shall provide the ways and means. Well, here is a case where "you pays your money and takes your choice."

But how comes the Executive Committee which in its report to the last session of the National Grange in 1892, contains this reference to the proposed edifice?

The proposition made and accepted (?) by the National Grange at the meeting held at Atlanta two years ago to build a grange temple in the city of Washington as a home for its offices, a place for the preservation of its valuable archives and for National Grange headquarters, was at the meeting a year ago placed in the charge of the sisters of our order, through their various state and local committees on woman's work and considerable progress has been made in getting it properly before our members and securing the funds necessary to be raised before the \$20,000 set aside for that purpose will become available.

Two days later the committee on woman's work, which according to the above report had made "considerable progress in getting it properly before our members and securing the funds necessary to be raised," submitted the following report, which was adopted:

The committee on women's work in the grange to whom was referred that part of the executive committee report relating to a grange temple have had the same under consideration and direct us to report it back to the grange, believing that some definite instructions or suggestions should be given to the committee by the National Grange. Therefore we ask that it be referred to the Executive Committee. Signed, MRS. H. H. WOODMAN, E. RUSSELL.

Upon the foregoing vague, uncertain and indefinite action the grangers are importuned to raise \$30,000, to be used when?

The published proceedings do not show that the National Grange has ever set apart \$20,000, or any other number of dollars, for building purposes, except on condition that \$30,000 is first paid to the secretary of the National Grange. It may be one year and it may be ten years before that amount is contributed; probably the greater length of time will be consumed, unless the National Grange manifests some real evidence of its sincerity. Grangers are very much like other people; they do not take kindly to advancing money to be used three, five or ten years hence. To have enticed people into contributing for the purpose mentioned, the National Grange should have expended the \$20,000—\$40,000 would have been better—in purchasing a suitable lot in Washington, where property is advancing from 12 to 15 per cent per year. This course, besides being a good paying investment, would have inspired confidence in the order that the National Grange meant business. It is due to the order that the National Grange should take the lead in this project, and not ask the members to take all the risk. It is too much like Artemus Ward's position during the Rebellion; that the perpetuity of the Union might be preserved, he was willing to sacrifice all of his first wife's relations to accomplish so great an end.

It is perhaps due to the National Grange and in its behalf, to say it has introduced a mathematical problem which it is evidently trying to solve, to-wit: If it takes the National Grange two years to do nothing, how many years will it take it to teach grangers "how not to do it"?

It will be noticed how adroitly the first whereas and resolution were worded. In the whereas it is said: If the National Grange will appropriate \$20,000, thirty other thousand dollars will be raised. But in the resolution that follows, the proposition is reversed, to-wit: When \$30,000 shall have been raised, then the grange pledges \$20,000.

Of course we do not for one moment think the National Grange purposely left the bars down so it could retreat in good order. The grangers are getting tired of being fed on chaff so continuously—are getting tired of these public appeals for financial aid, thus throwing the onus of the defeat of the Temple building on a lack of liberality of individual grangers, when, in fact, the National Grange, by its conflicting resolutions, the non-action of the Executive Committee to have plans and specifications made, has had the effect of weakening the confidence of grangers in the belief that the National Grange really wishes to have a building erected.

Get down to business gentlemen. First buy a lot, for no competent architect will make plans and specifications for you without first knowing if it be a corner or an inside lot, or whether a hill must be graded down or a depression is to be filled up. When an intelligent commencement shall have been made by the National Grange, two years will not pass before Grangers will respond with sufficient pecuniary aid.

AMOS ADAMS.

Letter from New Hope.

TO THE EDITOR:—New Hope Grange was organized a little less than a year ago, with 29 charter members. Five of these have never attended our meetings, consequently have never taken the obligations of our order. One of these, Samuel Ray, died in January. We have initiated eight new members since last fall. Our meetings were to be held the first and third Saturdays of each month at 7 o'clock P. M., but during the winter the roads were made impassable by frequent rainy spells, so they were very poorly attended—so much so, that several times we held no meetings at all. Now we hope to be more prompt in attending, and hope more interest will be taken. We hear several talking of joining our order. At our last meeting a special meeting was appointed to be held Saturday, the 29th, as a picnic had been talked of but not fully decided upon. Our Grange decided to celebrate December 4, 1892, with a ball, but as it rained several days it was postponed to the 17th, and then poorly attended, so it did not prove a success either financially or socially. Never at any of our previous meetings has there been discussions of any importance.

CARRIE CARLETON.

New Hope, April 26, 1893.

The Situation at Carpinteria.

TO THE EDITOR:—The problem of keeping up a grange has not been solved by me yet, and I fail to find any that are fully master of the situation. Our grange has been reported dead, but I will not admit that as long as we can muster a quorum or pay our dues to the State Grange. If the Grange was the only organization that failed to meet bopes and good wishes, certainly we would be entirely disheartened. Other orders have their "ups and downs."

It does seem strange that so many farmers and others interested in agriculture can see so little encouragement in organization to strengthen them, and continue to pull on a rope of single strand that breaks so often, causing them loss and trouble.

I know of no better organization than the grange

to bind us together socially and financially. Where there is not enough interest in a farming community to support a grange other orders for the benefit of the farmer and workers will languish and go down.

The 19th of April Bro. Huffman, W. L. State Grange, met with us and gave us a very pleasant talk about the benefits of the grange socially, financially and otherwise, when we adjourned for dinner. At 2 P. M. a few more came in, when Bro. H. explained to us more fully what the grange had and still is doing for us. We were sorry indeed that more of our people were not present.

We concluded to have another meeting Saturday evening, hoping a large number of our citizens would take advantage of the opportunity, but the audience proved a small one, so our courage was almost at zero. So little interest manifested in a thing of so much importance! O. N. CADWELL. Carpinteria, April 30, 1893.

What the Live Grange Brethren Are Doing at Merced.

TO THE EDITOR:—Merced Grange is like one of your quietly prosperous burghers, making little noise or display, but going steadily on its way, doing persistently a good work for farming and laboring interests.

With a membership of more than 80, scattered over half a large county, our attendance ranges from 25 to 45. Meetings are held at 1:30 P. M. on the first and third Saturdays of each month.

After disposing of routine business, topics for discussion are presented, which may include anything of interest to grangers and which usually result in resolutions expressing the sentiments of the majority. During legislative or congressional sessions the more important measures under consideration by these bodies are either commended or condemned. In this way we have advocated Free Rural Mail Delivery, Retrenchment and Eventual Prohibition of Liquor Traffic, Better Road Building, Government Control of Railways and Telegraphs, Mutual Fire Insurance, Prohibition of Gambling in Staples, and various other measures in the interest of farmers and good government generally.

Every granger has, or should have, opinions on all such subjects, and there is no better place to express them than in the grange. While we realize that the action of our little gathering cannot decide the fate of any bill or measure, we also realize that grange propositions can be carried only by united action, and such action begins with the units. We are one of the units. "Many a mickle makes a muckle," and, if each subordinate grange will add its "little weight of opinion" to support our State and national leaders, grange principles will surely, if slowly, triumph. But the army of prejudice is constantly recruiting and re-forming. It never knows defeat, for no sooner is it driven from one line than it confidently forms another and fights with persistent desperation; and, as the skirmish line of progress deploys over each succeeding rise of ground, it meets a remorseless fire from new and ever-renewed reserves. Fresh batteries of ignorance are always unmasking; fresh regiments of prejudice are ever coming into action, and we as privates in the opposing line must bear our share of the battle. We must expect opposition and even bitter antagonism to all proposed reforms, and the more important the position to be won, the hotter is the fire of invective and slander. But, as our great President says "Be sure you are right, and then—go ahead." As members, do not fear to speak your honest thought; and when it comes to a vote, give your voice to put the grange fairly and fearlessly on record. It is a good saying, "Practice what you preach," but in this bustling, advertising age it is almost equally essential to *preach what you practice*.

Merced Grange, No. 7, will celebrate Children's Day, May 6th. In the forenoon, Worthy Master Davis of the State Grange will exemplify the secret work of the order. After an hour of feasting and social enjoyment, an open meeting will be held. Bro. Davis will address the members and friends, and the day will close with a musical and literary program. A full report will be prepared for the RURAL.

E. S. SPINKS.

Merced, April 25th.

Waterloo Endorses the Stockton Resolutions.

TO THE EDITOR:—The resolutions passed by Stockton Grange at a regular meeting April 1, 1893, were unanimously endorsed by Waterloo Grange at its meeting April 15, 1893.

Said resolutions advised that farmers should give their support and patronage to those flouring mills which are free from the combine. The following mills have not entered the combine: Union Milling Company, Crown and Aurora Mills, of Stockton.

The resolutions also commend the Union Transportation Company of Stockton as securing reasonable fares and freights.

C. A. MERRILL, Secretary.

Stockton, April 28, 1893.

The Sacramento Picnic.

(Record-Union.)

If everybody in the county and for several miles around should not receive an invitation to the Grangers' picnic at Graham's Grove on May 6th, it will not be from a lack of members on the Invitation Committee. The several committees are announced as follows:

Invitation Committee—Sacramento County—Pomona Grange—L. Leblmeyer, A. A. Krull; Sacramento Grange—Erskine Greer, E. McMullen; Enterprise Grange—E. J. Lynch, Etta Pummer; Elk Grove Grange—E. B. Owen, George Williamson; American River Grange—F. Bryan, Etta Cornell; Florin Grange—J. Casey, J. Reese; Franklin Grange—William Johnston, C. P. Freeman; Sacramento City—O. W. Erlwine, B. B. Brown, E. Kilgore, John Lafferty, A. Abbott; Courtland—Dwight Hollister, W. Johnston; Florin—J. Rutter, W. H. Robinson; Franklin—P. R. Bckley, T. Johnson; Walnut Grove—P. Wise, A. Brown; Union House—H. W. Johnson, C. E. Mack, John Reith; Brighton—Charles Perkins, George C. McMullen; Johnsonville—Harry D. Owen, Allen Wilder; Freeport—Mark Hunt, Doc Hack; Galt—J. J. Campbell, J. H. Sawyer; American River—D.

Taylor; Folsom—J. P. Cox, T. J. McFarland; Natoma—D. Finch; Ashland—I. Hinkle; Orangevale—E. Canfield; Antelope—S. S. Gladney; Cosumnes—T. Tavner.

Committee of Arrangements—J. Sims, D. Flint, C. A. Hull, E. Greer, D. Reese, A. M. Plummer, W. Bryan, Thomas McConnell.

Floor Director—G. W. McConnell.

Floor Managers—W. W. Greer, William Sims, T. Jenkins, H. Kelly, E. McMullen, N. B. Davis, George Hamilton, George Colby, Dr. W. C. Reith, Paul R. Sims, George Ross, C. E. Hull, H. Toomey.

The Secretary's Column.

By A. T. DREW, Secretary State Grange of California.

GRANGE PICNIC ANNOUNCEMENTS.

Selma Grange, Saturday, May 6th.
Yuba City Grange, May 11th.
Sacramento Co. Pomona Grange, May 6th.
Contra Costa Co. Granges at Concord, May 13th.
Alameda and San Jose Granges at Alvarado, at 10 o'clock A. M., Saturday, May 13th. The Pioneer associations of Alameda Co. have also been invited to participate.

WHAT SHALL BE DONE.

The Grange canvass for the season is not as active as it should be over the jurisdiction. We hope the present quietness, however, indicates the approach of active times throughout the field. Who is ready to take up the lecture work? Are there not brothers and sisters who can spare a few days' time to canvass for new Granges in their own neighborhood. While other organizations are quiet it would seem a propitious period to carry the Grange work forward. New supplies of Grange matter, in the way of blanks and circulars for organizing and reorganizing Granges, are ready for any Patron or reliable farmer who will endeavor to secure applicants for a new Grange charter. The National Grange Declaration of Purposes have been printed in neat folder form, containing a blank petition to be signed by any person 14 years of age or older who is eligible and desires to apply for admission to the Order. They can be had on application to this office free by any Grange or individual who desires further information regarding our Order or who will duly assist in increasing its membership and influence.

RURAL EDUCATIONAL BENEFITS.

On Saturday, April 15th, to the question, "How can parents in rural districts secure the largest amount of benefit to their children through the public schools?" by request of Temescal Grange, Sister S. J. Cross responded as follows:

First, they should interest themselves more in the schools than they do at the present time. There are some districts in the country where it is a rare event for parents to visit the school, and the pupils look quite surprised if a visitor calls. Parents should visit the school often enough to keep in their minds the work that is being done there. Children take more interest in their studies when father and mother know all about their lessons.

Again, the parents are too apt to keep the boys and girls from school on many occasions when it is not really necessary. If there is some little extra work, often the boy is kept at home a few days, just when he is most interested in his lessons. During his absence the class has gone on, and he is left to catch what he can that has been gone over and perhaps has lost what he will not make up during the remainder of the term. This is discouraging to a pupil, and often, on this account, he gets a dislike for school work. And here we must say, if no interest or pleasure is taken in his school, there is little profit to himself.

The girls fare little better in the rural districts, many times kept from school, perhaps for company, perhaps for mother to make a visit, or something just as unnecessary.

Until parents understand the benefits of education, there will be little advancement in our public schools.

It is education which gives dignity to the man. It is not the classic scholar alone who possesses knowledge, that is powerful. It is the individual who can give expression to what he does know, and apply that knowledge to the various conditions and business transactions of life.

Our course of study should be more practical. The simple teachings which appeal to the daily senses and to natural objects are too much neglected. They should be taught to reason and think for themselves, and learn to put their thoughts into words; to know the why and wherefore of things.

The knowledge derived from books alone is limited, while the student of nature, the one who learns of men and things by mingling with them and handling and experimenting upon them, is best fitted to wield a powerful influence in society.

In conclusion, a hardy, vigorous body, with a well-developed intellect, controlled by a clear brain filled with useful, practical ideas culled by observation from the field of nature and among men, is a living exhibition of a knowledge that has power in it. This knowledge can be gained from our common schools, and the opportunity is before almost every boy or girl in our rural districts if parents and teachers work together with nature, for there nature supplies so many lessons for observation, and it is in the country that boys and girls come in contact with nature's practical lessons.

Several Matrons, who have been teachers, and other members, discussed matters of education in general, rendering the meeting one of much interest.

SOME very interesting facts in regard to the GENUINE BUCKEYE MOWERS can be found on page 399.

AGRICULTURAL NOTES.

CALIFORNIA.

Fresno.

Reedley Exponent: Mr. P. Griest has been picking strawberries for the past ten days. He has a large crop of fine, luscious berries. We print this for the benefit of our subscribers in Vermont, New Hampshire and New Brunswick (and we have subscribers in all of these places); it is not news for people living here.

Reedley Exponent: Several parties in this vicinity have recently lost quite a number of hogs from hog cholera. D. L. Mekeel has lost 15 head of fine hogs, all of his band except one. Mr. Mekeel says there is no doubt but that it is hog cholera and has been pronounced such by some who have had much experience in the business. The first symptoms, the hogs commence scouring, stagger and reel around; the hair falls entirely from the body, and in course of a few days they die. We print elsewhere some communications taken from the RURAL PRESS, which may be of much benefit to those interested.

Humboldt.

The Ferndale creameries are doing an increased business this spring over any previous year. The amount of milk handled by the creameries in this locality is doubled over last year. Dairymen find it more profitable to turn their milk over to the creameries than to handle it themselves.

Ferndale Cor. to Standard: G. W. Dungan departed to-day for his ranch on Mattole river above Hanley's place, where he has a young prune and apple orchard and has started a nursery. The orchard has made a remarkable growth for the two years it has been planted, although a portion of it was injured by deer, which ate off the young branches last year. He will extend the acreage of the orchard this spring.

Kern.

Citrograph: George H. Crafts has completed the purchase of a half interest in the immense stock ranch of Simmons & Peters near Bakersfield, this State. In the exchange and sale he has sold to Mr. Peters of the firm named 117 acres on Redlands Heights, the consideration being \$22,500. Mr. Crafts will probably move his family to Kern county.

Californian: S. N. Reed is the fortunate possessor of one of the finest pairs of ox horns that cattle ever wore. They are from a Texas steer that was shot on the Barrosa mountains by Jim Miller. They measure four feet two and one-half inches from tip to tip, and are of perfect proportions. When they are polished and mounted, Mr. Reed will have a curio indeed well worth seeing.

Los Angeles.

The report on the assessment of Pomona valley shows that the value of farming property in that valley has increased over \$250,000 in the past 12 months by new plantings of orchards, building of houses by fruit-growers and new fruit business.

Downey Champion: Tree-Inspector Wm. Evans, in accordance with instructions from County Horticultural Commissioner John Scott, a few days since destroyed by fire 1100 peach trees infested by borers, which were shipped to E. Darrow by an Eastern nurseryman. The trees were to be set on the Banks property and the Judge Venable ranch.

Mendocino.

The report of the Mendocino County Board of Horticulture shows that the fruit output for the year amounted to \$15,000, and that there have been upwards of 50,000 fruit trees set out this year. The society has had 5000 infected orchard trees destroyed.

George Hood, a prominent stock-raiser of Mendocino county, has discovered a novel method for protecting his lambs from coyotes, which this season have been particularly destructive. His flock is corralled on slight elevations, around which are suspended lanterns. The positions of the lights are changed slightly every evening, and since the adoption of this plan not a single lamb has been lost from wild animals. Other stockmen are taking advantage of the scheme, and in every case they have met with success.

Merced.

Evidence that there is another big irrigation and power project on foot is offered by the filing in the County Recorder's office at Modesto, at the request of William Stroder, of San Francisco, of a notice of location of 500,000 inches of water from the San Joaquin river.

Monterey.

Reports from the Salinas valley indicate that the crops this year will be the heaviest ever harvested in that section.

Watsonville Pajaronian: The prospects for a large crop of apples and prunes on J. S. Menasco's orchard at Corralitos are excellent. This is one of the model orchards of the State.

Pajaronian: The Pajaro strawberry has the San Francisco market about to itself this season. To date the shipments from all sources have been light, but in another week or so the Pajaro growers will show the city buyers what the valley can do in small fruit when it gets on a speed. A few Longworths have been received from the Sacramento river district and nearer points, but it is conceded by all who have looked over the berry districts of the State that Pajaro valley is the only place "in it" for strawberries this year.

Orange.

Anaheim Gazette: Mr. F. A. Gates has on his farm at Garden Grove a couple of date trees—the only ones in this county—one of which is laden with a large and rapidly ripening crop.

The trees are 15 years old, and this is the first crop they have had, only one of the trees, however, being in bearing. The fruit has been one year on the tree and seems to be just nearing the ripening stage. Mr. Gates sent two bunches of the fruit to the Chicago fair with the Orange county exhibit, shortly after the dispatch of which, so great was the curiosity, the Los Angeles Chamber of Commerce sent down for a bunch to send along with their exhibit. The three bunches will be kept together and will no doubt be objects of great interest in our display at Chicago. Mr. Gates prizes his trees very much and thinks that in the coming years date raising will be one of the leading industries of southern California.

Sacramento.

Record-Union: Some oranges of the Washington Navel variety were gathered recently from a tree on the Berkeley place, near the city, one of which measured 13½ inches in circumference and 4½ inches in diameter. The fruit was of the finest flavor.

San Bernardino.

Ontario Observer: Since December 1st, A. B. Fox has made three pickings from his ten-acre lemon orchard, seven-year-old trees. The crop showed up as follows: Picked Dec. 1-15, 243 boxes; picked Feb. 4-20, 350 boxes; picked April 1-18, 457 boxes. Total, 1050 boxes. These will cure down to about 900 boxes. Mr. Fox is holding them for summer prices, and hopes to realize \$4 or \$5 per box. At \$4 the crop will amount to \$3600; at \$3 even to \$2700. Should he get \$5 per box, he will receive the nice little sum of \$4500.

San Diego.

Good crops of wheat, barley and wild-oats hay are reported from Oajon valley, where stacking is nearly completed. There will be an average yield of two tons of hay to the acre on early sown land. The experiment with Texas red oats has been so successful that they will be sowed extensively next season in preference to wheat or barley. They are valuable for hay, and the yield is upward of two tons to the acre.

A citizen of a statistical turn figures out the following: Within a radius of 20 miles of San Diego there are now 25,000 acres in fruit trees, averaging 70 to the acre, or a total of 1,750,000 trees. At the end of five years each tree should yield an average of five boxes of fruit, or 8,750,000 boxes. This would be an average of 300 boxes to the car, or 29,166 cars of fruit. At 50 cents a box, or \$150 a car, the fruit would bring \$2,916,000.

San Luis Obispo.

Moon: We are informed that the farmers hereabout anticipate much trouble in securing the necessary help to harvest the season's grain crop. There has been fully one-third more acres of land plowed and seeded to grain this year than any preceding year.

Moon: At the meeting of the Alliance at Santa Margarita last week, enough money was pledged by members of that organization to keep the mill at San Miguel running this season. At a subsequent meeting of farmers in San Miguel, \$6000 more was subscribed. We are informed that the total is now over \$12,000. It was at first feared that not enough money could be raised among the farmers to keep outside capitalists from absorbing the plant; but, since this generous response, no further difficulty is likely to occur soon.

Sutter.

During this winter and spring a large amount of poultry and eggs has been shipped from this place to the San Francisco markets.

The warm weather has been melting the snow in the mountains and keeps the rivers well up. The tulles are still partly full.

Farmer: Haymaking has commenced in District No. 70. Some of the farmers there are still sowing barley, which will make a good crop if the spring is favorable.

Farmer: The waving fields of grain and the luxuriant foliage in the orchards where the green fruit is already showing bring signs of the coming harvest of cereals and fruits. Early vegetables and berries are being marketed, haymaking is near at hand, and all kinds of vegetation are making rapid strides toward the harvest-time.

Farmer: The outlook generally for the fruit crop in this vicinity is good, and the growers, taking their various varieties as a whole, will find the yield up to the average and in some cases above. The curl leaf in the peach orchards is disappearing rapidly, and the fruit is thick enough to warrant considerable thinning. Apricots in this county will be light, but there will be something of a crop. Almonds will also only make a fair yield. Prunes promise a heavy yield and look excellent. Pears, plums, cherries and minor varieties in the fruit line will bring a large return. The peach crop is the principal one for this section, and at present there is no doubt but that it will be good.

Solano.

The fruit crop about Vacaville and Elmira is reported light so far as apricots are concerned.

Maine Prairie Cor. to Tribune: Crop prospects, except in a few isolated cases, were never poorer in the history of the community. Even during the severe season of three years ago, an abundance of hay was raised on land which this year will not even produce that commodity, to say nothing of grain. Fortunately, all our farmers are in moderate circumstances and there will be no distress. Next year they will probably more than retrieve their losses.

Sonoma.

Democrat: E. W. Davis disposed of his entire cellar of wine on Monday at prices which were, in the main, satisfactory.

Healdsburg Tribune: A freak of nature in fowl is reported from Dry Creek valley. Last

Friday a chick was born at the farm of Lou Derrick which has three legs, the anomalous third one growing out at the tail, and is as perfectly developed as the others, though it appears to be inanimate. The little chick is healthy and lively.

Farmer J. F. Thorsen, from the "Fair" ranch, was in town Wednesday, and from him we learn that 200,000 gallons of new wine were sold last week at 15 cents per gallon net, in the cellar, the buyers furnishing cooperage. Mr. Thorsen informs us that the price paid for this wine is the highest that has been paid for any wine of the same age on the coast.

Healdsburg Tribune: It is predicted that the grape crop this year will be enormous, and most wine-makers are increasing their facilities for a heavy run. There will be less grapes dried this year than last season, owing to the depression of the market, and consequently the yield will be handled almost exclusively by the wine-makers and the Concentrated Must Co.

Green Valley Cor. to Farmer: N. A. Griffith has a fine orchard of Gravenstein apples eight years old that netted \$200 per acre. He has added 40 acres to his orchard this season, making him the leading grower of Gravenstein apples in this county, if not in the State. Mr. Griffith is also experimenting with paper-shell walnuts and the Eastern chestnut, from which he expects good results.

Democrat: Hon. J. N. Bailbache, of Healdsburg, was in Santa Rosa on Tuesday. He reports the set of fruit on the trees as very light, the wheat crop not promising on account of the heavy rains and a good outlook for hay and grass. He thinks, however, that there is sufficient fruit for all purposes on the trees and that the rather poor set will be made up in the better size and quality of the fruit.

Sonoma Index-Tribune: The three-thousand-acre wheat and barley field on the Senator Jones ranch bordering Sonoma Creek, a few miles south of this place, is making a wonderful growth, and the yield will be the largest per acre ever recorded in this valley. Like all new reclaimed land there are spots in the low places that have missed, but what is lost from this cause is doubly made up by the heavy growth on the balance of the tract. All the low places are alongside the Donahue railway, but less than a fourth of a mile east of the road the land is much higher, and in consequence the field is one solid mass of grain standing between three and four feet high. It is Mr. Pleas' intention to return from Stockton with his "dredger" Nevada next fall and again commence reclaiming the balance of the tract.

Sutter.

J. P. Onstott received this week a box of Sultana grape cuttings and Smyrna fig trees from Smyrna.

Tulare.

Visalia Times: J. C. Ward brought in a twig 24 inches long from his prune orchard this morning, upon which we counted 148 little prunes, about the size of a pea.

Times: Major Berry has 15 men at work planting lemon trees on the lands of the Kaweah Lemon Co., near the Pogue ranch. The trees are being set 24 feet apart, and the 110 acres will be planted by Tuesday.

Grangeville Cor. Delta: Mr. T. Paige, of the Lucerne vineyard is having eight acres of winter cabbages put in for eastern shipment this season. He is also clearing up hundreds of acres of land and having it put under cultivation. He has built eight houses and barns for his tenants who will work the places. Mr. Paige is one of the most enterprising men in the State.

Ventura.

Venturian: Jas. Milligin, who so successfully operated the Thompson ranch up to a year ago, is now farming Jas. Leonard's Colonia place. He will put in 300 acres of limas and 10 acres to potatoes. The seed for the latter will cost from 2½ to 3 cents per pound.

Nordhoff Ojai: The Royal Messina lemons grown on Mr. J. B. Wickoff's ranch in the Ojai, and which led at the late State Citrus Fair at Colton, were sent to the State University for analysis, together with samples of the Lisbon, Eureka, Genoa and Villa Franca. The Ojai lemons gave the best analysis of any of them.

Venturian: From A. Levy, the experienced bean broker of Hueneme, who was in Ventura on Wednesday, it is learned that the planting of lima beans this year will be 20 per cent less than last year for this county. On the other hand, fully 25 per cent will be added to Lady Washingtons. The reason he assigns for the change is that the latter is claimed to be a better crop and less risk about it, for the reason that they can be harvested earlier and be out of danger of early rains.

Yolo.

Guinda Cor. to Democrat: J. G. Elithorp, of Rumsey, was in Guinda on Sunday and stated

that he had plowed and planted 95 acres and was busy cultivating the trees. His house was completed, a well dug, and it was probable he would move in the building on Thursday.

Mail: C. A. Simpson has purchased for Epinger & Co. the Hershey crop at Blacks, consisting of 11,000 bags. Within the past ten days Mr. Simpson has bought sufficient wheat at different points in the county to require 160 cars to remove it to San Francisco. It will be shipped as fast as cars can be procured.

Winters Cor. to Woodland Democrat: The growing demand for good fruit land, and the prevailing opinion that it is to be found in this vicinity, is strikingly illustrated in the sales that have followed one another in rapid succession for several weeks. It need not occasion any surprise if all that vast tract of land lying on the south bank of Putah creek, and heretofore chiefly devoted to cereals, is in a few years subdivided into small farms and orchards and teeming with a large and industrious population.

Mail: W. Garrett, who lives a mile south of Yolo, brought to the Mail office samples of strawberries just ripening. Mr. Garrett planted a few vines this spring as an experiment, and says by the middle of next month he will have more berries than he can use. They have been raised entirely without irrigation, and, but for the unusually backward spring, would have been ripe ere this. They are of large size, the smallest measuring considerably over an inch in diameter. Mr. Garrett intends to plant an acre of the berries next year and grow them for the market.

Yuba.

Wheatland Four Corners: Langdon Bros. displayed for sale, April 27th, the first strawberries of the season. The berries were raised on the Oakley place about a mile south of town. Twenty-five cents a pound was the price at which they were sold.

WASHINGTON.

Walla Walla Union: The Garden City Fruit-Growers' Association of Walla Walla was organized in this city with a capital stock of 500,000. The association purchased 11,000 acres of land two miles west of Walla Walla, and will commence operations at once. A correspondent interviewed Eugene Buchanan, one of the principal stockholders. He said he was going to Chicago, where he would dispose of about \$250,000 worth of stock to capitalists there. The association has options on about 1000 acres near the city and will probably purchase them within a few days. It is expected to have the land planted in fruit trees, etc., by the spring of 1894.

SOME very interesting facts in regard to the GENUINE BUCKEYE MOWERS can be found on page 399.

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We take pleasure in advising the readers of the PACIFIC RURAL PRESS that the UNION PACIFIC is the most direct and quickest line from San Francisco and all points in California to the WORLD'S FAIR. It is the ONLY LINE running Pullman's latest improved vestibuled Drawing-Room Sleepers and Dining Cars from San Francisco to Chicago without change, and only one change of cars to New York or Boston. Select Tourist Excursions via the UNION PACIFIC leave San Francisco every Thursday for Chicago, New York and Boston in charge of experienced managers, who give their personal attention to the comfort of ladies and children traveling alone. Steamship Tickets to and from all points in Europe. For tickets to the World's Fair and all points east and for Sleeping-Car accommodations call on or address D. W. Hitchcock, General Agent Union Pacific System, No. 1 Montgomery street, San Francisco.

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NO BETTER PROOF.



MILROY, MIFFLIN CO., PENNA.

To the Editor of the New York World:

"Mrs. John Gemmill, of this place, was thrown from a wagon, sustaining a most serious injury to her spine, and was

unable to walk. Her daughter providentially procured two bottles of

ST. JACOBS OIL,

which Mrs. Gemmill used. Before the second bottle was exhausted, she was able to walk about, and has been

COMPLETELY CURED."

Very truly,

M. THOMPSON, POSTMASTER.

AN OAKVILLE MIRACLE.

THE REMARKABLE CASE OF MR. JOHN W. CONDOR.

A Helpless Cripple for Years—Treated by the Staff of the Toronto General Hospital and Discharged as Incurable—The Story of his Miraculous Recovery as Investigated by an Empire Reporter.

(Toronto Empire.)

For more than a year past the readers of the *Empire* have been given the particulars of some of the most remarkable cures of the 19th century, all, or nearly all of them, in cases hitherto held by the most advanced medical scientists to be incurable. The particulars of these cases were vouched for by such leading newspapers as *The Hamilton Spectator* and *Times*, *The Halifax Herald*, *Toronto Globe*, *Le Monde*, *Montreal*; *Detroit News*, *Albany*, *N. Y.*; *Journal*, *Albany Express* and others, whose reputation placed beyond question the statements made.

Recently rumors have been afloat of a remarkable case in the pretty little town of Oakville of a young man recovering after years of helplessness and agony. The *Empire* determined to subject the case to the most rigid investigation, and accordingly detailed one of our best reports to make a thorough and impartial investigation into the case. Acting upon these instructions, our reporter went to Oakville and called upon Mr. John W. Condor (who it was had so miraculously recovered), and had not long been in conversation with him when he was convinced that the statements made were not only true, but that "the half had not been told." The reporter found Mr. Condor at work in one of the heaviest departments of the Oakville Basket Factory, and was surprised, in the face of what he knew of this case, to be confronted by a strapping young fellow of good physique, ruddy countenance and buoyant bearing. This now rugged young man was he who had spent a great part of his days upon a sick-bed, suffering almost untold agony. When the *Empire* representative announced the purpose of his visit, Mr. Condor cheerfully volunteered a statement of his case for the benefit of other sufferers. "I am," said Mr. Condor, "an Englishman by birth, and came to this country with my parents when nine years of age, and at that time was as rugged and healthy as any boy of my age. I am now 29 years of age, and it was when about 14 years old that the first twinges of inflammatory rheumatism came upon me and during the 15 years that intervened between that time and my recovery a few months ago tongue can hardly tell how much I suffered. My trouble was brought on, I think, through too frequent bathing in the cold lake water. The joints of my body began to swell, the cords of my legs to tighten and the muscles of my limbs to contract. I became a helpless cripple, confined to bed, and for three months did not leave my room. The doctor who was called in administered preparations of iodide of potassium and other remedies without any material beneficial effect. After some months of suffering I became strong enough to leave the bed, but my limbs were stiffened and I was unfitted for any active vocation. I was then hampered more or less for the following nine years, when I was again forced to take to my bed. This attack was in 1886, and was a great deal more severe than the first. My feet, ankles, knees, legs, arms, shoulders, and in fact all parts of my frame were affected. My joints and muscles became badly swollen and the disease even reached my head. My face swelled to a great size. I was unable to open my mouth, my jaws being fixed together. I, of course, could eat nothing. My teeth were pried apart and liquid food poured down my throat. I lost my voice, and could speak only in husky whispers. Really, I am unable to describe the state I was in during these long weary months. With my swollen limbs drawn by the tightening cords up to my emaciated body, and my whole frame twisted and contorted into indescribable shapes, I was nothing more than a deformed skeleton. For three long weary months I was confined to bed, after which I was able to get up, but was a complete physical wreck, hobbling around on crutches a helpless cripple. My sufferings were continually intense, and frequently when I would be hobbling along the street I would be seized with a paroxysm of pain, and would fall unconscious to the ground. During all this time I had the constant attendance of medical men, but their remedies were unavailing. All they could do was to try to build up my system by the use of tonics. In the fall of 1889 and spring of 1890 I again suffered intensely severe attacks, and at last my medical attendant, as a last resort, ordered me to the Toronto General Hospital. I entered the hospital on June 20th, 1890, and remained there until September 20th of the same year. But, notwithstanding all the care and attention bestowed upon me while in this institution, no improvement was noticeable in my condition. After using almost every available remedy the hospital doctors—of whom there was about a dozen—came to the conclusion that my case was incurable, and I was sent away, with the understanding that I might remain an outside patient. Accordingly, from September, 1890, to the end of January, 1891, I went to the hospital once a week for examination and treatment. At this stage I became suddenly worse, and once more gained admission to the hospital, where I lay in a miserable suffering condition for two months or more. In the spring of 1891 I returned to Oakville, and made an attempt to do something toward my own support. I was given light work in the basket factory, but had to be conveyed to and from my place of labor in a buggy and carried from the rig to a table in the works on which I sat and performed my work. In August, 1891, I was again stricken down, and remained in an utterly helpless condition until January, 1892. At this time Mr. James, a local druggist, strongly urged me to try Dr. Williams' Pink Pills for Pale People. I was prejudiced against proprietary medicines, as I had spent nearly all I possessed on numerous highly recommended so-called remedies. I had taken into my system large quantities of different family medicines. I had exhausted the list of liniments, but all in vain, and I was therefore reluctant to take Mr. James' advice. I, however, saw

strong testimonials as to the value of Dr. Williams' Pink Pills as a blood builder and nerve tonic, and thinking that if I could only get my blood in better condition my general state of health might be improved, I resolved to give Pink Pills a trial. With the courage born of despair I bought a box, but there was no noticeable improvement, and I thought this was like the other remedies I had used. But, urged on by friends, I continued taking Pink Pills, and after using seven boxes I was rewarded by noticing a decided change for the better. My appetite returned, my spirits began to rise and I had a little freer use of my muscles and limbs, the old troublesome swellings subsiding. I continued the remedy until I had used twenty-five boxes, when I left off. By this time I had taken on considerable flesh, and weighed as much as 160 pounds. This was a gain of 60 pounds in a few weeks. My joints assumed their normal size, my muscles became firmer, and in fact I was a new man. By April I was able to go to work in the basket factory, and now I can work ten hours a day with any man. I often stay on duty overtime without feeling any bad effects. I play baseball in the evenings and can run bases with any of the boys. Why I feel like dancing for very joy at the relief from abject misery I suffered so long. Many a time I prayed for death to release me from my sufferings, but now that is all gone and I enjoy health as only he can who suffered agony for years. I have given you a brief outline of my sufferings, but from what I have told you can guess the depth of my gratitude for the great remedy which has restored me to health and strength.

Wishing to substantiate the truth of Mr. Condor's remarkable story, the *Empire* representative called upon Mr. F. W. James, the Oakville druggist referred to above. Mr. James fully corroborated the statements of Mr. Condor. When the latter had first taken Dr. Williams' Pink Pills he was a mere skeleton—a wreck of humanity. The people of the town had long given him up for as good as dead, and would hardly believe the man's recovery until they saw him themselves. The fame of this cure is now spread throughout the section and the result is an enormous sale of Pink Pills. "I sell a dozen and a half boxes of Pink Pills every day," said Mr. James, "and this is remarkable in a town the size of Oakville. And better still they give perfect satisfaction." Mr. James recalled numerous instances of remarkable cures after other remedies had failed. Mr. John Robertson, who lives midway between Oakville and Milton, who had been troubled with asthma and bronchitis for about 15 years, has been cured by the use of Pink Pills, and this after physicians had told him there was no use doctoring further. Mr. Robertson says his appetite had failed completely, but after taking seven boxes of Pink Pills he was ready and waiting for each meal. He regards his case as a remarkable one. In fact Dr. Williams' Pink Pills are recognized as one of the greatest modern medicines—a perfect blood builder and nerve restorer—curing such diseases as rheumatism, neuralgia, partial paralysis, locomotor ataxia, St. Vitus' dance, nervous headache, nervous prostration and the tired feeling resulting therefrom, diseases depending upon humors in the blood, such as scrofula, chronic erysipelas, etc. Pink Pills restore pale and sallow complexions to the glow of health, and are a specific for all the troubles peculiar to the female sex, while in the case of men they effect a radical cure in all cases arising from mental worry, overwork or excesses of whatever nature.

The *Empire* reporter also called upon Mr. J. C. Ford, proprietor of the Oakville Basket Factory in which Mr. Condor is employed. Mr. Ford said he knew of the pitiable condition Condor had been in for years, and he had thought he would never recover. The cure was evidently a thorough one for Condor worked steadily at heavy labor in the mills and apparently stood it as well as the rest of the employees. Mr. Ford said he thought a great deal of the young man and was pleased at his wondrous deliverance from the grave and his restoration to vigorous health.

In order to still further verify the statements made by Mr. Condor in the above interview, the reporter on his return to Toronto examined the General Hospital records and found therein the entries fully bearing out all Mr. Condor had said, thus leaving no doubt that his case is one of the most remarkable on record, and all the more remarkable because it baffled the skill of the best physicians in Toronto.

These pills are manufactured by the Dr. Williams' Medicine Company, Schenectady, N. Y., and Brockville, Ont., and are sold in boxes (never in loose form by the dozen or hundred, and the public are cautioned against numerous imitations sold in this shape) at 50 cents a box, or six boxes for \$2.50, and may be had of all druggists or direct by mail from Dr. Williams' Medicine Company from either address. The price at which these pills are sold make a course of treatment comparatively inexpensive as compared with other remedies or medical treatment.

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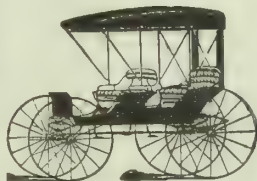
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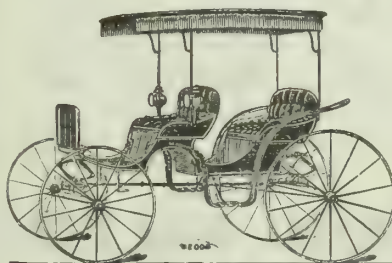
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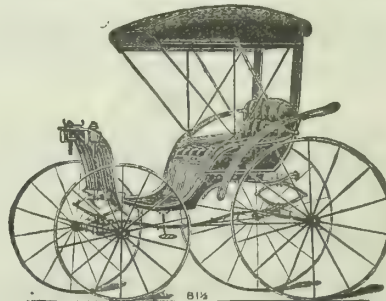


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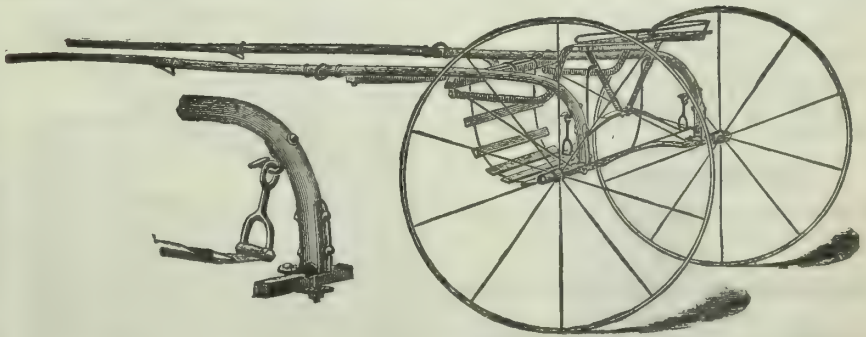
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R. G. HEAD, Napa, Importer and Breeder of Land and Water Fowl. Send for New Catalogue.

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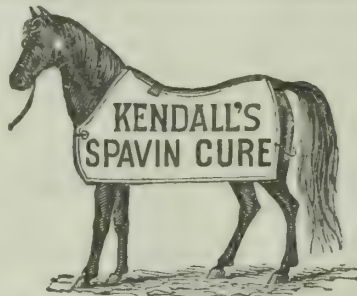
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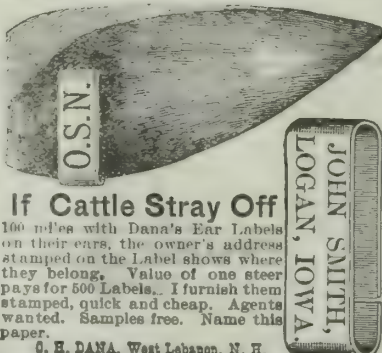
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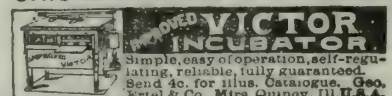
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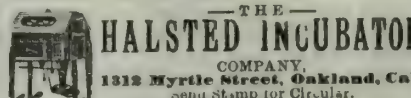
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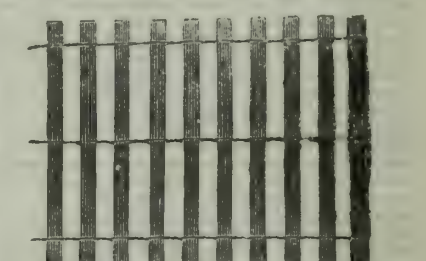
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S. H. MARKET REPORT

Market Review.

SAN FRANCISCO, May 3, 1893.

The wheat market presents much the same aspects from week to week. Occasionally some hopeful conditions develop, and it appears for a time that a permanent turn for the better has come at last. Prices improve a little and encouragement is visible in various markets. But weakness speedily develops and the old condition of stagnation and depression is resumed. Later advices from the East confirm expectations that a heavy shortage is to be expected in the United States yield—fully as large, doubtless, as we have indicated in previous reports. It seems somewhat singular that knowledge of the deficit has not been the cause of more buoyancy and a stronger speculative feeling in the market; but the reason doubtless lies in the fact that crop conditions elsewhere are favorable, and heavy surplus stocks are decreasing very slowly. Ordinarily, crop reports of a damaging nature in the United States mean an advance in quotations; but it has not occurred this year. Crop conditions in Europe are fairly favorable. Reports for March are just to hand and they describe the situation as follows:

Summary.—Conditions generally favorable, with tendency toward lower prices.
Great Britain.—The weather has been more favorable for all branches of farming than during this month for many years, and the spring sowings are unusually well advanced. No damage has resulted from the recent frosts and the winter crops are very promising. Feed is reported as exceptionally plentiful for the time of year and an advance in the price of live stock is predicted. A moderate advance in the values of store cattle and sheep has already taken place.

France.—The weather has been fine throughout the month, but in the closing days is colder. There is much complaint of want of rain, and spring sowings are backward. The acreage sown is about equal to that of 1892, but the condition is not as favorable. Prices are steady and business is dull.

Germany.—The weather is unsettled. During the latter part of the month cold weather and snowstorms have been experienced. Some damage has been done to winter crops, but in the main the condition is fairly satisfactory.

Austria-Hungary.—The mild weather of the earlier part of the month has been followed by colder weather and considerable snowfall, though reports show a change for the better in the closing days. The official Hungarian crop report is rather unfavorable, but there is, nevertheless, considerable confidence felt that the conditions are fairly favorable. Some damage has occurred to the autumn-sown crops, but it is thought the extent is not serious.

Italy.—The crops promise well if the present favorable conditions continue. The damage that has occurred to the winter grains is limited in extent and area, and indications point to a full average crop.

Denmark.—Farm operations are in a forward state, and milder weather favors the winter grains.

Russia.—Reports are contradictory. In the central and northern parts the winter crops are reported as in a satisfactory condition and above the average, while from Odessa the estimates show that in five departments the area and condition are below the average and are far from satisfactory. It is reported that on the Caucasus, where three consecutive good crops have been harvested, half the last wheat crop is still unmarketed owing to the lack of means of transportation and the bad roads.

More recent reports from Europe indicate that there is imminent danger of damage by drouth in some places. In fact the complaint of no moisture is becoming pretty general.

Locally wheat has been almost at a standstill, and there seems to be no immediate prospect of renewed activity—perhaps not until the new crop is in.

The condition of crops is described in another place in our market report.

A steadier feeling is noticeable in barley, and the market is in fairly satisfactory condition. Stocks are not large and there has recently been very good export demand. Holders are firm and do not make concessions in order to sell.

Common oats are easy, the market being well supplied. Choice, however, are firm and bring full figures.

Corn is weak, the demand being light.

Oranges.

The orange market has not shown much improvement, either in the East or at home. Shipments are going forward rapidly, but it is pretty certain that not all the California fruit will be marketed. A portion of the oranges remaining on the trees, will, without doubt, be lost. Complaints of the quality of oranges are frequent, not only at home, but in the East, and the demand is not what it might be, or ought to be. Navels are pretty well cleaned up and the demand for this variety is improved. The Riverside growers have almost unanimously adopted the plan of organization recommended at the recent orange-growers' meeting in Los Angeles, and growers in other countries appear inclined to do likewise. The growers will probably have a good chance to show what they can do next season. A greatly increased acreage will be in bearing next year, and the Florida crop promises to be an immense one, some authorities estimating it as high as 7,000,000 boxes, or over 23,000 carloads. The late frosts, which frequently catch the blossoms in Florida in February and March, were absent this year, and the trees are loaded with bloom.

Locally, choice Navels are scarce, and bring very good prices—some selling as high as \$3.25. Other varieties sell for much less. The market is heavily stocked.

Other Fruit.

Strawberries are beginning to come in freely and the tendency of prices is of course downward. Yesterday's receipts were 144 chests. The appearance and quality of the berry are much improved over first consignments.

The first shipment of cherries was made East from Sacramento county last Monday. Other shipments from Sacramento and Suisun were reported Tuesday. None have yet appeared in this market.

Alison, Gray & Co. received a consignment of gooseberries last week, but none came to hand for the first two days of this week.

The dried fruit market shows no change.

Wool.

Thomas Denigan, Son & Co. furnish the following report on the wool situation:

"The tone of our local market for a week or so has been more and more in sympathy with the dullness characterizing the Eastern trade, which is reported dull and rather downward, with no liberal business being done at that end. For the past three or four days our local business has been light, compared to the active output of the earlier part of April, and at the moment we may say wool is dull. The market is overstocked with low-grade stock, and as scourers are not free buyers, it will be the work of a season to

dispose of the low-grade, shrinky wools. The only reason given for this change of feeling in wool matters and the present dullness is fear of the proposed extra session of Congress and the probability of wool being put on the free list. If such legislation is effected, it will for some time to come depress trade and prevent both dealers and manufacturers from speculating and stocking up to any great extent. Much of the real choice wool received here up to the middle of last week was promptly taken both here and in the country, but there is yet a large share here and to come, for which it will be difficult to realize values ruling earlier in April."

Vegetables.

The potato market continues firm, and prices have again nearly reached the maximum of several weeks since. A decided feeling of weakness was visible Monday, and prices went down, but it seems to have had no substantial cause, and the market has recovered its former buoyant tone. Conditions continue favorable for good prices. The acreage in potatoes will be much less this year than usual, present stocks are light and the demand good. Top price is now \$2 for Oregon Burbank, \$1.75 for Peerless.

Receipts of vegetables are free, and the demand generally very good. Prices are without material change from a week since.

Provisions.

The market continues in very good shape, and prices are well sustained. The Chicago *Breeder's Gazette* of April 26th has this to say: "Sellers had little fault to find with the last week's market. There was no time when the wants of the trade did not exceed the supply, and therefore the course of prices was pretty steadily upward. Eastern buyers took an unusually large part of the offerings. Rather more than half of the 96,500 head received were reshipped. To the activity in the demand from that quarter was due much of the strength the market developed. The quality of the hogs has continued to improve. Comparatively few light weights are now being offered, and prices for that class are barely 10 cents under the quotations for heavy weights. It looks as if that small difference might soon disappear."

Butter and Cheese.

The butter market is in rather better shape than it has been, though prices show no improvement. Supplies are very plentiful, but surplus stocks are largely disposed of by packing and shipping. Prices are steady.

Stock of cheese are large, and the situation is generally against sellers.

Poultry and Eggs.

Dullness has been the feature of the poultry market during the week. Prices, however, show no special changes.

Eggs have come to hand very plentifully, and prices rule weak.

Hay.

Hay-dealers of the city have adopted the plan of auctioneering hay. The plan has been in operation for the past 15 days, and so far has proved entirely successful. The dealers have been able to handle all of the hay coming into the city at a uniform rate of commission and with safety. Briefly outlined, the plan is to have the entire shipments into the city landed at one place. Two auction sales are held each day, one at 9 o'clock in the morning and again at 3 o'clock in the afternoon. One man has charge of all the sales. The sales are held at the railroad yards on Sixth and Seventh streets, between Townsend and King, and here all the hay that comes into the city every day is taken, loaded on cars. W. Orday, the public weigher, is the auctioneer and has charge of the sales. A uniform commission of 50 cents per ton has been established.

Miscellaneous.

Onions are firm. The supply is not large.

Beans are inactive.

New crop of honey will not make much of a display for a month or six weeks, and, until that time, the market will remain in quiet condition, as there is not stock enough now in first hands to allow of any business of consequence.

Flour quotations have undergone no change since the combine was effected. Bran and middlings continue firm. Other articles have not changed in a long time.

Green almonds are now on the market, offering at \$2.10 @ \$2.15, with slow custom. Choice walnuts and soft-shell almonds are not plentiful, and prices for these kinds show firm feeling. First-class peanuts are also steadily held, there being no surplus of such stock.

Markets by Telegraph.

Drouth in Germany.

BERLIN, April 29.—Farmers are waiting over the lack of rain. The country is baked and unless a change occurs soon crops will be damaged and we shall have a vegetable famine. The seeds now sown are burned up. Other industries are seriously affected. The proprietor of a large dye works says the air is so dry he cannot get colors to take. For the same reason workmen in velvet factories around Chefield find the greatest difficulty in cutting silks, which becomes brittle owing to the absence of moisture.

California Products in the East.

NEW YORK, April 30th.—Prunes—There is a softish feeling, but no decline. Steamer boxed lots are freely offered. Forties to fifties quoted at 15c; fifties to sixties, at 11c; smaller sizes almost a drug. Chicago wants customers here at 9@10c.

Raisins.—There is little of coast interest. Owners seem well contented with their investment, and they have adroitly managed to retain prime carrying qualities. This natural advantage of Pacific over Valencia will have a good opportunity to proclaim itself this season, which will tend to dispel any remaining doubts about the matter. Arrivals outside the pool have ruled easy, but at the close Three Crowns regained 5 points and Two Crowns 4 1/2 points.

Apricots range at 14 1/2 @ 16c. A few selected at 16 1/2c.

Wool.—The situation is about as before; buyers are not anxious and holders of the last clip are willing to make concessions. Country rates are not definitely established, and it looks as if it will be a season of consignment more than one of prompt buying at primal points. Texas opens with sales of over a half-million pounds on a reported scoured basis of 48 cents landed here. Mill trade is regarded sound for certain fabrics. The prolonged cool weather, however, has kept down the sale of middle-weight goods, and some manufacturers have a surplus of material, which makes them temporarily independent of the open market.

Oranges.—Two cars Washington navel oranges went to Liverpool by the Britannic West India oranges are arriving heavily. So are pineapples and Mediterranean oranges. There is no call for Pacific or Florida oranges now. Most of the latter are rejected.

Lima Beans.—There was a good report of trade at \$2.10 for spot bushel. The demand must soon subside under liberal supplies of spring garden truck.

Hope.—Continue in their dribbling way and the country market is more of a holding than selling character. The State hop district manipulators report a reserve of 45,000 bales. They estimate these must be used before the new crop, so they continue to dictate prices. There seems to be few fine Pacifics to sell locally. Pacifics range from 15 @ 11 1/2c, the ex-

treme being rare for them or choice State. Exports for the week, 1200 bales.

Fruit Trade in the East.

NEW YORK, May 1.—The *Commercial Bulletin*, referring to reports that the fruit crops of California were not looking well, says: Similar tales were going the rounds one year ago. Low prices helped along the sale of goods latterly, and may do more in the same connection later on, but it is doubtful if the premature advices of alleged shortage in the growing crop will carry much weight against experience with the last crop.

Doubtless the market needs a stimulant in the way of larger consumption, and will probably benefit therefrom; but at this moment excessive supplies of canned fruit neutralize the short-crop stories.

Wheat in Russia.

ODESSA, April 29.—The abnormal weather continues. The winter wheat crop in the southern provinces has been almost destroyed by the cold. Food prices are rising and famine threatens. The Government will probably be compelled to revive the embargo on grain.

British Grain Trade.

LONDON, May 1.—The *Mark Lane Express* says: Corn prospects are not sufficiently discouraging to alarm the market. The average price for English wheat throughout the entire country has improved 7d a quarter, but in London has fallen 1s 4d. American red winter wheat has fallen 6d, but there is a demand for California at 30s on big orders. The wheat crop of India is estimated at 30,082,500 quarters.

Grain Futures.

Liverpool.

The following are the closing prices paid for wheat options per cwt. for the past week:

Thursday	Friday	Saturday	Sunday	Monday	Tuesday
5s 3/4 d	5s 9/4 d	5s 10 d	5s 11 d	5s 12 d	5s 13 d
5s 10 d	5s 11 d	5s 12 d	5s 13 d	5s 14 d	5s 15 d
5s 11 d	5s 12 d	5s 13 d	5s 14 d	5s 15 d	5s 16 d
5s 12 d	5s 13 d	5s 14 d	5s 15 d	5s 16 d	5s 17 d
5s 13 d	5s 14 d	5s 15 d	5s 16 d	5s 17 d	5s 18 d
5s 14 d	5s 15 d	5s 16 d	5s 17 d	5s 18 d	5s 19 d
5s 15 d	5s 16 d	5s 17 d	5s 18 d	5s 19 d	5s 20 d
5s 16 d	5s 17 d	5s 18 d	5s 19 d	5s 20 d	5s 21 d
5s 17 d	5s 18 d	5s 19 d	5s 20 d	5s 21 d	5s 22 d
5s 18 d	5s 19 d	5s 20 d	5s 21 d	5s 22 d	5s 23 d
5s 19 d	5s 20 d	5s 21 d	5s 22 d	5s 23 d	5s 24 d
5s 20 d	5s 21 d	5s 22 d	5s 23 d	5s 24 d	5s 25 d
5s 21 d	5s 22 d	5s 23 d	5s 24 d	5s 25 d	5s 26 d
5s 22 d	5s 23 d	5s 24 d	5s 25 d	5s 26 d	5s 27 d
5s 23 d	5s 24 d	5s 25 d	5s 26 d	5s 27 d	5s 28 d
5s 24 d	5s 25 d	5s 26 d	5s 27 d	5s 28 d	5s 29 d
5s 25 d	5s 26 d	5s 27 d	5s 28 d	5s 29 d	5s 30 d
5s 26 d	5s 27 d	5s 28 d	5s 29 d	5s 30 d	5s 31 d
5s 27 d	5s 28 d	5s 29 d	5s 30 d	5s 31 d	5s 32 d
5s 28 d	5s 29 d	5s 30 d	5s 31 d	5s 32 d	5s 33 d
5s 29 d	5s 30 d	5s 31 d	5s 32 d	5s 33 d	5s 34 d
5s 30 d	5s 31 d	5s 32 d	5s 33 d	5s 34 d	5s 35 d
5s 31 d	5s 32 d	5s 33 d	5s 34 d	5s 35 d	5s 36 d
5s 32 d	5s 33 d	5s 34 d	5s 35 d	5s 36 d	5s 37 d
5s 33 d	5s 34 d	5s 35 d	5s 36 d	5s 37 d	5s 38 d
5s 34 d	5s 35 d	5s 36 d	5s 37 d	5s 38 d	5s 39 d
5s 35 d	5s 36 d	5s 37 d	5s 38 d	5s 39 d	5s 40 d
5s 36 d	5s 37 d	5s 38 d	5s 39 d	5s 40 d	5s 41 d
5s 37 d	5s 38 d	5s 39 d	5s 40 d	5s 41 d	5s 42 d
5s 38 d	5s 39 d	5s 40 d	5s 41 d	5s 42 d	5s 43 d
5s 39 d	5s 40 d	5s 41 d	5s 42 d	5s 43 d	5s 44 d
5s 40 d	5s 41 d	5s 42 d	5s 43 d	5s 44 d	5s 45 d
5s 41 d	5s 42 d	5s 43 d	5s 44 d	5s 45 d	5s 46 d
5s 42 d	5s 43 d	5s 44 d	5s 45 d	5s 46 d	5s 47 d
5s 43 d	5s 44 d	5s 45 d	5s 46 d	5s 47 d	5s 48 d
5s 44 d	5s 45 d	5s 46 d	5s 47 d	5s 48 d	5s 49 d
5s 45 d	5s 46 d	5s 47 d	5s 48 d	5s 49 d	5s 50 d
5s 46 d	5s 47 d	5s 48 d	5s 49 d	5s 50 d	5s 51 d
5s 47 d	5s 48 d	5s 49 d	5s 50 d	5s 51 d	5s 52 d
5s 48 d	5s 49 d	5s 50 d	5s 51 d	5s 52 d	5s 53 d
5s 49 d	5s 50 d	5s 51 d	5s 52 d	5s 53 d	5s 54 d
5s 50 d	5s 51 d	5s 52 d	5s 53 d	5s 54 d	5s 55 d
5s 51 d	5s 52 d	5s 53 d	5s 54 d	5s 55 d	5s 56 d
5s 52 d	5s 53 d	5s 54 d	5s 55 d	5s 56 d	5s 57 d
5s 53 d	5s 54 d	5s 55 d	5s 56 d	5s 57 d	5s 58 d
5s 54 d	5s 55 d	5s 56 d	5s 57 d	5s 58 d	5s 59 d
5s 55 d	5s 56 d	5s 57 d	5s 58 d	5s 59 d	5s 60 d
5s 56 d	5s 57 d	5s 58 d	5s 59 d	5s 60 d	5s 61 d
5s 57 d	5s 58 d	5s 59 d	5s 60 d	5s 61 d	5s 62 d
5s 58 d	5s 59 d	5s 60 d	5s 61 d	5s 62 d	5s 63 d
5s 59 d	5s 60 d	5s 61 d	5s 62 d	5s 63 d	5s 64 d
5s 60 d	5s 61 d	5s 62 d	5s 63 d	5s 64 d	5s 65 d
5s 61 d	5s 62 d	5s 63 d	5s 64 d	5s 65 d	5s 66 d
5s 62 d	5s 63 d	5s 64 d	5s 65 d	5s 66 d	5s 67 d
5s 63 d	5s 64 d	5s 65 d	5s 66 d	5s 67 d	5s 68 d
5s 64 d	5s 65 d	5s 66 d	5s 67 d	5s 68 d	5s 69 d
5s 65 d	5s 66 d	5s 67 d	5s 68 d	5s 69 d	5s 70 d
5s 66 d	5s 67 d	5s 68 d	5s 69 d	5s 70 d	5s 71 d
5s 67 d	5s 68 d	5s 69 d	5s 70 d	5s 71 d	5s 72 d
5s 68 d	5s 69 d	5s 70 d	5s 71 d	5s 72 d	5s 73 d
5s 69 d	5s 70 d	5s 71 d	5s 72 d	5s 73 d	5s 74 d
5s 70 d	5s 71 d	5s 72 d	5s 73 d	5s 74 d	5s 75 d
5s 71 d	5s 72 d	5s 73 d	5s 74 d	5s 75 d	5s 76 d
5s 72 d	5s 73 d	5s 74 d	5s 75 d	5s 76 d	5s 77 d
5s 73 d	5s 74 d	5s 75 d	5s 76 d	5s 77 d	5s 78 d
5s 74 d	5s 75 d	5s 76 d	5s 77 d	5s 78 d	5s 79 d
5s 75 d	5s 76 d	5s 77 d	5s 78 d	5s 79 d	5s 80 d
5s 76 d	5s 77 d	5s 78 d	5s 79 d	5s 80 d	5s 81 d
5s 77 d	5s 78 d	5s 79 d	5s 80 d	5s 81 d	5s 82 d
5s 78 d	5s 79 d	5s 80 d	5s 81 d	5s 82 d	5s 83 d
5s 79 d	5s 80 d	5s 81 d	5s 82 d	5s 83 d	5s 84 d
5s 80 d	5s 81 d	5s 82 d	5s 83 d	5s 84 d	5s 85 d
5s 81 d	5s 82 d	5s 83 d	5s 84 d	5s 85 d	5s 86 d
5s 82 d	5s 83 d	5s 84 d	5s 85 d	5s 86 d	5s 87 d
5s 83 d	5s 84 d	5s 85 d	5s 86 d	5s 87 d	5s 88 d
5s 84 d	5s 85 d	5s 86 d	5s 87 d	5s 88 d	5s 89 d
5s 85 d	5s 86 d	5s 87 d	5s 88 d	5s 89 d	5s 90 d
5s 86 d	5s 87 d	5s 88 d	5s 89 d	5s 90 d	5s 91 d
5s 87 d	5s 88 d	5s 89 d	5s 90 d	5s 91 d	5s 92 d
5s 88 d	5s 89 d	5s 90 d	5s 91 d	5s 92 d	5s 93 d
5s 89 d	5s 90 d	5s 91 d	5s 92 d	5s 93 d	5s 94 d
5s 90 d	5s 91 d	5s 92 d	5s 93 d	5s 94 d	5s 95 d
5s 91 d	5s 92 d	5s 93 d	5s 94 d	5s 95 d	5s 96 d
5s 92 d	5s 93 d	5s 94 d	5s 95 d	5s 96 d	5s 97 d
5s 93 d	5s 94 d	5s 95 d	5s 96 d	5s 97 d	5s 98 d
5s 94 d	5s 95 d	5s 96 d	5s 97 d	5s 98 d	5s 99 d
5s 95 d	5s 96 d	5s 97 d	5s 98 d	5s 99 d	5s 100 d

The following are the prices for California cargoes for off coast, nearly due and prompt shipments for the past week:

Thursday	Friday	Saturday	Sunday	Monday	Tuesday
2s 9d	2s 10d	2s 11d	2s 12d	2s 13d	2s 14d
2s 10d	2s 11d	2s 12d	2s 13d	2s 14d	2s 15d
2s 11d	2s 12d	2s 13d	2s 14d	2s 15d	2s 16d
2s 12d	2s 13d	2s 14d	2s 15d	2s 16d	2s 17d
2s 13d	2s 14d	2s 15d	2s 16d	2s 17d	2s 18d
2s 14d	2s 15d	2s 16d	2s 17d	2s 18d	2s 19d
2s 15d	2s 16d	2s 17d	2s 18		

General Produce.

Extra choice in good packages fetch an advance on top quotations, while very poor grades sell less than the lower quotations. MAY 3, 1893.

BEANS AND PEAS.		FOOTHILL, good to	
Bayo, etc.	2 25 @ 3 00	choice.	14 @ 18c
Butter.	2 75 @ 3 00	BAGS.	
Pea.	2 65 @ 2 85	Standard Calc Grain.	
Red.	2 75 @ 3 00	June & July delivery	64 @ 64c
Pink.	2 65 @ 3 00	Potatoes, gunnies.	14 @ 15c
Small White.	2 85 @ 2 85	Wool, 3 1/2 lb.	30 @ —
Large White.	2 70 @ 2 75	Wool, 4 lb.	33 @ —
Lima.	2 90 @ 3 10	HOPS.	
Fld Peas, blk eye	1 10 @ 1 65	1892, fair.	15 @ —
Do green.	2 60 @ 2 25	Good.	17 @ —
Split.	4 50 @ 5 50	Choice.	18 @ —
BUTTER.		FLOUR.	
Cal., poor to	15 @ —	Extra, city mills	3 90 @ —
fair, lb.	16 @ —	Do country mls.	3 90 @ —
Do g'd to choice	17 @ —	Superfine.	2 50 @ 3 00
Do Giltedged.	17 @ 18	NUTS—JOBBER.	
Do Creamery.	17 @ 18	Walnuts, hard	8 @ 9
Do do Giltedged.	20 @ —	Do soft shell.	12 @ 13
Do do Giltedged.	20 @ —	Do paper shell.	12 @ 13
Eastern, ladie.	15 @ 16	Almonds, [stah]	14 @ 15
Cal. Pickled.	16 @ 16	Hand shell.	15 @ 16
Cal. Keg.	15 @ 16	Paper shell.	10 @ 8
East'n Cream's	18 @ 19	Harlebell.	10 @ 10
CHEESE.		Brazil.	10 @ 10
Cal. choice	9 @ 10 1/2	Pecans, small.	8 @ 10
cream.	8 @ 10	Do large.	10 @ 12
Do fair to good.	8 @ 10	Peanuts.	34 @ 54
Do Giltedged.	11 1/2 @ —	Pilberts.	10 @ 12
Do Skim.	11 @ 12	Hickory.	7 @ 8
Do Skim.	5 @ 6 1/2	Chestnuts.	8 @ 10
Young America	11 @ 12	ONIONS.	
EGGS.		Silverskin	2 50 @ 3 25
Cal. "asie," doz	10 @ —	POTATOES.	
Do shaly.	10 @ —	River Reds.	1 40 @ 1 50
Do candled.	19 @ —	Early Rose, ctd.	1 40 @ 1 50
Do choice.	19 @ —	Peebles.	1 60 @ 1 75
Do fresh laid.	19 @ —	Do do Oregon.	1 60 @ 2 00
Do do siled white	18 @ 18	Sweet.	2 25 @ 2 50
Do selected.	18 @ 18	Oregon Burbank	1 85 @ 2 00
Outside prices for selected		Extra choice sell for more	money
large eggs and inside prices		POULTRY.	
for mixed sizes—small eggs		Hens, doz.	5 50 @ 6 50
are hard to sell.		Roosters, old.	5 50 @ 6 50
FEED.		Do young.	8 00 @ 10 00
Bran, ton.	17 00 @ 17 50	Broilers, small.	4 00 @ 5 00
Feedmeal.	25 00 @ 26 00	Do large.	6 50 @ 7 00
Gr'd Barley.	21 00 @ 23 00	Fryers.	6 00 @ 7 00
Middlings.	21 00 @ 23 00	Young Ducks.	7 00 @ 9 00
Oil Cake Meal.	— @ 35 00	Old Ducks.	5 00 @ 6 00
HAY.		Geese, pair.	1 50 @ 2 00
Compressed.	7 00 @ 9 00	Turkeys, goblr.	19 @ 20
Wheat, per ton.	8 00 @ —	Turkeys, hens.	18 @ 19
Do choice.	— @ 12 50	Do dressed.	19 @ 20
Wheat and oats	7 00 @ 9 00	All kinds of poultry, if poor	or small, sell at less than
Wild Oats.	7 00 @ 9 00	quoted; if large and in good	condition, they sell for more
Do choice.	7 00 @ 9 00	than quoted.	
Cultivated do.	6 00 @ 9 00	GRAIN, ETC.	
Barley.	7 00 @ 8 50	Manhattan Egg	Food (Red Ball
Alfalfa.	8 00 @ 11 00	Brand) in 100-	
Clover.	7 00 @ 9 00	B. Cabinets.	— @ 11 50
Straw, bale.	35 @ 50	PROVISIONS.	
GRAIN, ETC.		Cal. bacon.	— @ 13
Barley, feed, ctd.	80 @ —	heavy, per lb.	— @ 13
Do good.	80 @ —	Medium.	13 @ 14
Do choice.	85 @ 87 1/2	Light.	14 @ 16
Do brewing.	90 @ 1 02 1/2	Lard.	9 @ 14
Do Chevalier.	90 @ —	Cal am'd beef.	10 @ —
Do do Giltedged.	1 15 @ —	Hams, Cal.	15 1/2 @ 16
Buckwheat.	1 75 @ 2 00	Do Eastern.	15 @ 16 1/2
Corn, white.	1 05 @ 1 07 1/2	SEEDS.	
Yellow, large.	1 12 1/2 @ 1 15	Alfalfa.	10 @ 10 1/2
Do small.	1 12 1/2 @ 1 15	Clover, Red.	15 @ —
Oats, milling.	1 40 @ 1 45	White.	30 @ —
Feed, choice.	1 40 @ 1 45	Flaxseed.	4 1/2 @ 5
Do good.	1 34 @ —	Do brown.	5 @ 5 1/2
Do fair.	1 30 @ —	HONEY—1892 Crop.	
Do common.	1 25 @ —	White comb.	9 1/2 @ 12 1/2
Surprise.	1 50 @ —	Do do lb frame	11 1/2 @ 13 1/2
Black feed.	1 02 1/2 @ 1 12 1/2	White extracted	8 @ 13 1/2
Gray.	1 25 @ 1 30	Amber do.	7 @ —
Rye.	1 10 @ 1 13	Dark do.	8 1/2 @ —
Wheat, milling	1 30 @ —	Beeswax, lb.	24 @ 26
Giltedged.	1 30 @ —		
Shipping, choice	1 22 1/2 @ 1 25		
Off Grades.	1 05 @ 1 12 1/2		
Sonora.	1 20 @ 1 30		
WOOL.			
Nevada, per lb.	16 @ 18c		
San Joaquin and			
Southern.			
year's staple.	10 @ 13c		
Short Wools.	13 @ 16c		
Do, do very poor			
Do, and shirky.	10 @ 12c		

SOME very interesting facts in regard to the GENUINE BUCKEYE MOWERS can be found on page 399.

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Weekly Weather and Crop Report.

Following is a synopsis of the crop bulletins for the past week, received by Director Barwick, of the State Weather Service, from voluntary Observers:

The average temperature during the week in Sacramento was 56°, being 6° below the normal, and at Fresno 7° below. In the Freeport fruit belt of Sacramento county, cherries can be found that are already in an eatable condition, with prospects of a fair yield of good fruit.

The outlook, as judged from the following remarks of exchanges, shows that the continuation of the high and drying northerly winds is doing some damage in the greater portion of the San Joaquin valley, and, in connection with the abnormally cool weather, all over the State. All crops are at a standstill and fruit makes slow advances.

The top crust of the ground is becoming so baked that unless goodly May showers visit portions of the State there will be considerable damage. If the first seven days in May give the State as goodly showers as was had the first week of May last year, crops will then do well. There was in Sacramento a total rainfall of .95 of an inch the first seven days.

Taking this week's reports all together, they cannot be said to present an extraordinary glowing appearance. It looks now as though an average grain crop for the State will be an impossibility, while the fruit crop will be very nearly or quite up to the average, excepting apricots, although several places report an abundant crop of that fruit; but the places reporting failures will put that fruit far below an average yield.

If the coming week turns warm and southerly winds blow to bring moisture, clouds and rain, then the reports for the next week may be more encouraging than at present.

Amador—Farmers have been greatly benefited by recent showers.

Butte—Frost a week ago caused some damage to almond trees; citrus and other fruits are looking well.

Trinity—Trees are blossoming and grain is starting up.

Glenn—Orange trees are in bloom; peaches are affected by curl leaf.

Shasta—Peaches and apricots a partial failure; pasturage will be excellent.

Yolo—Potato crop about Cacheville promises to be heavy. Grain and vegetables about Black's station need showers. The apricot crop will be short, say one-third; prunes look well, but most other varieties of fruit do not.

San Luis Obispo—Fruit trees are all loaded down and promise big crops; grain is heading out and bean planting has begun.

Lassen—The hop industry is growing and the prospects are excellent. The season is a month late and plowing only half done.

San Bernardino—The beet crop is improving daily and men are thinning it out; apricots will be heavy.

Sonoma—Deciduous fruits and oranges are looking well; wool output will be heavy. About Healdsburg fruit is light and wheat not promising. About Petaluma rain is needed for grain.

Lake—Rain is necessary to insure good crops. About Middletown frosts have injured the fruit, except prunes.

Solano—Fruit is dropping badly about Vacaville and crops will be light; peaches and pears are doing best. In other places a half-crop of grain is looked for. Hay is being cut, but is light.

Siskiyou—Crops have been injured and retarded by winds and frost.

Alameda—The season is backward for all crops; peach trees look poor.

San Joaquin—Moderate rains would do much good.

Stanislaus—All crops need rain badly and without it will not do much.

Calaveras—Crops are looking well generally.

Contra Costa—The cool and cloudy weather has been beneficial to the crops.

Yuba—Grain about Wheatland is backward, owing to ground being too wet. Apricots and cherries and hops are doing well, but peaches have curled leaf.

Sacramento—Fruit crops about Folsom are looking well, especially peaches. Cherries are ripening along the river; grain generally is doing well.

San Benito—The cherry and prune crops will be large generally, also apricots, but in some localities there will be a total failure.

Santa Clara—The prospects are favorable for good fruit crops.

Ventura—The wheat and honey crops will be heavy.

Tulare—Rain is needed for wheat, especially in the western portion; grapes are setting well.

Sutter—The outlook generally for fruit is

good; apricots will be light; almonds a fair yield; prunes a heavy yield; other varieties will have big crops, including peaches.

Fresno—Wheat along the Kings river is doing well.

Inyo—The late freeze injured fruit blossoms, but did no serious damage to the apples.

Kern—Each day brings new tidings of increased crop prospects all over the county.

Santa Cruz—The prospects for a large apple crop at the Corralitos orchard are excellent. Prospects are good for a better apricot crop than was anticipated.

Nevada—Crops in this vicinity are promising a large harvest.

Humboldt—Temperature below the normal. The season in this county is very backward, and the acreage in grain is less than in former years. Fruit is doing well, and with warm weather and less rain the crops promise to be more than an average.

Monterey—Weather favorable to all growing crops.

Santa Barbara—The high winds have been injurious to late grain, and the weather has been unfavorable for growing crops. Beans are looking well.

The Observer at Red Bluff telegraphs that warmer weather is needed for fruit. Peaches are falling off and will be a short crop, and the wheat and barley crops about there are reported short.

The Observer at Fresno telegraphs the situation as unchanged from last week—dry, northerly winds, with the average temperature of the week 58° and no precipitation. The mornings are dewy and grain is all right, but mildew is showing on the Muscat vines.

The Observer at Los Angeles telegraphs that the week was cooler than usual for this season of the year. Crops generally look well, except that rain is needed on high lands in the interior. Corn is coming up well in the coast districts. Prunes promise a good crop.

SOME very interesting facts in regard to the GENUINE BUCKEYE MOWERS can be found on page 399.

SPECIAL ANNOUNCEMENT.

We have made arrangements with Dr. B. J. Kendall Co., publishers of "A Treatise on the Horse and his Diseases," which will enable all our subscribers to obtain a copy of that valuable work free by sending their address (enclosing a two-cent stamp for mailing same) to DR. B. J. KENDALL CO., ENOSBURGH FALLS, VT. This book is now recognized as standard authority upon all diseases of the horse, as its phenomenal sale attests, over four million copies having been sold in the past ten years, a sale never before reached by any publication in the same period of time. We feel confident that our patrons will appreciate the work, and be glad to avail themselves of this opportunity of obtaining a valuable book.

It is necessary that you mention this paper in sending for the "Treatise." This offer will remain open for only a short time.

Worn Out Horses.

Broken down horses have to be replaced, but mowing machines are so made that when a part wears out a duplicate may be put in renewing the machine. The importance of always being able to get repairs is worth considering. Walter A. Wood machines have been handled, without change, for the last twenty years by Frank Brothers, who have repairs at all principal points in the State, and are furnishing extras for Wood machines that have been running for fifteen or more years.

SOME very interesting facts in regard to the GENUINE BUCKEYE MOWERS can be found on page 399.



ORANGE CULTURE IN CALIFORNIA.

Now that the interest in the culture of the orange is extending so as to embrace nearly all parts of the State, a book giving the results of experience in parts of the State where the growth of the fruit has been longest pursued will be found of wide usefulness.

"Orange Culture in California" was written by Thos. A. Garey of Los Angeles, after many years of practical experience and observation in the growth of the fruit. It is a well-printed hand-book of 227 pages, and treats of nursery practice, planting of orange orchards, cultivation and irrigation, pruning, estimates of cost of plantations, best varieties, etc.

The book is sent post-paid at the reduced price of 75 cents per copy, in cloth binding. Address DEWEY PUBLISHING CO., Publishers "Pacific Rural Press," 220 Market St., San Francisco.

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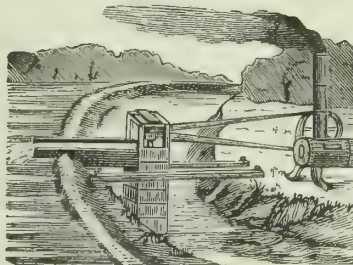
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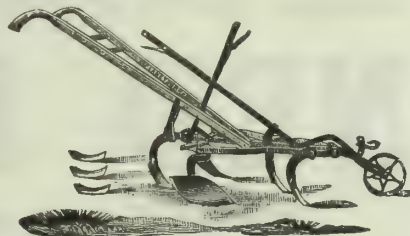


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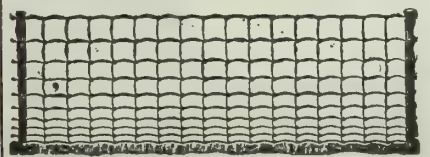
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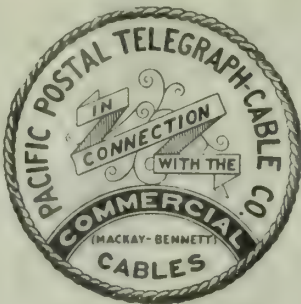
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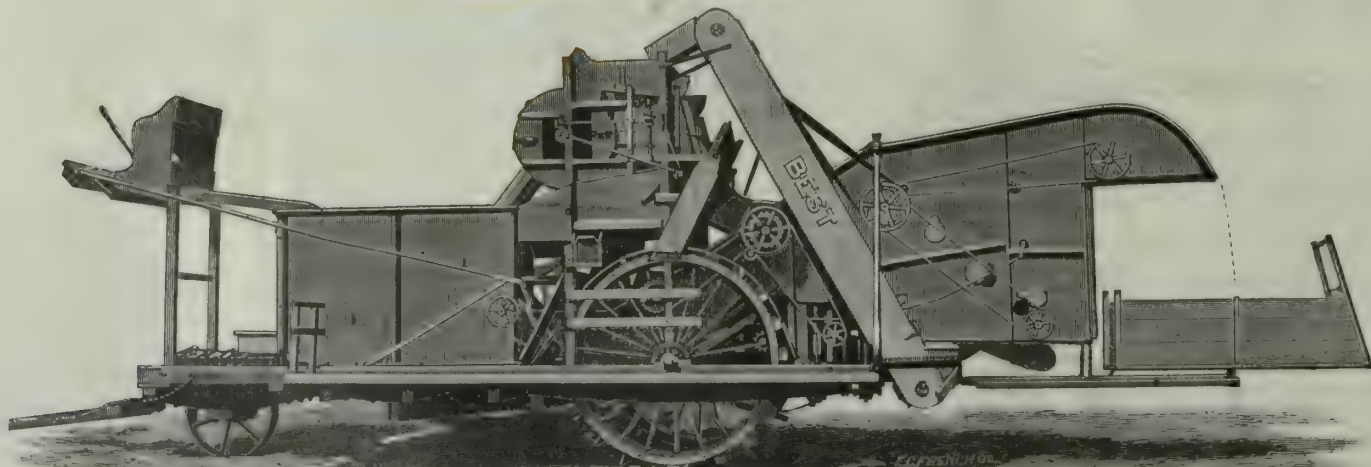
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Vol. XLV. No. 19.

SAN FRANCISCO, SATURDAY, MAY 13, 1893.

THE DEWEY PUBLISHING CO.
Office, 220 Market St.

A Rabbit-Drive.

Maybe it is not a good plan to hunt ducks with a brass-band nor fleas with a shot-gun; but it is a matter of demonstration that

brass-bands, clubs, small boys, big-mouthed men and other concomitants of force, noise and confusion are indispensable in pursuit of the huge-eared jackrabbit of California. Rabbit-driving is a science in which the rules surrounding the

ideal still-hunt are totally reversed. No noise, no rabbits. No uproar, no fun. But there must be system about the noise, method in the outburst of sound. No general on the field of battle ever deployed his forces more carefully, more systematically, or more skillfully than the grand marshal of a rabbit-hunt. A break in the lines means the escape of fugitive hares. No one who will not subject himself to discipline has a right to expect a share in the glory of a great rabbit slaughter. Such one should stay at home.

Rabbit-driving in California is a home-made institution. It is indigenous, so to speak. The coyote is the natural-born enemy of the jackrabbit; but war of extermination is waged on the coyote and his numbers have been fearfully decimated. As a consequence, the balance of nature is unhinged and there is great multiplication of the untamed creatures. The rabbit does great danger to young crops, vineyards and orchards, and he is regarded by farmer and horticulturist as an unmitigated nuisance, fit only for death. So, the coyote being prevented from pursuing his great mission of devouring surplus jackrabbits, the farmer and horticulturist endeavor to repair the requirements of deranged nature as best they can. They gather together at certain rendezvous on fixed days. The whole country is summoned. Parades are formed and proceedings are begun with much formality and ceremony. Officers are named. Lines are formed several miles apart, with sides and a center. They set out for a common objective point—a corral. The lines are made up of men, women, children, horses, wagons, vehicles and conveyances of all sorts and descriptions. They all travel across country. Marshals see that the line is kept intact.

Much noise is made; the more the better. Pretty soon a few rabbits appear. They are forced to advance, being hemmed in on three sides. More rabbits are started. Some try to hide and are killed. Others run near the line and suffer the same fate. Still others escape through a break in the advancing forces. The remainder enter the corral, which seems to offer an avenue of escape. That is where they make their mistake. Part of the army enters the corral. A blow on the head with a club, stick, ax-helve or shillelah is enough. Hundreds and thousands of the animals are soon dead within the corral.

As might have been expected, the horticulturists of southern California come back with a very vigorous response to the action of the State Board of Trade



A TROPHY.

AT THE Farmers' Institute in Tulare last week much interest was awakened in the announcement that the University Experiment Station desired to make a full investigation of the feed and fodder supplies of California. This was shown to be necessary before our stock feeders could fully avail themselves of the result of recent scientific progress in animal feeding. Such feeding prescribes rations according to known nutritive quality as learned by chemical analysis and according to the requirements of the animal as shown by careful experimentation. Though the principles disclosed by these investigations are of universal application they can only be applied after gaining knowledge of the percentage of different nutritive components of California-grown fodders and the by-products of California mills. Such an investigation is now in progress at the State University and all are invited to send representative samples for investigation. At the Tulare Farmers' Institute a committee was appointed to make a collection of the wild and cultivated forage growth of the county, cut at different stages of maturity and forward the samples to the University. This will not only show the relative feeding value of the different plants but the point in growth at which the greatest nutritive properties are held in its tissues. It would be well if other counties should take up this matter on the same basis as Tulare. In the end we would secure a set of analyses which would fairly represent the State and then the determination of rations and equivalents would be possible.

RYE is rising in public favor. As a winter feed for the dairy it has made a good record and it is now put forward as a plant fit to stop drifting sands. It can do this of course only for a portion of the year and yet even thus it may do service and possibly serve as a protection while some perennial plant is getting a hold on the shifting soil. Some sowing of rye on the sands back of this city have made a good growth. It is yet to be seen whether the stubble will hold the sand through the summer or until the volunteer starts from the seed this fall. Our readers near the beach in other parts of the State may do well to try rye.



AFTER THE BATTLE.

in withdrawing the meeting for the next fruit-growers' convention at Los Angeles, and placing certain horticultural deputies under the ban of their disfavor. The controversy is unfortunate. It will result in benefit to neither party. Let it be dropped.

CONSIDERABLE CRITICISM is made by Fresno papers that the World's Fair raisin display of that county is inadequate. In fact, it is but a paltry showing of the county's fine resources in that particular. When it is so important that the people of the United States be educated as to the quality of California raisins; when it is desired to so widen the market that raisins shall be considered a staple, not a luxury, it is strange that so excellent an opportunity has been neglected. It is by no means too late for Fresno to redeem herself. She usually proves equal to any occasion.

RIVERSIDE COUNTY is now an entity. Residents of the proposed county voted on the question last week, and decided by a large majority in favor of separate organization. Now that the war is over, San Bernardino doubt-

less wishes young Riverside Godspeed, and that it may never know the sorrows, pains and vexations that are inseparable from the birth of a new county.

COLORADO POTATOES are being imported into Kern Co.

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ALFRED HOLMAN.....General Manager

San Francisco, May 13, 1893.

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The Week.

Our full reports of weather and crops show that there is considerable anxiety over the situation of field crops in many parts of the State. Fruit prospects are fair as a rule but there are some regions in which orchard and vineyard soil is not at all in proper condition to stand a dry summer. Fortunately this does not describe the greater regions of the State and yet almost everywhere a light rain followed by the cultivator would improve things. Some localities had such a rain last week and we hope they will make good use of it, but the rain was unusually sporadic in its behavior. While some parts caught an inch others hardly had the dust fitted. Anticipation is quite freely expressed that this unusual year may finish up with a May rain of considerable amount—even enough to increase the area of field and garden crops. It is rather a forlorn hope, we fear, but if it is coming much value will depend upon its coming quickly.

California Barley.

We print upon another page a comprehensive showing of the feed value of barley, a subject which we regard of the greatest importance to our agriculturists. It affects not alone the barley grower, not alone the feeder of animals for slaughter, but its conclusions interest the fruit-growers who feed animals for labor, and in fact every man who has to fill a manger or a nose-bag with fuel for respiratory fires.

We have had of course during all these years the best possible proof of the feed value of barley because the practical feeder of animals certainly knows what gives his stock good form and endurance. The result has been that men who have come to California ignorant of the best uses of barley or possibly prejudiced against it have quickly learned to use and to esteem it. The result is that from end to end of the State barley has long been the main feed grain and is likely thus to continue.

The growth requirements of barley are exactly suited to California conditions. It is hardy and is not prevented by frosts from getting itself well established while moist-

ure is abundant in the soil, and with such a vantage it passes quickly to a fruitful stage even though the arid summer come quickly upon it. Its short season is also an admirable quality, for it permits late sowing in regions where heavy rainfall interferes with winter work. Barley does well and yields abundantly under conditions which would make wheat a failure. It yields abundantly, too—a considerable amount more to the acre than wheat even when wheat has a fair chance. It may be said all these things are well known to Californians, and in what lies the interest which you say should inhere in the scientific aspect of barley as a food grain? It is time that it has a different significance to Californians than to those in regions where barley is little known or frowned upon. We do not have to be educated to the use of barley, but it is of practical benefit to have a demonstration of how barley stands related to the food grains which are standards of excellence at the East. It will give a surcease to repining which some may be prone to indulge in for the bright yellow corn of the older half of the country. The animal feeder here who is not altogether successful in his practice has often sighed for corn and blamed barley for his disappointment, when the barley was not at fault at all. Such conclusion, when data was not at hand to contest it, has seemed sufficient explanation, when really the cause should have been sought in other directions. Now, however, we have the standing of barley demonstrated by careful comparative tests and the results interpreted by an authority of the first rank on animal nutrition, and undoubtedly barley will command even from Californians greater respect and confidence.

These remarks relate, of course, to barley as a grain. Barley hay has also good points, but unfortunately it has objections, chiefly in the beards which are unkind to the animal in several ways. Recently this has been to a certain extent reduced by the growth of beardless barleys for hay purposes. A good head without whiskers and a stem more succulent and leafy than common barley has been frequently called for, and such types of barley are now grown to a considerable extent. We apprehend that these types will advance in importance.

But while we speak mainly of the value of barley as a food grain, it should be noted that California also produced brewing barley of most excellent quality. Brewing barley, from one cause or another, cannot be successfully grown over so large an area as barley which answers well for feed, but in those parts of the State where a bright, plump brewing barley can be produced, the sample is of the highest excellence. It is better than anything produced in our Eastern States and rivals the famous Canadian brewing barley upon which the Eastern brewers have been so long dependent.

We think the California barley-grower and the barley-consumer have much reason to regard more highly a product which is apt to be considered the commonest for which the plow runs. There should be more attention paid to the improvement of barley and to the higher culture of it. The brightest man can find a life-work in the barley-field if he regards aright its importance and its possibilities.

THE wheat-growers of one part of Fresno county believe that the way to make streams navigable is to navigate them. Their example may be of much value to others who are tired of paying high rail rates for transportation they ought to be able to accomplish by water. These Fresno wheat-growers have bought a small steamer and six barges, the whole job lot of craft costing them but \$8550. The steamer is small, but it is thought that it can tow two barges from Elkhorn to San Francisco. The plan is to have six barges. While two are being towed down, two will be loading and two unloading. Each will carry sixty or seventy tons. During the summer and fall considerable grain can be taken to market if the project can be carried out. There is all the money needed backing the business and the people of that vicinity say that while Fresno, Bakersfield and Visalia are arguing the matter, Elkhorn will send its wheat crop to market by water. Very often such a little action is worth a life-time of talk. Our congratulations to the Elkhorners and their towing outfit. The Traffic Association ought to go down to the water-front in a body and cheer the first arrival.

CO-OPERATION in fruit marketing is becoming the fashion, and a good one it is. Such effort seems clearly to be the key to fair trading and adequate distribution. The lesson of the Santa Clara county enterprise which has been constantly before our readers during the last year, is again enforced in the full review of the annual meeting held last Saturday, which may be found upon another page of this issue. During our last visit to Fresno we found a more confident tone pervading the people than was discernable a few months ago. The experience of the last two years has clearly disclosed the weak points, and that is the first step toward effective reform. The disposi-

tion to co-operate through incorporation of growers for their own purposes is growing. In southern California, too, a similar movement is spreading, and new localities propose to co-operate upon what is known as the Riverside plan as already described in our columns. Let the work go on.

EX-SECRETARY OF AGRICULTURE RUSK says in an interview: "I shall go back to my farm in western Wisconsin and resume just where I left off four years ago. I follow farming not for sentiment or pastime, but to make it pay; so I shall start to raising hay and grass and breeding swine and cattle as of old. But I shall always look back with intense satisfaction to my four years of official life, for on the whole the time has been spent pleasantly and profitably. I have tried hard to help better the condition of the farmers, and see some evidences of success in the fact that exports of farm products have increased enormously in volume since the Harrison administration came in. To-day the outlook for the agriculturist is highly satisfactory. It is another pleasant thought that I am about to turn over the Department to one so thoroughly equipped for administering it well as Hon. J. Sterling Morton."

A HORTICULTURAL AWAKENING has taken place in the Northwest. The Willamette valley particularly shows a disposition to engage more extensively in fruit culture. A number of horticultural societies have been organized, and the interest is spreading. Not only have the Oregonians found out that there is benefit in approved methods of cultivation, but they are now discussing co-operation. A meeting of Marion county fruit-growers was called for last Tuesday, to form an association on lines similar to those in operation in California. The success of the Santa Clara societies in marketing their prunes appealed especially to them, as the Willamette valley produces good prunes in considerable quantities. The movement bids fair to be a success.

THE prophets who last January predicted a season of high prices in hog products have apparently made no mistake. Not only has there been a uniform fancy range of values, but the prospect now is for a much longer continuance of present conditions than might at first have been thought probable. Reports from the Western States are that another shortage in the hog output will occur this season. Weather has been most unfavorable for litters, and the loss of young pigs has been large. No foreign country is in shape to supply even a portion of our shortage. On the contrary, much the same condition of things exists in Europe as in America. On the whole, the outlook is excellent for the owner of marketable hogs.

THE New York *Fruit Trade Journal*, commenting on the fact that the prune crop of California this year will be enormous, gives this as its opinion: "It is evident that if this immensely increased output is dumped on the market without system there will be a break in prices and the prune-growers will be in a similar position to that which has been occupied by the raisin-growers for several years past." The prune-growers of California are perfectly aware of the danger the *Journal* points out. They are preparing to market their prunes with system, and, while no fancy prices are to be expected, they will probably realize a reasonable profit.

REPORTS indicate serious damage to the growing grain crops in California. The season thus far has presented a singular variety of conditions. At its beginning too abundant rains and floods created havoc among lowland crops, but were of the greatest benefit to grain on the uplands and in the San Joaquin. Now complaints are of too little rain, the downfall having been very small during the past month. North winds have contributed their share of injury. On the whole, the damage has been material, but, let us hope, much less than some prognostications indicate.

A SMALL CONTROVERSY has been started in southern California as to what section produced the first strawberries; and Redlands comes forward with a claim that it has strawberries the year around. Redlands seems to be entitled to the strawberry belt. It already has the citrus belt, or a part thereof.

THE Santa Barbara Horticultural Society held its meeting for election of officers May 3d, with the following result: S. G. Yates, F. L. S., president; J. A. Blood, vice-president; A. A. Boyce, treasurer; O. R. Stafford, secretary.

JUDGE W. W. ALLEN of San Francisco, has arrived in Chicago with the original gold nugget discovered by John Marshall, which he will exhibit in the California building.

From an Independent Standpoint.

The editor of the RURAL has received from a highly esteemed friend a letter protesting against views expressed in these columns last week concerning the recent naval display at Hampton Roads and New York harbor. "It may be true as you assert," says the writer, "that the great naval review served no immediate utilitarian purpose and that it was vastly expensive, but I think you overlook the advantages it yielded in the way of impressing our foreign visitors and inspiring our American officers and sailors with professional enthusiasm."

Now, the RURAL is just old-fashioned enough to believe that the two things designated in this letter as "advantages" are not advantages at all; that they are, on the contrary, disadvantages, and as such, things to be dreaded and avoided. Why we should wish to "impress" foreign visitors with a show of naval force we utterly fail to see. If our strength and power as a nation was made of ships and armaments then we might properly "show off," but it is, happily, not thus made up. These things, so important to European countries, are of the smallest consequence to us, and instead of trying to make them seem important we should seek to impress visitors with the fact that we are safe and strong without them. We have a Government so stable at home and so respected abroad that we do not need armaments kept up on war basis to repress insurrection or to repel invasion. This is a condition much more likely to impress visitors, and to impress them in the right way, than any possible display of armed force.

As to the value of the late demonstrations as a source of "inspiration" to "professional enthusiasm," we must again differ with our critic. Military or naval enthusiasm of the "professional" sort is just what we don't want in this country. It is expensive, useless and often very harmful. It frequently makes war when there is no need of war just as boxing skill or a handy pistol often makes a foolish fight. The "professional enthusiasm" of the navy tried to force us into war with Italy two years ago; again it urged us to pounce upon little Chile last year, and it seeks every chance to get us into trouble. Somebody has wisely noted the fact that whenever we hear of a "war party" in any country, that party is found among the officers of the army and the fleet who long for opportunities to distinguish themselves and to earn quick promotion. It is safe to say that the less "professional enthusiasm" we have, the less danger we shall be in. The bully who goes about with a chip on his shoulder is much more likely to get a black eye than the boy who quietly attends to his own business.

In the present state of civilization a navy is, perhaps, a necessity, but it need not be large, and it should be for use rather than display. We need on either side of the country a few swift cruisers like the *Charleston*, *Baltimore* and *San Francisco*, and at the several exposed ports we need a few floating batteries like the new *Monterey*. Our naval equipment should be designed for defense and for defense alone. There can be no greater folly than the spending of millions of dollars for the construction and maintenance of marine monsters in order that we may compete in holiday parades like that in Hampton Roads.

A false report from an unknown source, to the effect that there was danger of a rising against the Chinese on the Pacific Coast, reached the National Capital on Wednesday of last week. Mr. Cleveland seems to have been seriously alarmed, and, at his request, Secretary Gresham sent a telegram, of which the following is a copy, to the Governors of the several Pacific Coast States:

WASHINGTON (D. C.), May 3d.

Apparently reliable reports indicate danger of violence to Chinese when the Chinese Exclusion Act takes effect. The President earnestly hopes that you will employ all lawful means for their protection in California.

GRESHAM, Secretary of State.

It was evidently done upon impulse and without thought of just what it implied. Governor Markham of California and the Governors of Washington and Idaho took no exception to it; but not so the "strict constructionist" who sits in the executive chair of Oregon. His reply was as follows:

SALEM (OR.), May 3d.

W. Q. Gresham, Washington, D. C.: I will attend to my business. Let the President attend to his.

SYLVESTER PENNOYER, Governor.

Unquestionably this answer was rude, but rude as it was, it was not more than the President deserved. If he had simply informed the Pacific Coast Governors of the reports which had reached him, and of his readiness to assist if help should be required, it would have been well enough; but it was unquestionably a piece of gross impertinence to remind the Governors of their duties. The President was distinctly "too fresh" and deserved the snub he got. Mr. Cleveland is so dominant by nature that he sometimes forgets that the whole responsibility of the government of the country does not rest upon his shoulders. It will, perhaps, do him good to learn that the

responsibility is divided, and that all that is expected of him is to keep up his particular end.

If Mr. Cleveland did a foolish and impertinent thing last week he has offset it by an eminently wise and proper thing this week. On Monday the following letter was given out from the White House for publication:

EXECUTIVE MANSION, WASHINGTON, May 8, 1893.

The rules heretofore promulgated regulating interviews with the President have wholly failed in operation, the time which, under these rules, was set apart for the reception of Senators and Representatives having been almost entirely spent in listening to applications for office, which have been bewildering in volume, perplexing and exhausting in iteration, and impossible of remembrance. Due regard for public duty, which must be neglected if the present conditions continue, and observance of the limitations placed upon human endurance, oblige me to decline from and after this date all personal interviews with those seeking appointments to office, except as I, on my own motion, may especially invite them.

The same considerations make it impossible for me to receive those who merely pay their respects except on the days and during the hours especially designated for the purpose.

I earnestly request that the Senators and Representatives try to aid me in securing for them uninterrupted interviews by declining to introduce their constituents and friends when visiting the Executive Mansion during the hours designated for their reception.

Applicants for office will only prejudice their prospects by repeated importunity and by remaining at Washington to await results.

GROVER CLEVELAND.

This is, of course, a blow between the eyes to the whole office-seeking tribe. It has long been needed, for it is a notorious fact that of late years our Presidents have been so persecuted by office-hunters that they have not had time for other and more important business. In too many cases under the old custom offices have been given to persistent and shameless self-seekers simply for the sake of getting rid of them, to the prejudice of the public and to the disadvantage of men really deserving. It was high time to put a stop to such abuses, and the President deserves commendation not more for doing it than for the way in which he did it.

The first week of the World's Fair has been a good deal of a disappointment all around. To begin with, the attendance has been very light, averaging less than 20,000 a day, and the receipts therefore have been far less than was expected. This is due no doubt to the fact that the exhibits are not complete and that most people are waiting for the show to get well under way. Chicago, which has made such elaborate preparations for the entertainment of visitors at four or five times the usual charge per day, finds itself badly left. There is no apparent increase in the transient population of the city, and thousands upon thousands of rooms prepared for the reception of visitors at holiday prices are empty with no immediate prospect of engagement.

At the fair a good many abuses have been disclosed and the managers have been dividing their time between apologizing for their own shortcomings and punishing the misdoings of subordinates. For example, the seating privilege was leased to a company which provided rolling chairs at 75 cents per hour; and to make patronage sure, every kind of seat except these chairs was removed. Those who brought chairs were not allowed to use them and in one notable instance, a veteran of the war connected with one of the State exhibits, whose legs had been shot away and whose only means of locomotion was a chair on wheels propelled by himself, was obliged to choose between leaving his chair outside or paying 75 cents per hour to the company for the privilege of wheeling himself about. Of course, this kind of petty abuse could not stand. There was immediate complaint and the directors have placed benches at convenient situations about the grounds. Another difficulty arose concerning the advertising privileges. Theodore Thomas, the leader of the orchestra, and Monsieur somebody with a foreign name, it seems had taken contracts to advertise a certain manufacture of musical instruments. It seems that these instruments were not exhibited on the grounds, and other manufacturers who had gone to the expense of making elaborate displays, protested against the conspicuous use of instruments made by those who had gone to no pains whatever, excepting to bribe the musical leaders. The trouble is not yet settled, but it looks very much as though Mr. Theodore Thomas and his foreign coadjutor would have to go, making room for somebody whose business it is to make music without advertising somebody's particular piano.

The charges made on the ground for food are outrageous. We are assured by one correspondent that it costs three dollars for a tenderloin steak, a cup of coffee and plate of fried potatoes, and that thirty-five cents is the lowest charge for the slimest kind of a sandwich. So exorbitant are the rates, in fact, that people generally have carried their own lunches with them, and at mid-day the grounds present the appearance of a park picnic. And so throughout the whole machinery of the exposition a few days of practical operation have developed faults of one kind or another. It is due to the managers to say that they

are rapidly reforming matters, though it will be apparent impossible for them to bring the prices of food down to reasonable figures. The original trouble lies with themselves. It seems they have made contracts with restaurant-keepers by which the association is to be paid one-fourth of the gross receipts, and under this arrangement it will not be possible to bring prices down to a reasonable plane.

The question of Sunday opening is still agitating the managers. The gates were closed last Sunday, nobody being admitted except employes of the construction department and the guards. A State Commissioner who wanted to take a foreign visitor through the buildings was denied admission, and not even the newspaper men were permitted to enter the gates. It is evident that the local managers want to make the Sunday closing rule as onerous as possible, with the idea of breaking it down; and there is really little doubt that they will succeed. It is expected that somebody who has a proprietary interest in the exhibits will bring suit against the managers under a demand for admission on Sunday, and that the courts will grant it. To throw the doors open to one will throw them open to everybody, and thus it is believed that a result very much to be desired by the managers and by the vast majority of the people who are to visit the fair will be accomplished. In anticipation of a big crowd and of closed gates at the fair grounds, the amusement vendors at Chicago arranged a magnificent programme for last Sunday. Everything in the way of entertainment, good and bad, from the old-fashioned hurdy-gurdy dance up to Prof. Swing's lecture-room, was in full blast, and although there were few visitors, the native population took kindly to the lower half of the programme.

The RURAL departs from its custom of dealing only with American affairs to note a very important event which, during the past week, has profoundly stirred the European world. It is the defeat in the German parliament of a bill proposed by the Emperor to increase the already enormous military force of the Empire. The proposition was to add something like ten million to the present swollen military budget and to make military service incumbent for two years upon every male citizen of the Empire. The measure has been discussed for several months, and its defeat by a good majority is a notable revolt against the imperial authority which has so long ruled with an iron hand. The Emperor dissolved the parliament within an hour after the defeat and has issued writs for the election of a new parliament which he imagines will reverse the action of the body just dissolved. On Monday of this week, after a military review, he called his officers about him and informed them that he hoped for a favorable vote from the parliament soon to be elected, but that if he failed, he should, by virtue of his own authority, carry out his military plans. It was this kind of folly that cost Charles I of England his head, and which drove his son James II from his throne to be a pensioner and a pauper. The young German Emperor either has not learned the lessons of history or does not choose to heed them. His persistent folly is perhaps not to be regretted, since it will mightily help on the movement for widening the lines of civil and personal rights in central Europe.

INDISCRIMINATE SHIPPING appears to have been one very serious trouble in bringing about the present unsatisfactory condition of the orange market. Individual consignments have been made to Eastern and other points without regard to their needs, and without inquiry as to whether or not stocks of fruit there were large or small. The remedy is a strong orange-growers' union and a central shipping point, or several shipping points, working in harmony. It is not necessary to attempt to create an abnormal demand for oranges by starving the market, but shipments can be properly and legitimately regulated.

THE Butte County Horticultural Society has taken a practical method of ascertaining the cost of fruit production. At its last meeting it passed a resolution requesting each member to bring to the next meeting the best general report of the expense of producing a pound of each kind of fruit. The probabilities are that the information sought will be arrived at with some approach to exactness. At least it will be found what is the cost of production in the various localities and an average can be made from the different results.

THE orange-growers in the vicinity of Duarte and Monrovia, Los Angeles county, have formed an association for the following purposes:

To market our fruit as if grown by one man.

To buy needed supplies as one man.

To bring about the selling of fruit bearing the association brand, f. o. b., at shipping point.

To make consignments, if selling f. o. b. is not practicable, to approved firms, who are located where the fruit is to be sold.

The association is taking the right method. The way to co-operate is to co-operate.

A Reply From the South.

The address of President Cooper of the State Board of Horticulture, in which he criticised the action of certain horticulturists and horticultural deputies in southern California, and the action of the board in rescinding the decision to hold the next fruit-growers convention at Los Angeles, have brought forth a response from the association of horticultural commissioners for southern California. A meeting was held at Los Angeles last Saturday. Delegates were present from all portions of southern California, comprising the various horticultural commissioners and their deputies, besides a number of fruit-growers. The whole action of the State Board of Horticulture during the past year or two was thoroughly discussed, and resulted in the adoption of the following resolutions, which were signed by all the commissioners present:

WHEREAS, The State Board of Horticulture, at its annual meeting in San Francisco, held on April 28, 1893, declared that the defeat of the bill in the last legislature appropriating \$10,000 to further the search for predaceous insects was due wholly and solely to the petition signed by 700 fruit-growers of southern California, praying that the bill be so amended as to have the money disbursed for the object named, under the direction of the State University, the Governor, or the Division of Entomology at Washington; therefore, be it

Resolved, By the Association of Horticultural Commissioners of southern California, in convention assembled, in Los Angeles, May 5, 1893, that the fruit-growers are in no way responsible for the defeat of the bill. On the contrary, they indorsed and pleaded for its passage on the following grounds, stated in the petition:

"That we not only commend, but warmly indorse the efforts made by your honorable body in making appropriations from time to time for the purpose of sending expert economic entomologists to foreign countries in search of predaceous and parasitical insects to feed upon those that are injurious to our orchards and gardens, and that we shall appreciate and help and indorse every legitimate effort to colonize and introduce beneficial insects to feed upon those of an injurious character.

"That the appropriation of \$5000 made by your honorable body some two years ago for this purpose, and disbursed through the agency of the State Board of Horticulture, has not only been barren of results, but has indirectly proved an injury rather than a benefit. The endeavors of the State Board of Horticulture to import predaceous insects and parasitical insects to feed upon the red and black scales and woolly aphids from Australia (not the natural home of these insects) resulted, as every scientific entomologist predicted it would, in failure. Nevertheless, in the face of these facts, the State Board of Horticulture indirectly caused reports to be circulated to the effect that its importation of predaceous and parasitical insects of the red and black scale and woolly aphid would render artificial means no longer necessary to subjugate these pests.

"That in view of these facts we, your petitioners, are fully indorsing the bill introduced appropriating a sum of money to still further continue the search for predaceous and parasitical insects in foreign countries, nevertheless feel constrained to protest against any more moneys being turned over to, or expended by the State Board of Horticulture."

WHEREAS, The State Board further alleges that the fruit-growers and horticultural commissioners have falsely and maliciously charged the said board with incompetency; therefore, be it

Resolved, That the charges of incompetency made against the board are borne out by the facts, viz.: The natural enemies of the red and black scale and woolly aphid are not to be found in Australia, a country to which these pests are not native; that the statements made by the officers of the board, both by word of mouth and otherwise, that these parasitical and predaceous insects are rendering artificial means unnecessary in that country are false in every particular; that the reports issued by the board are unreliable and their contents "cribbled" from other sources—practicing a species of literary piracy—that the board has been guilty of attacking persons engaged in similar lines of investigation on false grounds and for purely personal reasons; that the statistical reports on the fruit industry are unreliable and misleading, and therefore worthless. For evidence of these charges, we ask the reader to consult its reports, while for proof of the statement that the board did declare "artificial means of fighting these scales would be no longer necessary after they had been established," to the report of Albert Korble (indorsed by the board) and to the statement of President Ellwood Cooper, at the San Jose meeting, both of which were subsequently expunged from the minutes of this meeting.

WHEREAS, The State Board falsely and maliciously gives its approbation and indorsement of the statement that the defeat of the bill is due to the protest of said petitioners, a statement false in every particular; therefore be it

Resolved, That the facts in the premises show that when the bill was amended in the Assembly, diverting the appropriation to the State University, the friends and supporters of the State Board of Horticulture openly declared at Sacramento "that unless they (the State Board) can spend the money, no appropriation shall be made."

WHEREAS, The State Board of Agriculture charges the National Department of Agriculture with meddling and interfering with our efforts to introduce predaceous and parasitical insects; therefore, be it

Resolved, That the charges made by the State Board that the National Department of Agriculture was using its influence against our efforts to seek relief against plant diseases and insect pests are not true. On the contrary, the fruit-growers of California are under obligations to the National Department of Agriculture and particularly to the division of entomology, and deeply regret the action of the State Board from time to time in antagonizing the Department of Agriculture or its agents stationed in this State.

WHEREAS, The State Board at its annual meeting, held in San Francisco, April 28, 1893, did rescind the action taken at the San Jose convention, designating Los Angeles as the place of meeting (said action afterward being reconsidered and left to the Executive Committee for final action); therefore be it

Resolved, That the State Board's efforts to rescind the action of the San Jose meeting is childish and puerile. The board cannot so act in this matter; we shall insist that the will of the San Jose meeting be complied with.

Resolved, That these resolutions be given out for publication, as giving the actual facts in this controversy; and that fruit-growers and horticultural commissioners shall continue to exercise their duties, and that the attention of the State Board of Horticulture is respectfully called to section 3 of the Act of 1881, as amended in 1889, regulating the appointment of quarantine guardians.

State Board of Trade.

At the regular monthly meeting of the State Board of Trade, in this city, Tuesday, Secretary Lelong, of the State Board of Horticulture, presented a summary of reports received by him showing that the general fruit crop of California for this year will be very good. The peach crop was reported fair; prunes, apples and pears good, and almonds medium. A general shortness in apricots was noticed. The reports with reference to grain indicated a full crop in the vicinity of Salinas and a good showing in San Joaquin county, but the Sacramento valley promised but about one-third of the usual crop.

An interesting paper upon "Sugar Beet Culture," from the pen of Richard Gird, was read, in which it was urged that legislation was needed to promote this industry. Mr. Gird contended that the foreign article should not be ad-

mitted to this country free of duty. He considered the soil and climate of southern California peculiarly adapted to beet growth, and suggested that the Agricultural Department of the University of California be invited to co-operate with the Board of Trade and interested parties in promoting the manufacture of beet sugar.

A resolution commending Stanford University and its faculty for making horticulture a special study in its course, and thereby dignifying it by giving it a place in the University education of the future, at the same time materially aiding in the growth and development of the State, was adopted.

Two Dollars a Box Too Little.

The orange-grower who sold his coming crop for \$2 per box last December, and who wrote to a Pomona paper suggesting that other orange men want too much when they hold out for \$3 per box has called forth a reply from another grower, who says in part:

"I maintain that if the fruit-growers had not blundered this year, or, if they had been united on one course of action as to the sale of their crop, the splendid prospects for money-making in that business this year would have been fulfilled. To be sure they had a cold, freezing winter in the East and our long rains kept us from marketing our product more gradually, and the Florida and Mediterranean crops were very large and interfered more than ever before with the California orange crop; but notwithstanding all this series of ill luck, if there had been a union of action and a committee having charge of all oranges in southern California, we would have had the stream of gold coming this way that we expected. I have studied the matter and watched the fruit market carefully for several weeks, and I am satisfied that an organization among all the orange-growers from Mexico to Tehachapi is only what we want to bring us good prices another year.

"A copy of the Chicago Times lies before me. I see that Riverside Navels sell on the streets there at sixty cents a dozen. A brother writes me from Cleveland that California Navels sell there in the wagons and stores at fifty-five cents a dozen; and I hear from Mr. Owens, recently from Wisconsin, that he saw California oranges selling at St. Paul and Minneapolis at seventy cents a dozen. This shows pretty clearly to me that the fruit-growers are getting pretty poor picking, and the eastern men and the commission men are making enough this time to last them through a decade. At the price our fruit retails for now in the East, we ought to have not less than \$2.75 a box.

"The \$2-a-box man claims that his smartness led him to sell at \$2 a box. It was his luck and that alone. If every one goes on that principle next year, there will be another boom season for commission men and bawling by the growers. An organization is what we want. It is folly to blow about the commission men; they are improving their opportunities. We want to fix it so that they will not have such an opportunity again, and we can do it by united action."

Suggestion to World's Fair Visitors.

TO THE EDITOR:—Get a canteen such as soldiers use, have it covered with flannel, then covered with material to match or harmonize with the traveling suit. Each member of a party should possess one, as children especially become thirsty in proportion to the scarcity of fluids. Before leaving your apartments for the day's sight-seeing, fill the canteen with whatever seems most available, such as milk, water, lemonade, tea, etc. It may prevent serious results in crowds during the sultry days. Worn like a field glass with a strap or ribbon to suspend it over the shoulders it would be out of the way, and with pretty buckles, or bows, be very ornamental. Every loyal Californian will provide plenty of lemons before leaving home, and not run the risk of paying as much for one dozen in Chicago as for a whole boxful at home.

The southern California people have gone wild over lemon culture. Like all industries it will have its rise and mishaps then settle down to a normal condition. Land considered suitable is sometimes sold at so high a figure, or rather figures, as to make one envy the parties selling, and yet all land is not suitable for lemons (or other citrus fruits) that is planted to them. I can stand in my lemon grove and see trees that may never be a success. So much depends on the situation, and quality of the soil. Look before you leap, or at least before you plant a lemon tree, where something else might have been a grand success.

Santa Barbara, May 5, 1893.

The San Jose Floral Fair.

Public interest at San Jose centered around two objects last week: One was the meeting of the Santa Clara Fruit Exchange; the other the floral fair, beginning Thursday night and ending Saturday. The display of the beautiful floral products of Santa Clara valley was complete, tasteful, and even gorgeous.

Among the principal features of the show were: The "New Capitol," constructed almost entirely of white roses without and red roses within; a pyramid, 12 feet in height, composed entirely of calla lilies, of which 700 were used, and which were donated by Miss Ballou and arranged by Mrs. D. C. Vestal; a sparkling fountain in the center of the hall, bordered with calla lilies and illuminated with electric lights. But it would require a volume to adequately describe the bewildering array of blossoms, arranged in numberless unique and tasteful designs by the deft hands of the fair daughters of Santa Clara valley.

A bouquet of young ladies in unique costumes was one of the very attractive features of the exhibition. Indeed, there are many young men in San Jose ready to take a solemn oath that they completely eclipsed all other exhibits. A musical programme was rendered each afternoon and evening. The attendance was large and the affair altogether a complete success.

The fair was given under the auspices of the Santa Clara

Floral Society and was their first annual spring exhibit. The officers of the society are: Mrs. H. A. Brainard, President; Miss M. Pellott, Vice-President; Mrs. R. B. Dunlop, Secretary; Mrs. C. D. Wright; Mrs. D. A. Smith, Treasurer; A. C. Block, I. A. Wilcox and Captain Dunn, Directors, and Colonel A. K. Whitton, Financier.

To Sustain the Tariff.

TO THE EDITOR:—After reading Congressman Geary's talk before the State Board of Horticulture made on the 28th of April, requesting the members to provide him with some facts on the question of tariff on fruits, grapes, wines, wool, etc., I am led to ask you, should you think it politic, to suggest the calling of a convention of the orchardists, vineyardists and wool-growers to meet at some place, say San Francisco or San Jose, to discuss the question and try to assist our Congressmen in the premises. I notice Mr. Geary says whatever is done must be before September.

Ukiah, Cal., May 4, 1893.

R. M. MCGARVEY.

We understand that such a meeting is contemplated for the middle of July so far as the fruit-growers are concerned. The woolmen should get in their work also.—EDS.

Killed the Scale.

Chas. Chavat of Butte county has found a way of ridding his orange trees of the brown scale in a novel manner. He mixed water and sugar together, and with the mixture washed the trunk and lower limbs of a tree. He then sprinkled some of the sugar about the roots of the tree. On the following day the orange tree was alive with ants climbing the trunk and running among the limbs, and before they quitted it the last of the brown scales had been devoured, leaving the tree as clean as a newly laundered handkerchief. His success has led him to experiment successfully with other trees, and the idea may be of service to other orchardists.

Gleanings.

THE way to co operate is to co-operate.

A SALOON at San Jose is called "The Keeley."

BIGGS wants a cannery. Biggs' want should be supplied.

SAN FRANCISCO CAPITALISTS have taken hold of the Mokelumne irrigation project, and work is to be actively prosecuted.

THE Porterville Horticultural Society has decided to hold its second annual citrus fair in January next, and appointed A. G. Schulz, George McCalister and G. W. Lane executive committee.

THE World's Fair season for California fruits opened Saturday by the Earl Fruit Company selling the first consignment of California cherries at \$10 per box, or about \$1 per pound.

A BEAN JAR at an interior town, at whose contents guesses have been made during the past six months by six thousand different persons, was found to contain 4485. The highest guess was 8,900,460; lowest, 116.

DOC GOODWIN, a cowboy at Phoenix, A. T., lassoed a cougar and managed to run his horse on one side of a mesquite tree and the animal on the other, breaking its neck, and by a skillful movement hanging him in the tree.

ALEX. AND ED. RAWLES, sheepmen of Anderson valley, have, with the loss of two dogs and seven rounds of ammunition, captured a 700-pound bear that had lived on the fattest of the valley's mutton for the past two months.

THE Riverside Fruit Exchange, which has for its purpose the maintenance of the prices of oranges for the coming seasons and the marketing of the same, has been fully organized. The president of the corporation is banker A. H. Nappeger.

RIPE APRICOTS were picked at Palm Springs, Saturday, and some shipments were made to D. C. Twogood of Riverside, on whose land they were grown. This is remarkable, owing to the fact that it is very generally conceded that the season is at least two weeks backward.

SOME ONE writes back from Chicago urging San Diego lemon growers to have on hand a good supply of lemons for July and August. He says about that time there will be an enormous demand for lemons, and prices will be high. He thinks \$10 a box will be easily obtained.

THE California World's Fair Commissioners last Friday sent four carloads of trees and shrubs to Chicago by fast freight. The exhibits were mostly collected in San Mateo and San Francisco. This will be about the last consignment of exhibits from the State until the shipment of renewals of fresh fruits and vegetables.

FROGS have commenced their serenades, the mellow bugs are describing circles, hyperbolas and ellipses upon the surface of the crystal ponds; the trees are budding; the whole town is playing marbles. Uncle Smith has planted his taters; Tom has written some poetry to his "calico," asking her if she hasn't a few affections for him in the right ventricle of her heart; the prospective fried chicken is already scratching in the grass, and spring is beginning to begin, says a poetic exchange.

IT is said that dancing makes girls' feet large. It is also said that ice cream produces freckles. Doctors are of the opinion that hanging on the front gate produces rheumatism. The chewing of gum distorts their mouths. Playing the piano destroys the beauty of the hand, and washing dishes causes chaps to come—to propose. So says a discouraged exchange. And yet lovers sigh and sigh and sigh at the feet of the heroic young women who defy big pedals, freckles, rheumatism, distorted mouths and roughened hands. We wouldn't have girls different. Heaven bless 'em.

THE gray-headed old man soliloquized after a half-day's work at pruning a long-neglected orchard: "If anybody thinks that Adam had a soft snap in the garden of Eden, with nothing to do but to trim and dress the garden and its trees, I wish he would try what I have been doing all this forenoon, sawing off the large limbs that I should have sawed away years ago." But the old man forgets, as complainers are apt to do, that work is usually easy or hard, according as it is timely or untimely, suggests the Marysville Democrat. In primeval innocence Adam had probably a fair chance to begin with his work. Whoever takes the neglect of either others or himself to make good is certain to earn his bread and fruit by the sweat of his brow.

MISS CARRIE BREWER is the name of an intrepid young lady who teaches school at Pine Flat, Fresno county. Having finished her week's labors in the schoolroom, recently, she decided to attend a dance in Sanger, eight miles away. She built a raft to float in the flume there, intending to ride it to Hazelton's ranch. When ready to start, she discovered that the water had been drawn off. Some of the boys had learned of her intended trip and opened the waste-gate above, thereby perpetrating a mean trick on the little lady. But Miss Brewer was not to be cheated out of a dance by any such sharp practice, so she started on foot toward Sanger, walking over the narrow eight-inch plank on the side of the flume. In the meantime the boys had repented of their action and turned the water into the flume again. After floating six miles the raft overtook the young lady, who jumped in and rode to Hazelton's ranch, where a Sanger gentleman with a team awaited her arrival, and she attended the dance that evening.

FRUIT MARKETING.

The Santa Clara Fruit Exchange.

Annual Stockholders' Meeting at San Jose Last Saturday—Reports of the President and Manager, Etc.

Five hundred fruit-growers of Santa Clara valley have decided to co-operate. Two local organizations whose pretensions were humble and whose territory was limited, furnished them an object lesson of the benefits of organization. These associations included the fruit-growers of two communities who pooled their issues, sought a common market by united methods and realized prices for their products that were from twenty to fifty per cent greater than some individual growers received. Their achievements were a substantial illustration of the advantages of association. Results were tangible, because they were in the shape of hard cash; and a considerable fraction of their hard cash represented profits arising solely from intelligent marketing of fruit. There was no disputing results. Its voice was heard throughout the length and breadth of Santa Clara valley, and it caused a general awakening among all fruit men who have cast their lot in that favored section. In other words, the Campbell and Westside associations had reduced the theory of co-operation to a practical demonstration. They furnished the spark which set all Santa Clara valley aflame with a desire to unite and to attempt to do for all the producers of a large and important section what had been accomplished locally. If ten can join together and benefit themselves why cannot one hundred? they asked. If one hundred, why not one thousand? They propose to answer their own question the coming season.

The Santa Clara Fruit Exchange, embracing in its design association of all fruit-growers of Santa Clara valley, was organized last year, but up to this time it has accomplished little or nothing. As a matter of fact, interest was apathetic and perfunctory. Most fruit-growers were dubious of success, and their action corresponded with their conviction. They stayed out and did not help by subscription or otherwise. Some joined to co-operate, others merely to see others co-operate. There was a fine prospect that the exchange would never pass beyond the stage of preliminary organization, election of officers and an unsuccessful attempt to do what, in the nature of things, it could not do without union of interest, action and sentiment. But fortunately the men who had been active in the organization were courageous and thoroughly convinced of the soundness and practicability of their scheme. Two of its most active supporters were Col. Philo Hersey of the Westside Association and F. M. Righter of the Campbell Fruit-Growers' Union. These gentlemen were largely instrumental in bringing about the complete success of the mission of these unions, so, when they sought to stimulate interest in the larger organization they had well-attested examples for reference. Mr. E. F. Adams was also a leading spirit in the agitation and has in fact been actively and exclusively employed in that work since last November. He was made manager by the directors. He showed himself the right man in the right place. Others helped. The movement became general. Co-operation was a favorite topic of conversation among the fruit-growers of Santa Clara. Colonel Hersey drove his team and himself something like 800 miles in performance of missionary work. "Though to be sure," he says, "that's only a trifle, considering the importance of the matter." It was only a trifle in comparison with distance to be traversed to see all the growers of Santa Clara, for they number something like 1500. But trifles help out. Drops of water of speech and precept wear away the stone of indifference. As a result of all this discussion and advertisement when the notice of the annual stockholders' meeting was published, and all the fruit-growers of the county were invited to attend, whether members of the exchange or not, conditions were favorable for a united movement by fruit men; and all roads in Santa Clara county last Saturday led to San Jose.

The hall of the Young Men's Christian Association had been engaged for the meeting; but it was found inadequate for the crowd and it was necessary, after the morning session, to move to the Baptist Tabernacle, which offered much more room; but even then there were few vacant chairs. The attendance was at least 500, perhaps more, among whom were many ladies, and they represented in the highest sense the intelligence, experience and unanimity of sentiment of the 1500 fruit-growers of Santa Clara Valley.

The morning session was to begin at 10 o'clock, but, like all great bodies the convention moved slowly and did not get to work until some time later. The secretary was meanwhile busy receiving stock subscriptions from new and dues from old members of the exchange. Of course the session was strictly one of stockholders, but outsiders had been invited to take part in discussions and they responded in a very prompt and gratifying manner. A roll-call showed 300 out of a total of 360 stockholders present in person or by proxy. Preliminary to regular business, John Markley, resident secretary of the World's Fair Commission addressed the convention, outlining the plans of the commission with reference to exhibits of fresh California fruits in turn and in season at the Chicago fair. The plans of the commission have already been described in these columns. Secretary Markley invited the co-operation of the Santa Clara fruit-growers, assuring them that their fruits, after display at the fair, would be sold for the best market prices for fruits not in firm condition, as of course, the exhibits would become soft after a few days; but the Northern Pacific Railroad Company has granted a concession of about \$120 per car on fruits shipped to Chicago for this purpose; and he thought the loss (if any) in the sales would

be fully offset by the gain in the cheapened freight charge. The annual report of President Philo Hersey was then read. It is in part as follows:

REPORT OF THE PRESIDENT.

Owing to the want of time preparations could not be made for business in 1892. About \$5000 of stock subscribed had been made as early as June, when it was thought best to delay till the close of the season. In November the work was again taken up and we have to-day a stock subscription of 1629 shares, amounting to \$16,290, divided among 360 holders, averaging \$45 each. Assured of sufficient means to begin preparation for business, your directors made a contract for a lot of land containing five acres at the northwest angle of Sunol and San Salvador streets, a few blocks south of the narrow gauge depot. By arrangement with the railroad company the lot is inclosed in the yard limits and a switch will be put in convening buildings on either side of the track. The cost price of the land is \$5575, of which \$1275 was paid at the time of the contract and the balance of \$4500 will be due on the 15th of this month. To meet this obligation there will be a call for the remaining 75 per cent of the stock. It is earnestly desired that everyone who can, even by the most self-sacrificing effort, will meet this call at once. Your President, feeling keenly the necessity of ready response, will here and now set the example, and he has the pleasure as well as the honor of being the largest individual subscriber. [President Hersey here turned over to the Treasurer \$187.50 cash in payment of balance due on his stock.] As this is an institution of your own, organized solely to serve your interests, you should feel the necessity of and see the propriety of prompt action, that all expenses and delay of collection may be avoided. Work on a warehouse must immediately begin, incurring an expenditure from \$7000 to \$9000, according to the kind of material used. Your management, whoever it may be, must not be crippled or delayed by the want of subscribed funds upon which they rely to push forward the work.

PHILO HERSEY, President F. E. S. C. C.

MANAGER ADAMS' REPORT.

Manager Adams also submitted his report. It was very complete and explained in detail the method of work by the manager in securing subscriptions of stock. The total expense was \$1023.95—nearly all of which expense, said the manager, might have been avoided if at the early meetings all who expressed themselves in favor of co-operation had handed in their names for a reasonable amount of stock, or sent by mail a response to the circulars forwarded them. Among other things the manager said:

In the first place there is much confusion in the minds of orchardists about the term "market price." We have, on this coast, during the buying season, absolutely no stable market price for dried fruit from first hands. All who have any extended knowledge of the business know that fruit is constantly bought on all sorts of prices, and that the seller, when selling, almost never knows whether he is receiving what the existing conditions of the Eastern market warrant or not. For example, last fall I sold my prunes for a certain price; while standing with my check in my hand I saw a larger crop of better prunes sold for a cent per pound less, and neither of us sellers knew anything about the current price of the same goods in Eastern markets that day. With nine-tenths of us it is, within certain limits, but little more than a blind guess whether to sell or not; generally the need of money settles it.

The nearest approach to a market price of dried fruit at any time is the weekly published lists of Eastern jobbing grocers, which state the prices at which they sell to the retail trade, and which are usually subject to shading to large buyers in best credit. For example on the first of March of this year, six catalogues of Eastern jobbers, taken at random, showed an average of \$12.20 per hundred for the four sizes of California prunes in sacks; deducting \$1.40 for overland freight, leaves \$10.80. If we assume 80 cents per hundred as the average jobber's profit, the equivalent price at San Jose was 10 cents, and whatever less the grower received on that day was what he paid in some form for marketing; the local market reports of about the same date quoted the four sizes of prunes at 9½¢, but as a matter of fact small lots could not be sold at that price net; assuming that they could, and that the jobbing profit was as stated the grower paid 7½¢ per cent for selling.

Now it must be understood that I do not quote these rates as giving exact results, but only as showing the methods of computing. There will always be fluctuations and inequalities in market rates which are hard to explain, but a few years experience will enable us to understand many things which I for one, at any rate, do not understand now; but in general it will be true, that deducting freight, the difference between the average net price paid by Eastern jobbers, and the average net price received by orchardists here, will be the expense of marketing our crop; I have made considerable efforts to collect facts which would warrant an estimate of what it costs us by present methods, to get out crop sold to the jobbing grocers; in my opinion it is more than 15 per cent; but I have no figures to back it up; in a year or two we shall know more; but it is now plain that those who last year sold green prunes for \$45 per ton, gave about one-half their crop for drying and marketing, and those who got \$60 gave one-third their crop; and when we foot all these things up, and average all the inequalities, I do not believe that an average of 15 per cent for marketing will pay the bill.

Now if there is one thing in this world more plain than another, it is that we can sell our crop at a smaller expense than that; and if there is another thing even plainer, it is that we need the extra money. And we must remember that an average of 15 per cent for marketing means that while some got every dollar there was honestly in their crops for themselves, and possibly more, a great many others paid very much more than 15 per cent for selling, for by as much as one man gets more than the average, by so much does some one else get less.

I desire to make the following recommendations:

The sum expended in organization is just so much money taken from our capital stock, upon which we must pay interest forever, and yet which is not in our treasury for use. I am desirous of seeing this sum restored to the capital stock, that every dollar of the stock may represent necessary property bought and paid for, or cash in the treasury. This sum, however, cannot be restored to the capital from the proceeds of fruit sales, for all money received from that source, less expenses of selling, belongs to the owners of the fruit. For the purpose therefore of gradually restoring this sum to our capital, I recommend

1st. That all expense on account of capital stock cease from the date of the annual meeting.

2d. That on and after July 1st the price of shares sold by the corporation be fixed at \$11, the par value, of course, remaining at \$10 as now.

3d. That a suitable fee be charged for transfer of stock, upon the books, to persons not stockholders on the first of July next.

4th. That the premiums and transfer fees so accruing shall be turned in to the capital stock, and that these charges continue until the total sum taken for expenses from the capital stock be returned thereto.

To the end, also, that no one who puts money in our enterprise be compelled to keep it there against his will, I recommend that the directors be authorized to repay, at any time, to any holder of our stock, the proportion of its par value paid in, with accrued interest thereon, and to thereupon cancel such stock or re-issue the same as seems best.

I also recommend that our fiscal year begin and end on the 1st of May in each year, and that interest on paid-up stock begin to run from May 1, 1893.

As it is important that we at once get sufficient pledges of fruit to handle, to warrant proper and vigorous preparations for marketing,

and as it is essential to that that the precise methods of doing business be known, I recommend that for the first year stockholders marketing fruit through the Exchange be given their option of the four following methods, the arrangement of all details pertaining thereto to be left to the incoming directors:

1st. To bring their fruit to the warehouse, have it graded, inspected, sacked, or processed and boxed, receiving therefor transferable warehouse receipts which they can dispose of as they please, such fruit, of course, to be charged only for warehouse expenses.

2d. If they then desire the Exchange to sell their fruit as a separate lot at a price fixed by themselves, or which they may agree to accept, the Exchange will do so if possible, charging therefor the cost of selling in addition to warehouse charges.

3d. If they prefer that the Exchange shall sell their fruit as a separate lot, at its discretion, getting the best price obtainable, the Exchange will do that, charging cost of selling in addition to warehouse charges.

4th. If they shall prefer to unite with others in the sale of their fruit in such a manner that all entering the pool shall receive the same price for similar fruit, they may deliver their fruit to the Exchange for sale on its own account, and all fruit so committed to the Exchange shall be sold through the year at best rates attainable, advances to be made from time to time as sales from such pool are effected, final settlement being made when the season's business is closed out when all delivering fruit for sale on this plan shall receive each the average price obtained for the year for fruit of the respective grades.

Fruit sold by the Exchange, but not passing through the warehouse, to be charged only the cost of selling and inspection.

This report is really to the directors of the Exchange, and the recommendations will be acted upon by them.

Treas. W. H. Wright submitted his report, showing that receipts from stock subscriptions up to May 5th were \$2922.65; expenditures, \$2582.95; balance, \$339.70.

These proceedings terminated the morning session. In the afternoon, the first business announced by President Hersey was the election of directors. The following were chosen to serve the ensuing year: Col. Philo Hersey, W. H. Wright, Edward F. Adams, H. W. Cate, J. T. Grant, Noah G. Rogers, F. M. Righter, James E. Gordan and E. L. Dawson.

COMPETING FRUIT DISTRICTS.

Among visitors at the meeting was Prof. Emory E. Smith, of Stanford University, who was called upon by the president, and delivered a brief address on "Co-operation and Competing Districts." Prof. Smith's remarks were timely and instructive. Relative to competing districts he said in substance:

Neither American nor European markets are standing with outstretched hands to welcome our fruits. A market is simply a battleground of trade and victory is to the strong, the shrewd and the patient.

The extent of territory and the output of competing districts should not alone be taken into consideration; they are simply the starting points for investigation and lead to the intricate conditions and influences existing in the recognized channels of trade.

The development of our dried, canned and green-fruit industries has been so rapid that we are forced to look not only to undeveloped American but to foreign markets as well to relieve the situation. When it comes to forcing new markets, information regarding competing products becomes of double value. In dried peaches, apricots, nectarines and pears California has practically a clear field. The southern Atlantic, middle and New England States do not dry these fruits in quantities, and it is improbable that they will ever do so. Both Spain and Russia, and the Argentine Republic, produce some dried apricots, but not sufficient to cut any figure in trade. Australia is the only real competitor, and some very fair fruit is being sent from that country to the London market.

The California dried peach has no direct competitor in foreign markets, but it is a novelty and has an undetermined future.

For dried pears, attractively prepared and packed, there is practically no competitor, and they have apparently a very great future.

In the prune, the crowning glory of the Santa Clara valley, we find an altogether different state of affairs. There are strong European competing districts, which possess many points of vantage, not the least of which are cheap transportation and the ability to make cheap prices. Germany, while not a great exporter of prunes, produces about enough for home consumption. This may also be said of Australia, Hungary and other central European countries.

The so-called Turkish prunes, which are shipped to this and other countries in bulk, and come in competition with our cheaper grades of prunes, are produced over a considerable area, bordering on Asia Minor. California's real competitor in the prune business is France. Here the industry is more extensive and more systematically pursued than in the other countries referred to. Agen, a handsome city literally built out of prunes, is the center of the producing districts, while the bulk of the packing and shipping is done at Bordeaux, the nearest seaport. The culture of the prune in France is so peculiar that it is impossible to give an estimate of the acreage in trees.

The speaker said the prunes which now come in competition with those of this State are mainly from trees that were planted before the industry in this State had assumed any material proportions, and that the production of prunes in France has now probably reached its highest point. It would either remain at a standstill for some time or decrease.

SENATOR BUCK ON CO-OPERATION.

Much interest was aroused by the presence of ex-Senator Buck, president of the California Fruit Union, who had agreed to tell the fruit-growers of Santa Clara how to co-operate. And he did. He explained the workings of the Fruit Union, and answered many questions asked by individual fruitmen. Said Senator Buck in part:

There are three methods of disposing of fruit. First, you sell it to the canneries, which have done much for the support of the fruit industry of this State. They will nearly always give you a fair price, and you are sure of your money. Another means is drying the fruit, which is supposed to be the last resource. Between these two comes the method of shipping the green fruit. I do not mean to say shipping is the best. Shipping on consignment is extremely hazardous, and many, many times more money would have been made by selling to the local buyers. In shipping fruit you must consider that work that is done for nothing is not always the best work. Some may come to you and offer to take your fruit on less commission, but it is better to pay a little more commission and have your product handled by a strong and responsible agency which stands behind the sales and forces the market. The net returns will probably be much larger. Then again always send your fruit through an agency. If not it comes in competition with itself. I saw four carloads of cherries sold in Chicago, and if one agency had handled all they would have brought \$4000 more than they did. Our cherries have practically no competition and large prices can always be secured for them if they reach the market in good condition.

In regard to the associations at Vacaville, Senator Buck said:

They are incorporated under the laws of the State and have a manager who solicits, obtains and picks the fruit. The association charges from 1½¢ to 2 cents per box for loading and also furnishes its members with box-lumber at the same prices charged elsewhere and

at a profit to the association. I do not know of any of them that do not pay dividends. The Florin association handles strawberries as well as other fruits.

The California Fruit Union was formed in 1885 and has many members in this county. It has agents in all the large cities, and not a dollar has ever been lost to the grower through the failure of any of its agents.

Asked if it would pay to ship fruit from San Jose to Sacramento and there leave it included in carload lots for the East, Senator Buck replied in the negative. He said the trip from here to Sacramento would damage the fruit more than the trip from here to New York in a carefully packed carload.

And a very instructive, interesting and profitable session of fruit-growers came to an end.

HORTICULTURE.

Cost and Product of Orchard and Vineyard.

Figures by Practical Growers.

The Sacramento *Record-Union* has been making an effort to secure from the most reliable sources facts regarding the cost of planting and cultivating orchards and vineyards, especially with reference to instructing intending purchasers of fruit lands in California. Men sometimes offer to sell land and take so much money for planting an orchard. The value of such offers may be judged from the data herewith presented.

The following letters from Leonard Coates, Charles W. Reed, Frank H. Buck, John Bidwell and A. T. Hatch, will be found exceedingly interesting to those intending to purchase fruit lands and plant orchards and vineyards. The gentlemen named are among the most successful fruit-growers in the State, and all of them well known.

GENERAL JOHN BIDWELL,

Of Chico, who has an orchard of 1500 acres, has been a successful orchardist and a careful observer, writes, under date of April 14th, as follows:

Your favor of the 6th inst., asking certain information in regard to the cost of vineyards and orchards, was duly received.

In relation to your query as to the average present price of wine grapes, and the present and prospective profit of the business in case a man makes his own wine, I will say that I am unable to give you any information on that subject, as I do not raise any wine grapes, nor have I made any wine for 25 years.

As to the cost of planting and caring for an orchard, I give you the following data, showing the actual expense of planting and caring for an orchard of French prunes up to and including the fourth year:

FIRST YEAR.		Per Acre.
Plowing and preparing the ground for planting (plowing 20 inches deep).....		\$ 3 10
Cultivating and miscellaneous expenses.....		3 05
Labor (planting trees).....		2 45
Cost of trees, 28 feet apart, at 10 cents.....		6 40
Total.....		\$15 00
SECOND YEAR.		
Pruning.....		\$ 40
Cultivating.....		4 00
Replanting dead trees.....		25
Total.....		\$ 4 65
THIRD YEAR.		
Pruning.....		\$ 1 25
Cultivating.....		4 75
Spraying and spray wash.....		30
Replanting dead trees.....		25
Miscellaneous expenses.....		50
Total.....		\$ 7 05
FOURTH YEAR.		
Pruning.....		\$ 1 95
Cultivating.....		4 60
Spraying and spray wash.....		75
Replanting dead trees.....		25
Miscellaneous expenses.....		50
Total.....		\$ 8 05
Total for four years.....		\$34 75

In this statement you will notice that the trees are planted 28 feet apart. This is considerably in excess of the distance they are planted in many places, and the number and cost of trees per acre would of course depend upon the distance they were planted apart.

While the above statement of expense applies only to a prune orchard, yet, in a general way, the same figures would be applicable to any other kind of fruit, except in the matter of pruning, in which, after the second year, the cost of pruning with peaches and apricots would be considerably in excess, in fact, fully double the cost of the same operation with French prunes. You will of course understand that in the matter of pruning with peaches and apricots the cost would increase each year until the trees had reached the age of six or seven years. In the case of French prunes, however, we do little or no pruning after they are four years old, except to cut out dead wood or interfering limbs, and therefore that element of cost would be largely obliterated in considering the future expense of caring for a prune orchard. The same rule as to pruning would also apply to almonds. Very truly yours, JOHN BIDWELL.

C. W. REED,

Of Sacramento, one of the pioneers in fruit-raising in the State, and a man of broad judgment, writes, under date of April 8th, as follows:

Your favor of the 6th inst. duly received. It is very difficult to give you correct information in regard to the cost of planting and growing an orchard or vineyard, so

much depends on the character of the land and the intelligence with which the labor is managed. I think there is one-half difference in the expense that is incurred with different men, in planting and growing an orchard or vineyard into bearing, and almost that difference in results obtained, partly by not knowing what trees are suitable to the soil they are grown in, and largely by not knowing how to grow or prune the trees and vines to get the best results.

Now, I will assume that in planting a vineyard you have first-class land, ready for the plow, and are planting at least 100 acres. It will cost as follows:

	Per Acre.
For Plowing.....	\$ 1 50
Rooted vines, 10x10, 430, at \$15 per M.....	6 45
Harrowing and marking before planting.....	2 00
Planting with plows.....	3 00
Cultivation, first year.....	5 00
Cultivation and pruning, second year.....	8 00
Cultivation and pruning, third year.....	10 00
Total.....	\$35 95

With a reasonable chance for a crop worth \$20 per acre, if they are Tokay grapes, well colored, or if wine grapes, \$7 to \$10 the third year. The fourth year a vineyard should yield from two to four tons, if conditions are favorable. Wine grapes are worth generally from \$12 to \$15 per ton. Table grapes from \$25 to \$40 per ton.

I have but little knowledge of the wine business, and am not competent to give you any information in regard to profits of that business. The yield of juice of different varieties, and the endless expense of handling wine can only be estimated by wine-producers.

In regard to planting an orchard of pear, prune, peach, etc., the expense will vary but little, and only on the cost of trees and difference in the time they come into bearing. For an orchard of 100 acres it will cost as follows:

	Per Acre.
Plowing, harrowing and marking.....	\$ 3 50
Planting with plows.....	2 50
Price or value of trees.....	15 00
Cultivating and pruning, first year.....	5 00
Cultivating and pruning, second year.....	8 00
Cultivating and pruning, third year.....	10 00
Cultivating and pruning, fourth year.....	11 00
Total.....	\$55 00

Pears and prunes should, with favorable conditions, produce enough to pay expenses the fourth year. Peaches often produce \$100 to \$150 per acre the fourth year. Prunes and pears will not be in as good bearing condition before the sixth year as peaches are the fourth year.

These estimates are based upon my experience, and apply to first-class land and with experienced labor for this business, and I only approximate as near as possible the expenses, with a margin that I think will cover everything in the aggregate. Yours truly, C. W. REED.

LEONARD COATES,

Of Napa, who has been a very successful nurseryman and has made fruit-raising a study, which has made it with him a profession, writes, under date of April 17th, as follows:

I would estimate the cost of raising a vineyard as follows (exclusive of the price of land):

	Per Acre.
Plowing and subsoiling.....	\$ 3 50
Leveling and marking off.....	2 00
Cuttings, and planting.....	3 00
Cultivating four times and hoeing.....	4 00
First year.....	\$12 50
Cultivating, including replanting, second year.....	7 50
Cultivating, including pruning, third year.....	7 00
Cultivating, including pruning and staking, fourth year.....	10 00

A light crop may be expected the fourth year, which may pay cost of cultivating.

If rooted cuttings are used, the expense the first year will be increased \$6 per acre, but a crop would then be had the third year. If a vineyard of "resistant stock" is desired (and there should be no "if" about it), the cost would be increased as follows:

	Per Acre.
First year, rooted cuttings, Riparia, additional.....	\$7 00
Second year, grafting all that are fit, including cost of grafts and material.....	5 00
Second year, suckering, etc.....	50
Third year, grafting, suckering, etc.....	4 00
Fourth year, grafting, suckering, etc.....	1 00

The actual value of the property at this time, however, is infinitely greater than in the first instance—there is practically no comparison.

These estimates are on the basis of, first, ordinarily good vineyard land, and, second, the use of well-tested varieties, such as Zinfandel, Chasselas, etc., and for wine purposes only.

In the case of raisins, the Muscat and Sultana being the staples, while the cost will be about the same in localities where they are usually planted, the hot climate will cause them to yield a paying crop sooner.

With the finer varieties of wine grapes, the cost of cuttings or plants is greater, and the average yield less. Still the intrinsic value per ton is so much greater that they will pay better, when the business is conducted in a proper manner, on which I would remark briefly in conclusion.

In the case of table grapes the profit at present is great—est, the same being shipped fresh to distant markets.

The present price of ordinary varieties of wine grapes is about \$12 per ton, which, at four tons per acre, does not yield much after interest and taxes are deducted.

If a man makes his own wine the prospects are not much better, unless he is in a position to age his product and bottle it, or ship in cask, as may be required; this requires capital and "grit."

Until there is sufficient co-operation among vineyardists to enable them to successfully combat the "ring" there can be little or no improvement. The fact remains that the producer gets \$10 or \$12 per ton for his grapes, or 11 or 12 cents per gallon for his wine. This same wine is never

sold afterward for less than 50 cents per gallon, and more frequently at \$1 to \$2 per gallon by the bottle. Consequently: the vineyards are all mortgaged, while the dealers wax fat.

I recently sent a present of a cask of claret to a relative in England, which cost me, laid down at an interior point, \$1 per gallon, or to bottle, etc., 17 cents per half bottle, and which was acknowledged to be far superior to a fair table claret which there retails at two shillings to three shillings per half bottle (50 cents to 75 cents).

The cost of an orchard, not including price of land, interest, or taxes:

	Per Acre.
Plowing.....	\$ 2 00
Leveling and marking off.....	1 50
Trees.....	15 00
Planting.....	4 00
Cultivating, etc.....	5 00
First year.....	\$27 50
Cultivating, etc., and replanting, second year.....	8 00
Cultivating, etc., and replanting, third year.....	10 00
Cultivating, etc., and replanting, fourth year.....	19 00

Including spraying, etc.; or, this would apply equally to any variety of deciduous fruit, or of nut trees. In the case of large plantings, the average price of trees would be 20 per cent or 25 per cent less.

The profits of an orchard are so very variable that it seems impossible to even strike an average net return.

I have, however, carefully looked into the matter for some years, and believe it an accurate statement that a 50-acre orchard of deciduous fruit and nut trees of varieties suited to soil and locality, and within easy distance of railroad, will yield an average net income of \$4000. I believe this to be absolutely as safe an estimate on which to base calculations as United States bonds.

I would note, from the nature of the business and surrounding conditions, that the net income per acre would decrease in proportion to the greater extent—over 50 acres—of orchard, and also that more thorough co-operation would tend to increase the net income. Yours truly, LEONARD COATES.

FRANK H. BUCK

Of Vacaville, probably the most practical and thorough man in the business, writes as follows:

In answer to yours of the 6th inst., a vineyard will cost per acre:

Plowing, staking, etc.....	\$ 6 00
Cuttings and planting.....	5 00
Cultivation, first year.....	12 00
Cultivation, second year.....	12 00
Cultivation, third year.....	15 00

Orchard will cost per acre:

Plowing, staking, etc.....	\$ 6 00
Trees and planting.....	\$20 to 25 00
Cultivation, first year.....	12 00
Cultivation, second year.....	12 00
Cultivation, third year.....	15 00

Vineyard and orchard ought to pay expenses after third year, with exception of pear or prune orchard, which will take one or two years longer. Have no knowledge of wine grapes. Yours truly, FRANK H. BUCK.

A. T. HATCH

Of Suisun, the largest and most enterprising fruit-grower in the State writes:

Yours of the 6th received. In answer will say as to a vineyard I can give you no information, my knowledge of planting and growing vines is very limited, indeed, as I have not been in that business at all. In regard to the expenses of an orchard I will give you the answers to your questions as best I can.

I do not have the ground prepared before planting except by laying it off, that is—staking it and then either plant the trees by digging holes or by making furrows with a large listing plow—deepening with a sub-soil plow following it, then plant the trees, after which we do our plowing.

The expense for deciduous trees and labor for planting and staking out we estimate from our experience at about \$25 per acre, although at times have paid as high as \$30, including all cultivating necessary the first year. The second year there is an average of about five per cent re-filling where trees have died, pruning and cultivating, which we estimate at about \$10 per acre, although sometimes we pay as high as \$15 per acre. The third year the loss of trees is less generally, and cultivating the same, the pruning more, so we estimate that from \$12.50 to \$15 per acre for the year. The expenses of the fourth year are about the same as for the third, say \$15 per acre.

The fourth year the peaches, apricots, nectarines and almonds, when planted on soil and in a climate adapted to them, we expect to pay, say an average of \$50 per acre gross, while plums and prunes are not expected to yield profitable crops until the fifth year, cherries and pears the seventh year. All of this relates to a mixed orchard of deciduous fruits. Expenses, whether mixed or otherwise, would be about the same. In this estimate we figure on an average of \$150 per 1000 for No. 1 trees. The whole of this can be reduced, if done on a large scale, from 10 to 20 per cent.

As to estimates of profits, would reasonably expect, as before specified, \$50 per acre gross on peaches, apricots, nectarines and almonds the fourth year, the fifth year \$75 and from that on a net average of \$75 to \$100 as a minimum. Plums for shipment and prunes for drying, the fifth year, about \$50 gross, the sixth year, \$75 net, with a good per cent of increase thereafter up to \$150 per acre net. For cherries, would say the seventh year about \$50 per acre gross; eighth year, \$100 net, increasing for several years at a good per cent, say from 10 to 20 per cent for several years. Pears, similar to cherries.

I have made the estimate of expenses as high as any man need be put to have his work done in a first-class

manner; the results I have put as low as anyone needs to expect.

Hoping I have been sufficiently definite, I am, very respectfully,
A. T. HATCH.

SUMMARY OF ESTIMATES.

The following summary of estimates will be found interesting for comparison:

GENERAL BIDWELL'S FIGURES.

Orchard.	Per Acre.
Plowing, etc.	\$ 3 10
Trees and planting.	8 85
Cultivating, first year.	3 05
Cultivating, second year.	4 65
Cultivating, third year.	7 05
Cultivating, fourth year.	8 05
Total	\$34 75

MR. REED'S ESTIMATE.

Vineyard.	Per Acre.
Plowing, etc.	\$ 3 50
Cuttings and planting.	9 45
Cultivating, first year.	5 00
Cultivating, second year.	8 00
Cultivating, third year.	10 00
Total	\$35 95

Orchard.

Plowing, etc.	\$ 3 50
Trees and planting.	17 50
Cultivating, first year.	5 00
Cultivating, second year.	8 00
Cultivating, third year.	10 00
Cultivating, fourth year.	11 00
Total	\$55 00

LEONARD COATES' ESTIMATE.

Vineyard.	Per Acre.
Plowing and sub-soiling.	\$ 3 50
Leveling and marking off.	2 00
Cutting and planting.	3 00
Cultivating, first year.	4 00
Cultivating, second year, including replanting.	7 50
Cultivating, third year, including pruning.	7 00
Cultivating, fourth year, including pruning and staking.	10 00
Total	\$37 00

Orchard.

Plowing.	\$ 2 00
Leveling and marking off.	1 50
Trees.	15 00
Planting.	4 80
Cultivating, first year.	5 00
Cultivating, etc., second year.	8 00
Cultivating, third year.	10 00
Cultivating, fourth year.	12 00
Total	\$57 50

FIGURES OF FRANK H. BUCK.

Vineyard.	Per Acre.
Plowing, staking, etc.	\$ 6 00
Cuttings and planting.	5 00
Cultivation, first year.	12 00
Cultivation, second year.	12 00
Cultivation, third year.	15 00
Total	\$50 00

Orchard.

Plowing, staking, etc.	\$ 6 00
Trees and planting.	\$20 to 25 00
Cultivation, first year.	12 00
Cultivation, second year.	12 00
Cultivation, third year.	15 00
Total	\$70 00

A. T. HATCH'S FIGURES.

	Per Acre.
Trees, labor, staking, planting.	\$25 00 to \$30 00
Pruning and cultivating, first year.	10 00 to 15 00
Pruning and cultivating second year, replanting.	3 00 to 5 00
Pruning and cultivating, third year.	12 50 to 15 00
Pruning and cultivating, fourth year.	15 00 to 15 00
Totals	\$65 00 to 80 00

Hints on Planting Orange Trees.

John M. Warner of Tehuenga gives the Redlands *Citrograph* the following practical hints on planting citrus fruit trees:

Transplanting should be done only when the ground is warm; the best time being in April and May, the time depending somewhat on the season. When cold, as it has been this spring, they should not be transplanted so early as they may be when we have what is called an early spring. Some transplant in September, but this is not advisable, especially where there is any danger of frost, because the trees do not grow enough before winter to be firmly rooted, and, as they are easily killed when not well fastened in the ground, such trees are often killed, or damaged so much as to be of little value, when good trees that have not been moved may not be injured, or if the new and tender growth be injured, the trees will have enough vitality to enable them to recover.

The tops should be cut back well, from ten days to two weeks before transplanting, to correspond with the cutting of the roots. Could the trees be transplanted with all of the roots, and in exactly the same position they occupied in the nursery, it would be best to cut off part of the tops before transplanting, because it requires time for the roots to fasten in the ground, so as to be able to afford nourishment to the tops. It is best to dig the trees as soon after the tops are cut as they show signs of making a new growth. The ground should be irrigated a few days before digging the trees, the length of time depending on the soil, but generally not more than three days prior to the digging; then the trees can be dug without losing so many of the fibrous roots as would be lost by digging if the ground were hard. A soft mud should be made of clay and water, into which the roots should be dipped immediately after the trees are dug. Nurserymen call this "puddling the roots." It protects them from drying as soon as they would otherwise. If the trees are to be moved far they should be packed

closely together; fine threshed straw, that has been kept wet for 24 hours just before being used, should be packed closely around the sides and among the trees, just above the roots, to protect them from the air. Straw wetted only immediately before being used will soon dry. It would be a good idea to protect the tops by covering them with canvas or other material.

Setting the trees should be done carefully and intelligently, rather than by persons possessing no order, no mechanical ability, and as we might say, figuratively speaking, no brains. The roots should be spread out as the dirt is put into the hole in which the tree is placed, and the dirt should be packed firmly about the roots. If the ground be very sandy, tramping the dirt about the roots will do no harm, if it be done carefully, so as not to break the roots, but it would not be advisable on heavy soil. It is best to set the trees with the same side toward the south as was toward the south in the nursery. But little attention is paid to this in general. They should be set about the same depth they were before digging, not more than an inch or so deeper. A row of trees should be irrigated, in this hot climate—or any other climate equally warm—immediately after the trees are set. They should receive a second irrigation about three days after they are set, after which the ground irrigated should be cultivated as soon as it dries enough. They may need no more irrigation for a month; the time will depend very materially on the soil. Cultivation along each side of the rows as often as once a week would be beneficial, as it would keep the ground mellow, and prevent it from drying so quickly as it otherwise would.

Many of the trees set here are tall and slender, pruned to a height of from four to five and a half feet, and less than an inch in diameter a foot above the ground. Such trees are of little value. I would not take them even as a gift. The trees should be stocky and branched not to exceed three and a half feet from the ground. Some prefer branching them at from two to three feet from the ground. My own experience and observation cause me to favor this idea. It is often advisable to cut off the top at this height before transplanting a tree, and especially when branched at a greater height. Some trees, however, that are branched high in the nursery are bark-bound, caused by the heat of the sun, and might not send out good branches were the whole top cut off. Such trees would be condemned by the experienced nurseryman or orchardist. Trees grown on rich soil—ground that has been heavily manured—are almost worthless for setting out on poor ground. A person might as well take a stall-fed animal, turn it out into a desert, and expect it to thrive. But ground naturally very poor is not fit for citrus trees. I would say to the would-be purchaser of orange trees, do not buy those that have been stunted, even though offered at a low price, because they would be dear at any price. If you do not know good trees from poor ones, it might pay you well to employ some conscientious person who is posted on this subject to select for you.

The foregoing applies to lemon as well as orange trees. It might be added that probably the worst time for transplanting citrus trees is when they are growing vigorously, and the next worst when they are dormant. Some orange trees, with all the tops on them, were dug here to-day (April 21st) and received no protection from the hot sun. Any one possessing even a thimbleful of brains, and not wholly wanting in reasoning power, ought to know better than to treat the trees thus.

POULTRY YARD.

Poultry Experiments.

The report of the Canada experimental farms contains an account of the treatment of the poultry on trial, the number of eggs laid by different breeds, incubation trial, treatment of chickens, preservation of eggs, weight of eggs, etc. Feeding trials at the farm have led to the following conclusions:

1. No hens should be kept over two years, because after that age they molt so late that the prospective profit is eaten up before they begin to lay.
2. No soft-shelled eggs were laid by the pullets, showing that they are not as likely to do so as the old stock, and that the daily mixing of coarse sand, fine gravel and sifted oyster shells in small quantities, has a preventive tendency.
3. No eggs nor feathers having been eaten to date of writing, the regular supply of ground meat, mixed in soft feed, is to be recommended.
4. A small quantity of salt was mixed daily in the hot morning ration, but as it created looseness among the Brahmas, Cochins and several Plymouth Rock hens, its use was given up.
5. The feeding of vegetables, viz., carrots, mangel-wurzels, turnips, etc., in generous quantity had the effect of keeping the hens in excellent condition and is necessary for the production of eggs.
6. Scattering the grain food among the straw and chaff always on the floors of the pens, kept the fowls, particularly the young ones, active. The grain food should not be fed in too great quantities.

Destruction of Chicks.

The warm weather is very severe on young chicks. They cannot stand the sunshine with no shade, nor can they endure a close coop. Bowel disease is as prevalent among them in very warm weather as with babies. The summer seems to crowd a great many difficulties together. The food ferments, the heat is oppressive, the wet grass is injurious in the morning and lice increase and swarm over every part of the body. The majority of persons look for lice, but if they do not find any of the little red mites they conclude that there are none of the pests, but the real enemy is the large gray body lice that prey upon the heads and necks of the chicks, and which cannot be found without searching down close to the skin at the base of the

feathers. Grease will kill them quickly. When the chicks are sick, appear droopy, have bowel disease, and apparently die without cause, look for the large bloodsuckers, only one of which may so worry a little chick as to kill it. While the cold of winter seals up the odors, summer sets them free; hence the strictest cleanliness is also necessary. —Poultry Keeper.

Raising Chickens.

TO THE EDITOR:—There is no reason why people should not hatch all, or nearly all, of the eggs which they set and raise the greater part of the chicks when they are hatched. It will make considerable difference financially whether you hatch and bring up 70 per cent or 90 per cent of the chickens. A few suggestions, which have been carried out successfully, for setting the hen and raising the young ones may be useful.

First, a place apart from other fowls is the most desirable for locating the nest, but this is not necessary.

Set a barrel on its side, so that it will not roll, then make a deep nest of one part ashes to three parts dry soil, packing it well, so that the eggs will not be buried, sprinkling it with sulphur to destroy all insects which may accumulate; set a coop in front, arranged so that the hen may go into it for food and water without being able to wander off, or if you know that she is a good, reliable setter this latter may be dispensed with, provided the nest will not be disturbed by other hens. Now place the eggs in the nest, choosing the most of them with round ends, otherwise you will have a brood of cocks; if afterward you find that the hen does not cover them all comfortably, take enough out to make her do so.

The next thing is to provide a place for the chicks when they come out. This may be done with a little work and they will be safe from all attacks of cats and dogs.

Enclose a space on the ground, making a division for each brood and letting the apartment be not less than 4x10 feet, but as large as the space will permit; make the sides of four-foot laths (or close wire netting) nailed three-quarters of an inch apart; then cover the top with ordinary wire nettings. Of course place a coop or shelter inside for the hen and chickens at night.

This will serve until they are eight or ten weeks old, when they may be turned with the other fowls, but it is better to have a separate covered yard, say 6x20 feet dimensions, in which to put the chicks at that age until ready to lay or be killed, as it is not best to put young chickens with laying hens; in this yard quite a number may be kept without the hens which brought them up.

These hints will perhaps be of service to persons with a limited space of ground at their disposal and who raise their fowls in the old-fashioned way.

F. C. McD. SPENCER.

Prevention of Egg Eating.

I have just had a case of egg eating, and as it is a common complaint, I thought a few suggestions on its cure and prevention would be helpful to some. The common practice is to kill a hen caught in the act. Don't do it. It will likely be your best layer, and a little managing will stop or prevent it.

They learn to know how sweet to their taste eggs are by eating those broken while laying. Also, if they have a lack of grit they will search the nest for bits of shells, and break some eggs, and if a shell is open it is at once eaten. I set a hen in a pen containing twelve hens. They had two nests side by side. They layed about six eggs each day. An egg was broken under the sifter and was eaten by the hens. Every time after that, about four hens would fly up and examine the nest every time the hen was removed to feed, while the other nest contained the fresh eggs and they would not try them. I removed the sifter as I should have done before setting. For eight years I have kept 100 hens in an enclosure containing three houses. At different times they would commence to eat the eggs in one small house, and eat every egg layed. I covered every nest in that house and there were none disturbed in the other houses. If you find a nest is soiled two days in succession, cover it. They have learned to come there for eggs, and if the cover is continued a while they will learn to look elsewhere. Where fowls are in yards the eggs will be saved by gathering them at noon. Follow this formula, and you will never have to kill hens to save eggs. Feed a balanced ration. Be sure they have grit. Cover a nest which is soiled twice in succession, and gather the eggs at noon.—W. W. Kulp, Pottstown, Pa.

Moisture and Temperature.

Unless the hens can provide heat of a certain temperature, and prevent the evaporation of too much moisture from eggs, they will fail to hatch out chicks. All hens are not alike as sitters; some cannot provide sufficient heat, no matter what the conditions may be. The greater the number of eggs in a nest the less heat will have to be provided by the hen after the tenth day. Should the nest be in a moist place, and the bodily heat of the hen be a degree higher than the average, it often happens that the chicks develop so rapidly in the shell that they die before they can get out. This is particularly noticeable with incubators filled with a large number of eggs. The chicks, if kept growing rapidly in the shell, die on the eighteenth day. If but very little moisture is provided at first, and gradually increased until there is an excess near the end, the chicks seem to come out stronger and a larger percentage of the eggs hatch.

A Home-Made Egg-Tester.

This is the way to make the tester: First, get a small hand-lamp, then take a piece of tin wide enough to reach from the base of lamp to top of chimney and long enough to reach around the bowl. Bend the tin around and rivet the edges together. Make it large enough so it will slip down over the lamp, then cut a round hole about an inch

and a quarter in diameter, in one side just even with the blaze and there you have it. The tin should be bright opposite the hole.—Fanciers' Monthly.

THE FIELD.

Gophers and Moles.

Prof. F. L. Washburn, zoologist of the Oregon Experiment Station, has issued a bulletin treating of the codlin moth, the hop louse and gophers and moles. We reproduce the descriptive portion relating to the two rodents and the illustration accompanying it as follows:

The order of animals known as *Rodentia* or "gnawers" comprises a very large share of that portion of the class of *Mammalia* which is found in North America. The order is characterized by the presence of chisel-like incisor teeth in the upper and lower jaws, with which their gnawing is accomplished. Our rats, mice, squirrels, marmots, rabbits and gophers are examples of this order and illustrate this dental characteristic.

The pocket gophers or pouched rats, prominent rodent pests, occur in a family called *Geomysidae*, and are widely distributed over the United States. The special individual which occurs in such destructive abundance on this coast,

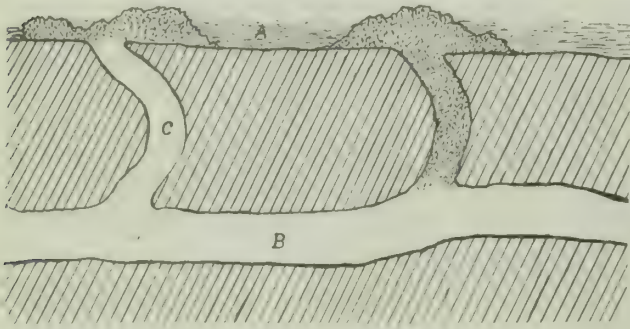


FIG. 1.—DIAGRAM OF GOPHER BURROW.

and forms part subject of this sketch, is *Thomomys bulbivorus*. Against this pest and against our common mole, *Scapanus Townsendii*, which is also so unfortunate as to be regarded in an unfavorable light, this department has worked for the past two years, endeavoring to find remedies which would afford at least some relief.

The mole does not belong to the same order as the gopher, its habits are different; structurally it is widely different, and its small, sharp teeth, all much alike, seem especially adapted to crushing and masticating insects, grubs, worms, etc. In fact, it belongs to the order *Insectivora*, which means "insect eating." The mole's reputation among scientists as a non-vegetarian has been for a long time so firmly established, that any charges of its eating

cept that the main runway may not be as deep, and in addition to what is shown in Fig. 1, there frequently is an additional burrow close to the surface, forming that characteristic ridge often seen on our lawns and among our garden plants. Furthermore, we have never found a mole's branch open, except where it has been made beneath the snow; upon the melting of the snow, the open hole is seen. This characteristic, even if there is no ridge caused by the surface burrow, will at once enable one to tell whether he is troubled with a gopher or mole, for the last made branch burrow of the gopher is often open, and, in fact, at certain hours in the day, the occupant may be seen thrusting his head out, while busily engaged in getting rid of the earth which has accumulated within. This the mole does not do, and, although we often see his mound moving before our eyes and visibly growing larger, the little depredator is concealed below. His minute, bead-like eyes, concealed beneath the velvety fur, but present, nevertheless (this applies to this particular species; there are forms where the integument covers the rudimentary eye), would be of little service to him above ground; indeed, it probably avails him very little in his wanderings below the surface, as his sensitive snout and delicate sense of smell are his chief guides in searching for food. As a rule, the mounds of the mole consist of more finely pulverized soil than do those of the gopher, but they may be as large or larger than those of the latter. The burrows of the mole are, of course, smaller than the gopher burrows.

The first figure in the larger engraving is a male pocket gopher, dorsal view; the second is a female, ventral view, and showing on the sides of the head the characteristic pouches (not connected with the mouth) opening below. This depredator often leaves its burrows at night on foraging expeditions, and at this and other times when collecting food below ground, these pouches are used as pockets in which the food is carried. Some observers state that the earth which is brought up from the main burrow is largely carried in the cheek pouches, while others flatly contradict this, asserting that the soil is pushed ahead of the animal. Both statements may be correct. We have never found any proof that they use the pouches as earth-carriers. Both gophers and moles are active here during our winter season. The breeding season of the mole is early in this State. My diary states that on Feb. 28th of last year a pregnant female was captured containing three well-developed embryos, and two days later another was captured with two embryos apparently within a few days of birth. On March 28, 1893, a pocket gopher was caught containing four young embryos.

DESCRIPTION OF THE ENGRAVING.

The first figure on left is a male pocket gopher (*Thomomys bulbivorus*) dorsal view. The next figure is a female gopher, ventral view, to show the opening pockets on side of head. To the right of the head of this specimen is a small shrew. The shrews are small, mice-like animals, shy and retiring in their habits, belonging to the same order as the moles, strictly carnivorous and very pugnacious. They kill

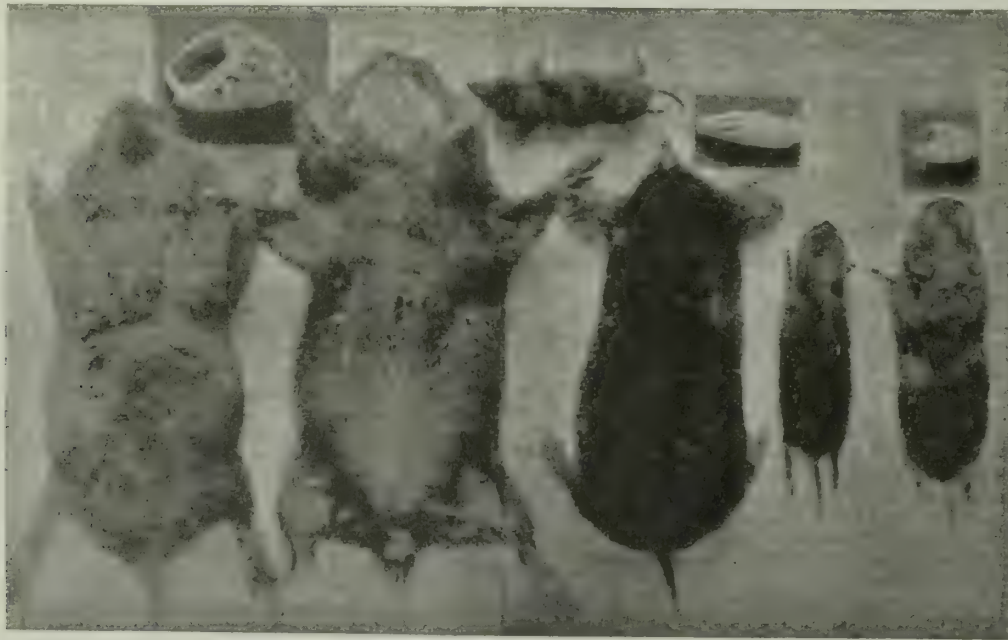


FIG. 2.—GOPHERS, MOLE, SHREW AND FIELD MICE.

roots or bulbs or seeds have been emphatically denied. This belief in the mole's innocence was entertained by many of our leading workers in this class of animals, and it would seem now, in spite of unfavorable evidence, that, apart from the unsightly mounds on our lawns and the disarrangement of soil in our flower beds, and even admitting his occasional fondness for peas and bulbs, that he cannot be placed in the same category with the pocket gopher, and merits clemency of treatment at our hands. Yet the decree having gone forth that the mole is a pest seals his fate as far as human intention goes, and hence we seek for means of killing him.

To return to the pocket gopher. Their mounds are familiar to almost every resident of the State.

Fig. 1 illustrates, diagrammatically, a burrow of this species. B is the main runway from 12 to 20 inches below the surface A. C is a branch burrow from main runway to surface, affording means of getting rid of the excavated earth. This branch is represented as still open. To the right is another, which, having served its purpose, is plugged with earth, the mound on top marking its location.

The plan of the mole's burrow is exactly the same, ex-

cept that the main runway may not be as deep, and in addition to what is shown in Fig. 1, there frequently is an additional burrow close to the surface, forming that characteristic ridge often seen on our lawns and among our garden plants.

The large figure to the right of the female gopher is a mole (*Scapanus Townsendii*) and to the right of that two meadow mice belonging to the genus *Arvicola*. The first skull on the left is that of a pocket gopher, the next one that of a mole, and the smaller one on the right that of a field mouse. The picture does not show the difference in dentition between the two orders *Rodentia* and *Insectivora*, for which purpose the skulls were inserted. The female gopher pictured was 9½ inches long, and from this the length of the other specimens can be easily computed.

THE DAIRY.

Best Way to Make Butter.

(Prize Essay Written for American Agriculturist by an Agricultural Student.)

The best butter is produced as follows, with, of course, latitude in minor details made for different localities and

surroundings, and the personality of the butter-maker. The cows have dry, warm, well-ventilated and well-lighted stables, that are kept clean and sweet-smelling; land plaster is a great help in this line. The sensitive udders should not be chilled by coming in contact with a cold floor that is composed of heat-conducting material. The cows have comfortable stalls that will not allow them to get into their droppings, but to make the assurance of cleanliness doubly sure, a brush or cloth is frequently used on the cows. They have plenty of pure water, not too cold. Their dry feed is well cured, and is sweet, with the exception of silage, and it is given regularly. When on pasture they should not find much rag-weed, and other like weeds, which seriously affect the flavor of the butter. In the stable they are fed from the front, thus no litter is strewn over the stall nor on the backs of the cows. The cows are fed a variety of feed which keeps them in good health, and so keeps up the flow of milk.

The milk is drawn quickly and quietly, quickly because the process of letting down her milk is a strain on the cow, and the sooner done the quicker will she be relieved; if there is too much interruption, or for any reason the process is slow, the cow is liable to hold her milk, causing trouble besides the loss of milk; quietly, because the best milk cows are nervous, and excitement means loss.

To produce the best butter, we must see that the milk has been made and handled aright before it reaches the butter-maker. Straining should be carefully done at milking time, and if for any reason it is kept for any length of time before separating or setting for cream, it should be strained again. The next thing is to secure the cream; the best way to do this is with the separator; time is saved and the cream is purer, as a very disagreeable substance is eliminated from the cream which otherwise enters into the butter. There are other incidental advantages in the use of the separator.

If the cream is separated by the gravity method, the milk is set in a cool place where the air is sweet, the cream is usually risen sufficiently to skim in twenty-four hours. This may be done by drawing off the milk from the bottom, by pouring off the cream, or by dipping the cream. The cream, if to be churned with subsequent batches of cream, may be kept without much ripening by keeping in a very cool place. When the amount for a churning is ready it is thoroughly mixed together and ripened for a day. It is frequently best to use a "starter" in the cream, of buttermilk, or better still, fresh whole milk or skim milk heated up to 90° F., and kept in an air-tight vessel until used. The cream, when ready for churning, should have a rich, nutty taste, not like sweet cream, yet by no means acid, and it should flow in a slow syrupy stream when poured. To avoid "white caps," pour the cream through a coarse strainer into the churn.

The temperature for churning should average about 58° F., but in different seasons of the year the temperature will range from 50° in very hot weather to 64° in very cold. The temperature should be such that the butter will be in granules from the size of a half grain of wheat to the size of a whole grain of wheat in about thirty minutes. The churning should be slow and even, and produces better grain where a churn without the dash is used. The buttermilk is drawn off from the bottom through a strainer so as to save any butter that may run out. Plenty of pure, cold water is put into the churn—as much or more than the buttermilk just drawn out—and the butter washed gently. This water is strained off and more put in until the water that runs off is as clear as when put in; two washings are generally sufficient.

The butter being in this fine granular form, freely allows the escape of water in the process of working, making firm, solid butter, and it takes the salt evenly, thus preventing the mottled appearance, and giving it a clear, even color. It can be managed so that the salting is done satisfactorily direct from the churn without working, but this is not advised for general use. The amount of salt varies from one-half to one ounce per pound, according to the time of keeping and taste of consumer.

Butter, of a rich, yellow color is preferred. This is easily secured in spring and summer when cows are on good fresh pasture, and to some extent may be produced in winter by feeding such roots as carrots, etc. Some cows are much better in this way than others, but all produce a lighter shade in winter on dry feed. Butter color is perfectly harmless, being made from the hull of the anatto seed—which is as harmless as wheat—cut in olive oil or cotton-seed oil. This is the kind that most butter-makers use. By the use of this color, butter of uniform color can be made the year round; this is an important item in the market, though the butter should not be over tinted.

The manner of picking varies from tubs of sixty pounds to one pound packages, wrapped separately, in cloth or paper, but in any case the butter must be kept from anything that will impart odor, and the butter must be packed smoothly and solidly and no smearings on the outside of package. The external appearance has much to do with the buyers opinion of an article.

The scale of points for judging butter in this country is as follows: Flavor, 40; grain, 30; color, 15; salt, 10; style of package, 5.

Training the Heifer.

A subscriber who has a two-year-old heifer, that was not broken to halter when a calf and is now so obstinate as to utterly refuse to be led, asks how he shall handle her when it becomes necessary to take her on a journey.

The heifer should have been trained to lead by the halter before it was a week old, but it is probably not too late now, though the task is far more difficult. Procure a strong halter and let the heifer wear it constantly, using it for confining her in her stall. She may pull back, possibly will throw herself. If so, see that she has a comfortable bed and let her lie till she is tired of it. When she learns to stand hitched the task is half done. After that move short distances, if only from one manger or corner of stall or pen to another. Next lead her about in the stable till

she learns to follow wherever the halter indicates. Next lead her in the enclosed yard. Do not take her upon the highway till she has learned to lead within safe enclosures.

Never hitch an untrained animal behind a team, to be yanked about or dragged upon her sides. If you cannot afford the time necessary for teaching the use of halter and leading-rope, then get a low-down cage on wheels and haul her over the road by horse-power. A carriage of this kind, sometimes called an ambulance, is much used about large cities for taking cattle from place to place.

The bodies are hung so low that the animals can walk in at the rear as easily as through a stable door. But remember in future to train all calves to be led when they are but a day or two old. Prevention is better than cure.—New England Farmer.

New Butter Mold.

The Ferndale Oracle gives the following description of Andreason's new butter mold:

It consists of two parts, one of which holds the butter. The butter is solidly packed in a box, from which the sides and one end are removed when operations commence, leaving an oblong mass of butter, the thickness of a square of butter in depth and six squares wide. The bottom, on which the butter rests, is in sections. In front of the butter is a frame containing six fine silver steel wires. Five of these are perpendicular, and the other, which is separate, is horizontal. By a lever the mass of butter is brought against the upright wires, the latter sinking into it the thickness of a square of butter. Another pull of the lever pulls the horizontal wire down, cutting off the six squares and leaving them standing upright. A third pull and the squares are tipped into the paddles, from which they are taken and the cloth put on, a small table being attached to the machine for that purpose. As the squares are tipped over, a section of the bottom of the box drops out and six more squares project and are ready to cut. The box holds butter enough for 120 squares, though it can be made in any size. The machine works to perfection. Mads Madsen, of the Riverside creamery, has one in operation and has had no trouble whatever with it.

THE STOCK YARD.

Barley as a Stock Food.

[The most important contribution to recent experiments with stock feed has just been prepared by Prof. W. A. Henry, of the Wisconsin Agricultural Experiment Station, for the Chicago Breeders' Gazette. The subject is, "Barley as a Stock Food." The conclusions reached will be found of particular value in California, where barley is the principal stock feed. The article follows:]

At this station in 1890 the writer reported in "Seventh Annual Report of the Wisconsin Experiment Station," along with several other experiments, one in which a litter of seven pigs was fed a mixture of two-thirds barley-meal, and one-third cornmeal, the experiment beginning when the pigs were ten weeks old and lasting seven weeks. These seven pigs weighed 254 pounds when the experiment began. In seven weeks they gained 201 pounds and consumed 269 pounds of cornmeal and 538 pounds of barley-meal. From this we see that the pigs required 400 pounds of feed, two-thirds of which was barley, for 100 of gain. This is a most satisfactory gain for food consumed.

In the "Seventh Biennial Report of the Minnesota Experiment Station," Clinton D. Smith, Director, gives a very interesting and valuable report on feeding corn and barley, each separately, and also corn and shorts and barley and shorts to pigs. I have condensed from this report a table which I hope will be carefully studied by those who are looking for light in this direction. Five pigs were placed in each of the pens numbered 9 and 10, while six pigs were in each pen numbered 11 and 12. The average weight of the pigs at the beginning of the trial was 42 pounds. The pigs were supplied with fresh water and allowed all the charcoal, ashes and salt they would eat. The feed was mixed with water to form a thick slop. The ration of Pen 9 consisted of cornmeal alone; that of Pen 10 of barley-meal. Pen 11 had cornmeal and shorts mixed in equal proportions by weight. Pen 12 had barley-meal and shorts in equal proportions by weight. I have condensed the data as much as possible in the following table, showing results of pig-feeding experiments at Minnesota Experiment Station:

PERIOD I—FIVE WEEKS.				
	Corn.	Barley.	One-half corn, one-half shorts.	One-half barley, one-half shorts.
	Pen 9.	Pen 10.	Pen 11.	Pen 12.
Total gain (pounds).....	92	119	212	200
Food consumed (pounds).....	516	554	812	762
Pounds feed for 100 of gain.....	558	466	402	381
PERIOD II—FIVE WEEKS.				
Total gain (pounds).....	82	138	247	243
Food consumed (pounds).....	538	875	1131	1063
Pounds feed for 100 of gain.....	656	469	455	437
PERIOD III—FOUR WEEKS.				
Total gain (pounds).....	41	82	155	120
Food consumed (pounds).....	329	526	893	822
Pounds feed for 100 of gain.....	801	461	679	684

Prof. Smith reports that the pigs in Pen 9, fed exclusively on cornmeal, developed a strong tendency to lay on fat. He says:

"The pigs were short, inclined to pot-bellied, were all of them overly fat, deficient in vitality, and in every way gave evidence of the lack of bone and muscle-producing materials in their diet. * * * The pigs fed on barley alone did not show this unfortunate tendency to so great an extent. They were more active, more muscular, longer-bodied and had not the potty appearance of the pigs in Pen 9. The other four pens, although showing to some extent the deleterious effects of too close confinement at

that hot season of the year, had none of this tendency to the laying on of too much fat, but throughout the experiment were lively, vigorous and thrifty."

In the last period of four weeks there was one less pig in each pen. The deleterious effects of continued corn feeding were very marked, while barley showed more favorably. Shorts and corn in this last period came out ahead of barley and shorts in the gain made.

In the report of the Minnesota Experiment Station, already referred to, Prof. W. M. Hays reports another experiment with cornmeal and barley-meal for hogs. In this there were eight hogs in each group. The feed was given in the form of slop, the hogs having access to salt, sulphur and charcoal, mixed together in boxes. As the experiment was conducted during the summer, green feed, consisting of a mixture of oats and peas, was supplied in limited quantity. The results are summarized as follows:

TABLE SHOWING RESULTS OF FEEDING CORNMEAL AND BARLEY MEAL TO FATTENING HOGS.

Pen A—Cornmeal.....	4.7 lbs. grain for 1 lb. gain.
Pen B—Barley-meal.....	5.08 lbs. grain for 1 lb. gain.
Pen C—Cornmeal.....	6.3 lbs. grain for 1 lb. gain.
Pen D—Barley-meal.....	5.8 lbs. grain for 1 lb. gain.

Instead of being able to give the feed for 100 pounds of gain, I have given feed for one pound of gain, the original report not containing the data necessary to deduce a table uniform with the others.

At the Wisconsin Experiment Station we conducted two experiments with barley-meal vs. cornmeal for fattening hogs, as detailed in our "Seventh Annual Report." In the first trial ten hogs, 14 months old, were divided into two lots of five each. To the first lot was fed barley-meal, while the second received cornmeal. The experiment continued eight weeks, during which time the first lot of hogs consumed 2832 pounds of barley-meal and gained 601 pounds. In the same time the second lot of hogs consumed 3100 pounds of cornmeal and gained 713 pounds. From this we find that:

Lot 1 required 471 lbs. of barley-meal for 100 lbs. gain.
Lot 2 required 435 lbs. of cornmeal for 100 lbs. gain.

This shows that it required 36 lbs., or 8 per cent more barley-meal than cornmeal to produce 100 lbs. of gain. In this experiment both feeds were soaked with water. It was found that it required about three lbs. of water to properly soak a pound of barley-meal, while a pound of cornmeal required two lbs. of water—that is, the hogs did not eat their food satisfactorily unless this proportion of water was given. The hogs fed on barley-meal consumed 30 lbs. of water daily with the feed, while the hogs on cornmeal consumed 22 lbs. daily. Even with this large amount of water in the feed the barley hogs each drank two lbs. extra daily, from a separate trough, while the cornmeal hogs drank but three-fourths of a pound.

In the second trial the pigs were about five months old at the beginning of the trial. There were six pigs in each lot. Lot 1 was fed barley-meal and sweet skim-milk; lot 2 cornmeal and sweet skim-milk. The experiment lasted nine weeks, during which time Lot 1 consumed 1993 lbs. of barley-meal, 2404 lbs. of sweet skim-milk, and gained 604 lbs. In the same time Lot 2 consumed 1807 lbs. of cornmeal, 2192 lbs. of sweet skim-milk, and gained 591 lbs.

Lot 1 consumed 330 lbs. of barley-meal and 398 lbs. of sweet skim-milk for 100 lbs. of gain.
Lot 2 consumed 306 lbs. of cornmeal and 371 lbs. of sweet skim-milk for 100 lbs. of gain.

Again there is a difference of about 8 per cent in favor of the corn.

In the Rothamsted Memoirs, Vol. II (see also Vol. XIV, "Journal Royal Agricultural Society"), Sir John Lawes reports the results of experiments in pig-feeding, two of which were on the subject under discussion. During the winter three pigs were fed on cornmeal only for a period of eight weeks. During the summer another lot of about the same weight and condition were fed on barley-meal. The results are summarized in the following table:

	Cornmeal.	Barley-meal.
Average weight of pigs at beginning.....	143 lbs.	149 lbs.
Feed consumed.....	1,086 lbs.	1,644 lbs.
Total gain.....	221 lbs.	291 lbs.
Feed per 100 lbs. of gain.....	491 lbs.	564 lbs.

In most of the Danish pig-feeding experiments that have been conducted under the direction of the Copenhagen Experiment Station since the middle of the eighties, barley has formed a part of the rations tried, often as the only grain feed, and always with good results.

In the "Nineteenth Report" from this Station, Prof. Fjord gives an account of some feeding experiments with barley and corn which furnish valuable data in regard to the relative feeding value of the two feedstuffs. The experiments were conducted with 30 animals, divided into six lots of five each. The pigs were fed buttermilk and skimmed milk or whey, and, in addition, two lots received barley, two a mixture of equal parts of barley and corn, and two corn alone. The experiments lasted 80 days during the summer of 1889. The feed eaten and the average gain made per lot will be seen from the following table (Danish pound equals 1.1 lbs. avoirdupois):

LOT.	Average weight at beginning.	FOOD REQUIRED FOR 100 LBS. GAIN.				
		Butter-milk.	Skim-milk.	Whey.	Barley.	Corn.
A.....	80.4	76.8	831.3	281.7	.....	.....
B.....	80.2	71.4	818.9	1,165.0	268.6	.....
C.....	80.4	75.2	818.9	1,165.0	138.3	138.8
D.....	80.4	73.0	818.9	1,165.0	134.3	134.3
E.....	80.4	75.8	825.0	.....	.....	278.0
F.....	80.4	74.6	825.0	1,624.6	.....	275.4

The gain made on barley, or on barley and corn, was on an average somewhat larger than that made on corn, and a somewhat smaller quantity of food was required in this case for 100 lbs. of gain; but the difference is very small, and it may therefore be stated as the teaching of these Danish experiments that the barley has a similar feeding value for swine as corn so far as increase in the live weight is concerned, no matter if the barley be fed alone or mixed with corn, or if skimmed milk or whey be fed in addition. In numerous pig-feeding experiments with nearly 1700

animals in all, it has been found by the Danish experimenters that the relative feeding value of the feeds given in this experiment is about as follows: One lb. of grain (barley, rye, corn)=6 lbs. of skimmed milk or buttermilk=12 lbs. of whey. If we introduce these equivalents in the above table of food required for 100 lbs. of gain, we find Lot A took 432.9 lbs. of "calculated grain feed" to produce 100 lbs. of gain; Lot B took 405.1 lbs.; Lot C, 425.6 lbs.; Lot D, 413.2 lbs.; Lot E, 428.1 lbs.; Lot F, 423.2 lbs., or on the average we have—

Calculated grain feed required to produce 100 lbs. of gain:

Lot A and B (barley).....	419.0 lbs.
Lot C and D (one-half barley, one-half corn).....	419.4 lbs.
Lot E and F (corn).....	425.7 lbs.

On the completion of the experiments the pigs were slaughtered at the nearest pork-packing house, careful notes taken as to shrinkage in dressing the carcasses, as well as the other points of importance; the carcasses were scored by experts according to their commercial value and placed in classes I to IV; the firmness of the pork produced was designated by Nos. 1 to 4, the higher numbers including the poorer grades. The main data are condensed in the following table; the figures are averages for five animals:

LOT.	Live weight, lbs.	Dressed weight, lbs.	Shrinkage, per cent.	Firmness of pork, 1 to 4.	NUMBER OF ANIMALS IN CLASS.			
					I.	II.	III.	IV.
Lot A—Barley and milk.....	174	138	20.7	1.6	2	1	1	1
Lot B—Barley, whey.....	180	143	20.6	1.7	2	1	3	1
Lot C—Barley, corn, milk.....	175	137	21.7	1.8	2	4	1	.....
Lot D—Barley, whey.....	178	141	20.8	1.8	3	0	.....	5
Lot E—Corn, milk.....	172	137	20.3	1.7	8	0	1	4
Lot F—Corn, whey.....	178	141	20.8	1.6	3	2	.....	3
Average for barley.....	177	140.5	20.6	1.65	2.1	3	4	1
Average for barley, corn.....	176.5	139	21.2	1.70	2.5	1	.....	5
Average for corn.....	175	139	20.6	1.65	3.1	1	2	7

It is evident from these data that the quality of the pork produced on barley feeding was superior to that produced on mixed barley and corn or corn alone. The low scoring for the corn-fed pigs shows that with the combination of feeds as fed in this experiment the corn produced an inferior article compared with barley.

The corn-fed pork is the most solid, which has been regarded as a point in its favor in this country, but this does not seem to have convinced the experts on the other side that such pork is necessarily the best.

Stevens, in his "Book of the Farm," page 422, says: "Barley-meal has been proved to be the best single feed for fattening pigs and to a great extent it is necessary for the manufacture of a high quality of meat. Maize-meal may be used somewhat largely at the commencement of the fattening, but if used extensively at the latter stage, the pork is not so salable."

Reviewing the work at the Wisconsin and Minnesota stations, I should say that barley-meal is superior to corn for feeding growing pigs. By its use we avoid in a measure the premature fattening of the pig which is sure to occur where the use of corn is followed exclusively or nearly so. I do not hold that barley can be used exclusively for young pigs, but if any grain must be so used it is superior to corn in that the pig will make a natural growth for a longer period than on corn.

These same experiments seem to show that for fattening hogs corn goes further than barley, the difference being about 8 per cent in favor of corn at this station, and this is confirmed by the Minnesota work. In the Danish experiments milk and other products were fed along with the barley and corn, so that we cannot draw any definite conclusions from the work there in this particular.

Having reviewed the whole subject with much care I am led to wonder at the prejudice against barley for hogs in this country. America is populated with immigrants mainly from Great Britain and north Europe. The common feed for hogs over that whole area is barley and rye with waste products. How and in what way should the prejudice spring up in this country against a feed in such general use on the other side? That hogs have died after eating barley or barley-meal I have no doubt whatever. So have millions of horses died after eating oats, because oats is a common horse feed in this country and horses always die sooner or later after having eaten their last ration of some kind.

The teaching of Fjord's experiments in Denmark and the conclusion given us by Stevens that barley makes better pork will prove interesting reading to those who are looking toward the production of choice pork. Here and there we find a feeder who is working for a market for his own pork crop regardless of the Chicago packers. Such feeders will be pleased in knowing that both in England and on the continent barley is considered as making a superior flavored pork to corn.

R. Meade Smith in his "Physiology of the Domestic Animals," says: "The Arabs make use of barley almost solely as food for their horses and administer it in the entire condition."

Without making the charge I have wondered sometimes if the prejudice against barley for stock had not been fostered by grain-buyers and brewers, who prefer to keep grain-growers in the belief that barley grain can only be used for brewing purposes. At any rate there is a lurking prejudice, which is, I believe, without foundation, that in some mysterious way barley is injurious to stock. Any one who has traveled on the Pacific coast and seen the hard day's work done by horses on the roads there in their long journeys or the labor performed by teams in the fields and noticed the satisfaction with which horses take their rations of barley as ours at the East take their oats, and those who have fed hogs barley-meal, as we have here at our experiment station, will need no arguments to convince them that barley is a fine stock feed and that no grower need hesitate in planning to use it for feeding any kind of stock on his farm that will eat it.

THE HOME CIRCLE.

The Planting of the Apple Tree.

Come, let us plant the apple tree!
Cleave the tough greensward with the spade;
Wide let its hollow bed be made;
There, gently lay the roots, and there
Sift the dark mould with kindly care,
And press it o'er them tenderly,
As round the sleeping infant's feet
We softly fold the cradle sheet,
So plant we the apple tree.

What plant we in this apple tree?
Buds, which the breath of summer days
Shall lengthen into leafy sprays;
Boughs where the thrush with crimson breast,
Shall haunt, and sing and hide her nest;
We plant upon the sunny lea,
A shadow for the noontide hour;
A shelter from the summer shower,
When we plant the apple tree.

What plant we in this apple tree?
Sweets for a hundred flowery springs,
To load the May wind's restless wings,
When from the orchard row he pours
Its fragrance through the open doors;
A world of blossoms for the bee;
Flowers for the sick girl's silent room,
For the glad infant, sprigs of bloom,
We plant the apple tree.

What plant we in this apple tree?
Fruits that shall swell in sunny June,
And redden in the August noon,
And drop, as gentle airs come by,
That fan the blue September sky;
While children, wild with noisy glee,
Shall scent their fragrance as they pass,
And search for them in tufted grass,
At the foot of the apple tree.

And when, above this apple tree,
The winter stars are quivering bright,
And winds go howling through the night,
Girls, whose eyes o'erflow with mirth,
Shall peel its fruit by cottage hearth,
And guests in prouder homes shall see
Heaped with the orange and the grape,
As fair as they in tinted shape,
The fruit of the apple tree.

The fruitage of the apple tree
Winds, and our flag of stripe and star,
Shall bear to coasts that lie afar,
When men shall wonder at the view,
And ask in what fair groves they grew;
And they who roam beyond the sea,
Shall think of childhood's careless day,
And long hours passed in summer play,
In the shade of the apple tree.

Each year shall give the apple tree
A broader flush of rosy bloom,
And loosen, when the first clouds lower,
The crisp brown leaves in thicker shower;
The years shall come and pass, but we
Shall hear no longer, where we lie,
The summer's song, the autumn's sigh,
In the boughs of the apple tree.

And time shall waste this apple tree,
Oh, when its aged branches throw,
Thin shadows on the sward below,
Shall fraud, and force, and iron will
Oppress the weak and helpless still?
What shall the tasks of mercy be
Amid the toils, the strifes, the tears,
O, those who live when length of years
Is wasting this apple tree.

"Who planted this old apple tree?"
The children of that distant day
Thus to some aged man shall say;
And, gazing on its mossy stem,
The gray-haired man shall answer them:
"A poet of the land was he,
Born in the rude but good old times;
'Tis said he made some quaint old rhymes
On planting the apple tree."

—William Cullen Bryant.

The Memory of the Heart.

If stores of dry and learned lore we gain,
We keep them in the memory of the brain;
Names, things, and facts—whatever we knowledge
call,
There is the common ledger for them all;
And images on this cold surface traced
Make slight impressions, and are soon effaced.

But we've a page more glowing and more bright,
On which our friendship and our love we write;
That these may never from the soul depart,
We trust them to the memory of the heart,
There is no dimming—no effacement here;
Each new pulsation keeps the record clear;
Warm, golden letters, all the tablet fill,
Nor lose their luster till the heart stands still.

—Daniel Webster.

London, November 19, 1839.

An Essay on Eggs.

Written for the RURAL PRESS by C. E. B.



BOWLS are often treated as though they were good-for-nothing birds of the barnyard, yet it is hard to find a person who does not love their eggs as food. Eggs are also valuable in the arts, as well as in medicine and pharmacy. Egg-albumen, or white of the egg, is of great use in preparing albumenized paper for the photographer, and the bookbinder requires this albumen in accomplishing some portions of his work.

It is believed that eggs of the common domestic fowl were first laid in India or Persia, and the fowl is still found in those

countries in a wild state. It is domesticated as a kind of interior, useful bird in nearly all civilized portions of the globe. Eggs of domestic hens, ducks, geese, ostriches and peafowls are used for food in many parts of the world; also various kinds of sea-birds' eggs are gathered in large quantities for food. The largest eggs of which we have any record were found in the island of Madagascar, in the alluvium, about 1850. One of the eggs measures $8\frac{1}{2}$ inches on the shorter diameter and $13\frac{1}{2}$ inches on the longer. Two of the eggs are to be seen in the French academy, and casts of them are found in many large museums of the world.

The name given to the giant bird that laid the eggs is *Epiornis maximus*. From bones which have been preserved, the height of the bird is believed to have been about 12 feet, and the capacity of the egg as $8\frac{1}{2}$ quarts, or several times that of the common ostrich egg.

In many heathen countries the earth is represented as being evolved from an egg. In the Hindoo, Egyptian and Japanese systems this idea is variously modified and represented. The mundane egg is said to have been an object of worship by the ancient Phœnicians.

It is mentioned by Pliny that to break the egg-shell after the meat is out, is a relic of superstition. The intent of breaking the shell is explained by Mr. Browne as a desire to prevent witchcraft; for, lest witches should draw or prick their names therein and veneficiously mischief their persons, they break the shell.

Eggs were esteemed by the Egyptians as a sacred emblem of the renovation of human beings after the deluge. In ancient Egypt, as well as China, artificial heat was resorted to in hatching the egg. Ovens of various kinds were used for this purpose, and chickens are still raised in Egypt in vast numbers. It is stated that 93,000,000 are annually hatched in these ovens at the present time in Egypt.

When one reflects upon the subject, it would seem that the Divine hand has written nothing in rocks or stars more mysterious or grander than in the egg. The apparently lifeless, dead substance is, through heat, developed into a being that can eat and drink, or walk or fly. The mystery surrounding the egg has doubtless caused many myths in regard to it, and it has also caused its worship by tribes of Indians. In Peruvian antiquities it is mentioned that in the year 1600, Onate found on the coast of California a tribe whose idol held in one hand a shell containing three eggs, in the other an ear of maize, while before it was placed a cup of water. The old Peruvians believed that after the extirpation of the race, by famine and flood, three eggs fell from heaven which developed the then present race; one of the eggs was of gold, from which came the priests; one of silver, which produced the women, and the third of copper, the source of the common people.

Among the "wild Irish" it was a myth that "to eat an odd egg endangered the death of their horse." The superstitious negro has many fancies in regard to birds' eggs, as, "he who eats a mocking-bird's egg will be compelled to tell all he knows;" "he who eats a dove's egg will be followed by bad luck;" "the eater of a crow's egg will always be g'wine on foolish like a crow does go on, ha! ha! ha! ha!" But a partridge's egg "does make you thrive and grow fat;" dey is de onlies' sort er birds' eggs dat you kin eat without findin' 'em dang'rousome."

From the ritual of Pope Paul the Fifth it is inferred that eggs were considered by the Church of Rome as emblems of the Resurrection. An extract from one of the benedictions reads: "Bless, O Lord, we beseech thee, this thy creation of eggs, that it may become a wholesome sustenance to thy faithful servants, eating it in thankfulness to thee, on account of the resurrection of our Lord."

There are accounts of heads of families sending chargers full of hard eggs to the church on Easter to get them blessed. The priests make signs of the cross over them, and repeat appropriate prayers; also, there is sprinkled upon them holy water. These blessed eggs are to be the first nourishment taken after the abstinence of Lent.

In Hakluyt's Voyages, about 1600, it is recorded: "They (the Russians) have an order at Easter which they always observe, and that is this: Every yeere against Easter to die or colour with Brazzel (Brazil wood) a great number of eggs, of which every man and woman giveth one unto the priest of the parish upon Easter Day, in the morning. And, moreover, the common people used to carrie in their hands one of these eggs, not only upon Easter Day, but also three or four days after, and gentlemen and gentlewomen have eggs gilded which they carry in like manner. They use it, as they say, for a great love, and in token of the Resurrec-

tion, whereof they rejoice. For when two friends meete during the Easter Holydayes they come and take one another by the hand; the one of them saith, 'The Lord, or Christ is risen;' the other answereth, 'It is so of a truth,' and then they kiss and exchange their eggs."

Doubtless the present custom of staining hens' eggs on Easter is derived from a very ancient practice, coming down from the church of Rome. It is considered a remarkable fact that the freezing-point of new-laid eggs is much lower than that of the water and albumen of which they principally consist. The vitality of hens' eggs has been retained after being exposed to a temperature of 10° F. The albumen or white of the egg quickly passes into a state of putrefaction after the shell is broken and when it is exposed in a moist state to the atmosphere. Although domestic fowls are not usually raised in very large flocks, yet the few in almost every farmhouse make the aggregate large and the eggs numerous. The poultry interest in this country is very important, and the annual products are many millions of dollars. A few years since, the poultry and eggs of only one State—Missouri—amounted to \$4,213,861, and it is stated that one large county in Pennsylvania raised chickens and eggs amounting to \$2,000,000 annually, thus leading the grain and fruit interests of the same county. If the various diseases to which fowls are subject were well investigated by competent men, and remedies found for them, without doubt a new impetus would be given to the poultry industry.

The celebrated Guinod de Reyniere affirms that eggs may be served in more than 600 ways, and a French cook who published a book in London gives 150 recipes for cooking eggs; therefore, epicures may find as much variety in egg-food as in most any other kind, and the egg may be cooked in a manner so as to be easy of digestion. Certainly, there are no Rabbincial rules to interfere with the American diet as in the ancient Jewish daily life. In Exodus it is commanded that food for the Sabbath should be prepared on the sixth day. The Rabbis of old, pondering this command, raised the question whether an egg which a hen had laid on the Sabbath could be eaten on the sacred day, and decided in a strict negative, that is, if it had been laid by a hen kept to lay eggs; because, in that case, it was the result of work begun on a week day and brought to an end on the Sabbath. On this the Rabbis were unanimous, according to the statement in "Geikie's Life of Christ."

Neither could an Israelite lawfully eat even a mouthful of food that had been touched by a Samaritan. It was a subject of controversy how far a Jew might use food or fruit grown on Samaritan soil. What grows on trees or in fields was reckoned clean, but there was doubt about flour or wine. There was a question also about the egg. "A Samaritan egg as laid by the hen could not be unclean, but what about a boiled egg?"

Raw eggs are recommended by physicians as good food in cases of jaundice, and the calcined shell is esteemed as an absorbant. The white of an egg is a partial antidote for poisoning from corrosive sublimate and minerals of various kinds. The artist Gaddo Gaddi had the patience to employ himself at Florence in making small pictures in mosaic of the shells of eggs. It is said that he finished them "with incredible industry and patience."

Some dogs and even hens themselves are very fond of eggs. It is recommended that, in order to break this habit in the former, the contents of the egg should be expelled by making a pin-hole in each end and blowing it out. Then one end is stopp'd up with wax and strong spirits of ammonia is poured in, and the other end of the egg sealed; then put the egg where the dog may see it and crush it in the mouth. Few dogs will "disremember" such a dose. To cure a hen from eating eggs, pepper may be used. Break an egg and dust cayenne pepper below the yolk; then turn the egg round so the fowl may not see the pepper, and leave the egg in the nest. Several doses will usually break up this habit and leave eggs to be devoured by human beings.

A Western Tragedy.

The Saunterer has a friend on the staff of a Western newspaper with whom he often exchanges interesting clippings. The latest bit received at this office was the following, cut from a small paper published in North Dakota: "The many friends of Mrs. E— will be pleased to learn that she is not in serious danger, as the shock is not so severe as at first supposed. The particulars of the unfortunate affair are interesting. It seems that Mrs. E—, while going upstairs, saw a mouse run behind a barrel. Her cries were

heard by the hired man, who hastened to the scene armed with his gun and followed by his faithful bulldog. Mrs. E— then took courage and poked the barrel with her broom. The mouse ran out, the dog started in pursuit, the hired man fired, the dog dropped dead, Mrs. E— fainted, and the hired man thinking he had killed her and that he would be arrested for murder, took to his heels and has not been heard of since. The mouse escaped."—Boston Budget.

Care of Draperies.

There are so many kinds of material used in these draperies that a general rule will not answer for their care, writes Maria Parloa in a timely article on "Closing the House for Summer" in the *Ladies Home Journal*. Muslin, lace, scrim, etc., should be washed and rinsed carefully, dried in the sun, folded and put away "rough dry." Of course, very fine lace draperies should go to the cleaners. It may be that some of the lace curtains will not require cleaning, in which case gently shake them, to remove all dust; then fold them carefully and put them away wrapped in a clean sheet. Heavy draperies of silk, linen, woolen or cotton should be thoroughly shaken in the air. Let them hang on the line (in the shade, if possible) for an hour or two; then fold them smoothly, pin them in sheets and place in drawers or boxes. If the draperies are woolen they should be sprinkled with naphtha, but if of silk, linen or cotton this will not be necessary. However, if buffalo-bugs have appeared in the house at any time, it would be a wise precaution to sprinkle naphtha over the sheet and have the creases in the box or drawers saturated with it. It must be remembered that these heavy draperies are to lie folded for several months; therefore it is important that the greatest care be taken in folding them, that there shall be no unnecessary creases.

Debts of Nations.

A prominent New York banking company has recently published an approximate statement of the debts of the principal nations of the civilized world:

Great Britain and Ireland owe about \$3,350,000,000, less sinking fund—\$87.79 per capita.

France owes about \$4,446,000,000, less sinking fund—\$116.35 per capita.

Prussia owes about \$1,109,000,000, less sinking fund—\$37.03 per capita.

Spain owes about \$1,251,000,000, less sinking fund—\$73.85 per capita.

Italy owes about \$2,324,000,000, less sinking fund—\$76.06 per capita.

Austria-Hungary owes about \$2,866,000,000, less sinking fund—\$30.79 per capita.

Russia owes about \$3,491,000,000, less sinking fund—\$30.79 per capita.

The United States owes about \$1,500,000,000, less sinking fund—\$13.84 per capita.

About 770,000,000 people of all other nations besides ours have a debt of about \$26,000,000,000, or \$33.30 per capita, and \$750,000,000 to \$1,000,000,000 gold in sight to pay it, or about \$1 per capita.

The Plucky Schoolmarm.

Miss Julia Secher, of this city, a young woman eighteen years old, teaches school at Leo, a small village fifteen miles north of this city. She is in the habit of coming home every Friday in a stage and returning Sunday evening with some of the farmers that come to the city for church. Last Sunday afternoon none of the farmers from her district had been in, and the liveryman would not hire a vehicle to go such a long distance when such good sleighing business was being done in the city. Realizing that she must be there Monday morning, she started on foot at four o'clock Sunday afternoon and walked the entire distance, reaching her boarding place at Leo at nine o'clock in the evening. —Fort Wayne Dispatch to Indianapolis Journal.

Organs Lost by Disuse.

It is a suggestive fact not always sufficiently considered that "as soon as any organ or faculty falls into disuse it degenerates and is finally lost altogether." Through all the ages that man has had the power of speech, this power has not been fixed in us in any degree whatever by heredity. It is regarded as definitely proved that if a child of civilized parents were brought up in a desert place and allowed no communication whatever with man, it would never make any attempt at speech. Up to the last century it was not uncommon to find persons living in a wild state in the woods and forests of England, France, Germany and Russia, who were utterly incapable of speech, though they could make sounds in imitation of the cries of wild animals. Certain parasitic insects have so completely degenerated that

they possess neither eyes, legs, heads, mouths, stomachs nor intestines. Animals that live underground lose the power of sight or have eyes that are merely rudimentary. Slave ants and working ants have lost their wings through being kept entirely to a life on the ground. The masters in some colonies of ants in which slaves are kept have become so hopelessly dependent on their slaves that they not only will not seek food, but are incapable of feeding themselves, and will starve with food before them unless a slave is present to place it in their jaws!—Leisure Hour.

The Mystery of the Universe

God is the incomprehensible idea. This idea exists in man. Syllogisms, quarrels, negations, dogmas and religions pass over it without diminishing it. This idea is fully affirmed by the darkness; but everything else is disturbed. Formidable immanence. The inexpressible union of forces is shown by the maintenance of all this obscurity in equilibrium. The universe is suspended and nothing falls. Incessant and tremendous displacement occurs without accident and without fracture. Man participates in this movement of translation, and the amount of oscillation which he sustains he calls destiny. Where does destiny commence? Where does nature end? What is the difference between an event and a season, between a grief and a rain, between a virtue and a star? Is not an hour a wave? The systems of the universe continue without being accountable to man for their impassable revolutions. The starry Heaven is a vision of wheels, balances and weights. Such a supreme contemplation, reinforced by supreme meditation. Such is the whole of reality plus the whole of abstraction. There is nothing beyond. One feels one's self grasped. One is at the mercy of that darkness. No escape is possible. One finds one's self a part of the mechanism, an integral part of the unknown whole; one feels the unknown within one mysteriously fraternizing with the unknown which lies beyond.—Victor Hugo.

Ways of Cooking Eggs.

A few drops of vinegar in the water for poached eggs makes them set properly and keeps the white from spreading.

A squeeze of lemon improves scrambled eggs. It should be added while they are cooking.

Asparagus tops are nice in an omelette. Toast spread with pate de fois gras and covered with scrambled eggs is a fine lunch dish.

Cold fried eggs can be used for salad or revamped by dipping them in fritter batter and frying. Fresh eggs taken from the shell and boiled in half a pint of rich cream, seasoned with salt and pepper, is a delicious breakfast dish. They should only cook two minutes in the boiling cream.

Stewed tomatoes, grated cheese and a couple of chopped-up boiled sausages is a fine sauce to serve with fried eggs.

Any sort of an omelette can be made by the addition of either sardines, tomatoes, oysters, ham, cheese, kidney, mushrooms or macaroni, or, in fact, whatever one desires or has on hand. —New York Recorder.

Coughs and Their Cure.

There are few disorders more teasing to the sufferer and to those about him than a cough, writes Elizabeth Robinson Scovil in the second of her series of articles on "Life in the Invalid's Room" in the *Ladies' Home Journal*. A slight hacking cough is often a bad habit; when it is at all under the control of the will it should be sternly repressed. Sometimes the uvula, the pendulous part of the soft palate, at the back of the mouth, becomes relaxed, the point touches the tongue, producing a tickling sensation, which requires a cough to relieve it. A little dry tannic acid put in a quill and blown on the uvula will contract it, or half a teaspoonful of the powder, mixed with two teaspoonfuls of glycerine, stirred into half a glass of warm water and used as a gargle.

When a cold has been taken and there is cough with soreness of the chest, bed should be prescribed for fear of a severe attack of bronchitis. Soak the feet in a pail of hot water in which is dissolved three tablespoonfuls of mustard, and rub the chest with warm camphorated oil.

Unsophisticated.

"I don't like your milk," said the mistress of the house.

"What's wrong with it, mum?"

"It's dreadfully thin, and there's no cream on it."

"After you've lived in the city awhile, mum," said the milkman encouragingly, "you'll git over them rooral idee's o' yourn."—Chicago Tribune.

YOUNG FOLKS' COLUMN.

The Ox Team.

I sit upon my oxen team, calm,
Beneath the lazy sky,
And crawl contented through the land
And let the world go by.
The thoughtful ox has learned to wait
And nervous impulse smother,
And ponder long before he puts
One foot before the other.

And men with spanking teams pass by
And dash upon their way,
As if it were their hope to find
The world's end in a day,
And men dash by in palace cars,
On me dark frowns they cast,
As the lightning-driven Present frowns
Upon the slow old Past.

What do they chase, these men of steam,
Their smoke-flags wide unfurled,
Pulled by the roaring fire fiend
That shakes the reeling world?
What do ye seek, ye men of steam,
So wild and mad you press?
Is this, is this the railroad line
That leads to happiness?

And when you've swept across the day
And dashed across the night
Is there some station through the hills
Where men can find delight?
Ah, toward the Depot of Content
Where no red signals stream,
I go by ox team just as quick
As you can go by steam.

—S. W. Foss, in the Yankee Blade.

A Y's Farmer.

The *Whitehall Times* gives a somewhat circumstantial account of an enterprising agriculturist, with much economy of type:

There is a farmer who is Y's
Enough to take his E's,
And study nature with his I's
And think of what he C's.

He hears the chatter of the J's
As they each other T's,
And Z's that when a tree D K's
It makes a home for B's.

A pair of oxen he will U's,
With many haws and G's,
And their mistakes he will X Q's
While plowing for his P's.

In raising crops, he all X L's,
And therefore little O's,
And when he hoes his soil by spells
He also soils his hose.

"Lucky," or "The Black Cat."



OLONEL Archibald Andrews was a quaint-looking little old man who presented a weird appearance when seen with a black cat at his heels. People often called him a "witch" and would glance at the black cat and smile. Yet there was nothing strange about the old man except the cat. He was a jolly, good-natured little old fellow and generous to a fault. Then, too, he was president of the C. C. & A. Railroad, which was proof enough that he was of the earth earthy. Suppose he was a little superstitious; were not Lincoln, Calhoun and many of our illustrious men superstitious?

When Archibald Andrews was only two years old changing fortune numbered his parents among the poor. This was indeed a sad trial to Rupert Andrews and his young and bonny wife, who had been reared in ease and luxury.

Only two of the family servants were left them, Uncle Tom and Aunt Cloe, and it would have been cruel in the extreme to have taken them from the young mistress, though they were so old as to be more helpless than helpful.

They moved from their palatial home to a little farm on the suburbs of the town, in a tumble-down looking house that was infested by rats and mice, which held grand feasts at night and boldly scampered across the floor in the daytime. They called their new home "Poverty Hill."

Ruth Andrews bore this overwhelming reverse of fortune with much more fortitude than did her husband. It called forth all her strength and energy, while her spirit seemed broken.

Ruth took all the home work on her hands, besides what sewing she could do for the neighbors, much to Aunt Cloe's horror, for she "jest knowed Miss Ruth was gwine to kill herself."

Uncle Tom and Aunt Cloe went to the field with Mars Rupert and worked hard that their young mistress might not feel so poor, but the yield was a pitiful amount and in striking contrast to the princely income they had once enjoyed.

They had been at "Poverty Hill" three years and their prospects had not been brightened; indeed, if anything, they were

worse. Uncle Tom was dead and Rupert's health was bad. Christmas was drawing near and Ruth was sorely perplexed to know how to give little Archie a pleasant Christmas when they only had enough to barely keep from starving.

The noble little boy had been so good, seeming to understand their condition, and never once asking for biscuit. When they had only cornbread to eat Ruth did not care for herself; she could stand anything, but it grieved her heart to have her little son eat their plain, coarse food for want of better.

"Where are all the rats, Aunt Cloe? We haven't seen one for a week," said Archie, a few days before Christmas.

"Dunno, honey; specks your pa has writ 'em a letter."

"A letter! Why, what do you mean?"

"Well, honey, when folks don't have no cat, en rats git bothersome, ef you'll jest set down en writ 'em a letter en tell em where to find a big crib full of corn, why, dey'll go to it; dat is, if dey don't have ter cross water."

The next morning when Archie opened the door the first thing to greet him was a large and beautiful black cat, with soft, glossy fur and white feet and throat. Archie was delighted and resolved to keep it if it would stay.

"I know now why the rats disappeared, Aunt Cloe; it was this cat slipping around at night," said Archie.

"Dunno, honey, but it's good luck for a cat to come to yer house, specially a black cat. A cat like er witch, dey's got seben lives; ef you treats 'em well dey'll bring you good luck; ef you treats 'em bad dey'll bring you bad luck. Dey beats all de horse-shoes."

It really seemed as if the cat had brought good luck, for Ruth received lots of sewing that day, paid for in advance. In the spare room on the bed Ruth found five dollars! Where it came from was a mystery, for no one had been in the room for weeks except herself. She enquired of all who had been there, but they denied having missed any. Aunt Cloe was confident the black cat brought it, so they called him "Lucky."

And what a merry Christmas Archie and Lucky did have!

Lucky was fond of Archy and followed him like a dog. If Ruth wanted the broom Lucky would come dragging it between his teeth.

One day the train was so late in coming that Archie grew tired and fell asleep on the track. Lucky seemed to scent danger and ran to the house meowing, and, pulling Ruth by the dress, started back. Ruth hastened with all her might, fearing something was wrong, but Lucky was far in advance. The train was coming, and as she approached the railroad she beheld Archie asleep on the track with Lucky pulling at his dress with his teeth and scratching with his claws! Ruth was like one in a trance, for she knew she could not reach him in time. Fortunately, Lucky's scratches aroused Archie and he pulled himself just a little way off the track as the train went by. After that there never was so much fussing and petting over another cat as there was over Lucky. He wore a pretty collar and went wherever Archie did, and you may be sure Mr. Mousie never dared to show his face at "Poverty Hill" again. Fortune seemed to smile on the Andrews from the day Lucky appeared. "Poverty Hill" was soon the admiration and envy of all the country around.

Lucky lived a long and useful life, and a marble slab marks his grave.

Archie is an old man now and president of a railroad, but he still has a black cat which follows him in his car and everywhere. Though he does not freely admit it, he attributes all his good luck to cats, and of course he owes his life to one black cat.—Laura Lorney in the New York Tribune.

Truth.

Truth is beautiful, as well as safe and mighty. In the incident related below, a boy twelve years old, with only truth as a

weapon, conquered a smart and schrewd lawyer who was fighting for a bad cause.

Walter was the important witness in a lawsuit. One of the lawyers, after cross-questioning him severely, said:

"Your father has been talking to you and telling you how to testify, hasn't he?"

"Yes," said the boy.

"Now," said the lawyer, "just tell us how your father told you to testify."

"Well," said the boy modestly, "father told me that the lawyers would try to tangle me in my testimony, but if I would just be careful and tell the truth I could tell the same thing every time."

The lawyer didn't try to tangle up the boy any more.—Observer.

DOMESTIC ECONOMY.

Tested Recipes.

Prepared for the RURAL PRESS by ADA TAYLOR SEGRET.

Strawberry Float.—Sprinkle thickly with sugar one quart of ripe strawberries, and mash lightly. Place a soft, delicate sponge cake in a deep dish, pour the berries over it, and pile high on top whipped cream. Set on ice half an hour before serving.

Peach Pudding.—One quart of peaches, one cupful of sugar—through which has been mixed thoroughly two tablespoonfuls of flour—butter the size of an egg. Put in a baking pan and cover with a rich crust. Bake one hour. Eat with cream and sugar.

Apple Charlotte.—Cut ten sour apples into quarters and peel; put them in a kettle and cover with boiling water; add two cupfuls of sugar, and stew until they are clear. Line a large dish with slices of sponge cake, put the apples over, and set in the oven for 20 minutes; take out, cover the top with thin slices of sponge cake, and serve with sweet lemon sauce.

Chocolate Pudding.—Boil four ounces sweet chocolate in a quart of milk; when dissolved, pour over a pint of bread crumbs and let stand for an hour or so. Mash the bread until perfectly smooth. Add four well-beaten eggs, a cupful of butter, two of sugar, a little grated nutmeg, a cup of stoned raisins, and another of blanched almonds. Steam for an hour.

A Cherry Tart.—Line a pie tin with rich puff paste. Mix one tablespoonful of flour and one small cup of sugar thoroughly together. Fill the tin with fresh cherries, stemmed and seeded, and pour over them the sugar and flour, and lightly stir together. Put small lumps of butter on top and bake in a slow oven. When done, beat the whites of two eggs to a stiff froth, add two tablespoonfuls of sugar, and spread over the tart. Return to the oven and brown slightly.

Lemon Pie.—For one pie take the yolks of three eggs, juice of one large lemon, one heaping cupful of sugar, one cupful of water and one-half cupful of flour. Mix the sugar and flour together. Beat the yolks light and add the lemon juice, sugar and flour. When beaten thoroughly, pour the water over boiling hot, set the basin in hot water and stir till thickened. Pour in a pie tin lined with puff paste, and bake till the crust is done. Beat the whites of the eggs to a stiff froth, add one-half cup sugar, cover the pie and brown nicely.

Veal Croquettes.—Take two pounds of the veal from which the soup was made, chop fine, removing all gristle and fat. To every pint, allow a half pint of new milk, one teaspoon of butter, one of chopped parsley, two of flour, one of finely minced onions, one of salt, half a grated nutmeg, a pinch of cayenne and a little black pepper. Put the milk in a saucepan and set it on the stove; rub the butter and flour together, and stir in the boiling milk. When thick, take from the fire, add the chopped meat, and beat until well mixed; put in the seasoning; spread out on a large dish to cool. When firm, form in croquettes. Dip first in beaten eggs and then in bread crumbs, and fry in boiling fat. Serve hot, garnished with parsley.

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Applications of Electricity to Agricultural Work.*

NUMBER 4.



THE general adaptability of the electric motor for service in various kinds of farm work has been discussed in former papers, and a number of illustrations have been given, showing methods of applying electricity to the hoisting and pumping apparatus and to a number of miscellaneous machines used in ordinary farm work. It remains to discuss in this article the application of electricity to moving machines and vehicles.

It may be well to follow up the original outline of this subject and consider the three heads, viz.: (1) Railway lines on country roads; (2) tramways connecting farm buildings, and (3) miscellaneous vehicles such as carriages and field machines of all kinds to which electricity is now considered or may ultimately be found to be applicable.

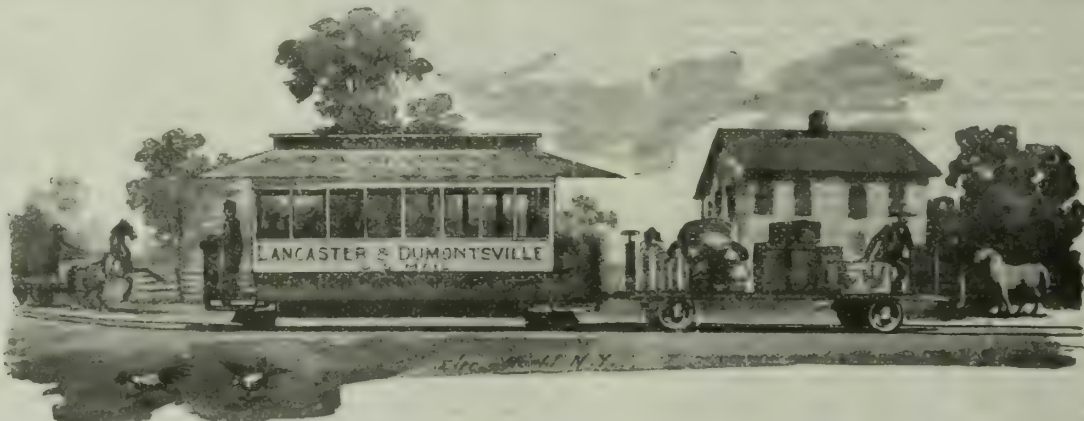
In our first article reference was made to the articles on the subject of electric railways for country roads, by Wm.

for instance, are not only large consumers of produce that must be hauled in from the surrounding country, but are also in turn producers of a great variety of manufactured articles that must be transported, usually by primitive means, to the nearest steam railway station. Our illustration has been made from the consideration of an actual location of an institution of this kind in one of our Western States. Electric railways running through country districts would, of necessity, be equipped for both freight and passenger traffic, and in considering the question of the actual profits upon an investment in roads of this kind it must be borne in mind that although at first, even perhaps in the best localities, only a sufficient business would be obtained to pay for the investment, nevertheless the increased facilities offered for the rapid and frequent transportation of passengers and freight would lead, ultimately, to a very greatly increased business of this kind. Not the least point to be considered is the use that could be made of roads of this kind for the transportation of United States mails and for their rapid and frequent delivery in country districts. As soon as the isolated character of the farm gives way to a service of communication between the larger towns and cities that shall be rapid and frequent, just so soon will the proverbial congestion of the great mass of our population in large cities be supplanted by a more nearly equal and uniform distribution of the people throughout the best parts of the country.

Nothing has here been said about the importance of

preference to a macadamized road are that transportation would be much more rapid, that the road would be more serviceable to a greater number of people and could be used for a greater variety of purposes, and that, in addition to its service as a line of transportation, it would be able to furnish to farms along the line whatever power was necessary for stationary machines. This business of the general distribution of electric power in country districts for performing work that is now done by man or beast would ultimately become not only of the greatest importance in the development of the country, but a most profitable source of revenue to the company. An opportunity for ascertaining to just what extent service of this kind will be called for will doubtless be furnished upon the completion, in the not distant future, of the electric railway line between Chicago and St. Louis. Whatever variety of current, alternating or direct, may be used in the operation of this road, the distribution of power by direct current of the proper voltage will be entirely feasible, and indeed the company's prospectus shows that it is counting upon this business to produce for it, ultimately, a very large revenue. If multiphase currents are used, motor transformers can be called into service for transforming the current of the railway company's feeders into that needed on the motors used in the farming districts.

It is unnecessary to discuss to any great extent the introduction and use of electric tramways for the purpose of connecting the different buildings on some of the large



FIGS. 1 AND 2.—THE ELECTRIC RAILWAY ADAPTED TO RURAL SERVICE.

Nelson Black, which have appeared in the columns of the *Electrical World*. A general discussion of this subject was contained in these articles. Some illustrations are given herewith, showing what services such a system of country roads might, in certain localities, be expected to furnish. One of the illustrations shows an electric road in a country district utilized for the transportation of lumber from the sawmill in the vicinity. In this case electricity also furnishes the power for the operation of the sawmill, a work which, of course, is not unusual for the electric motor. A number of instances where electricity is used for the operation of sawmills could be described, the most striking of which is probably that in use on the World's Fair grounds at Chicago, where no less than 11 different sawmill plants are in use, driven from current supplied from a single central station. In Oregon and Washington several electric roads have been built into timbered regions, and are used not only for hauling lumber, but for passengers and freight.

Another instance of what might be expected of the electric road running through country districts is shown in a second illustration on this page. Here, among other things, the road is used for the transportation of farm produce to a large county institution. Establishments of this kind

electric railways running through the country as feeders to the steam roads already established, and which would, in hundreds of instances that might easily be pointed out, be converted by this method from non-dividend paying properties into profitable investments. This is a subject which has recently claimed the attention of the public to a very large extent in connection with the agitation now going on for what has been rather indefinitely called "good roads." This is indisputable proof that good roads are regarded by the best-informed railroad men as an advantage to the steam railroad, simply because wherever

Western farms. Work of this kind would be identical with this class of service now so admirably performed by electric tramways in mill and factory yards for transporting either the raw material or the finished product. Current for these tramways could be taken from the lines of the electric railway connecting the different farms, and the amount consumed could, of course, be determined and charged for by using any one of the well-known forms of electric meter.

Leaving tramways aside, a word is necessary regarding the electric carriage for the ordinary macadamized or



FIG. 3.—AN ELECTRIC FOUNTAIN FOR THE COUNTRY.

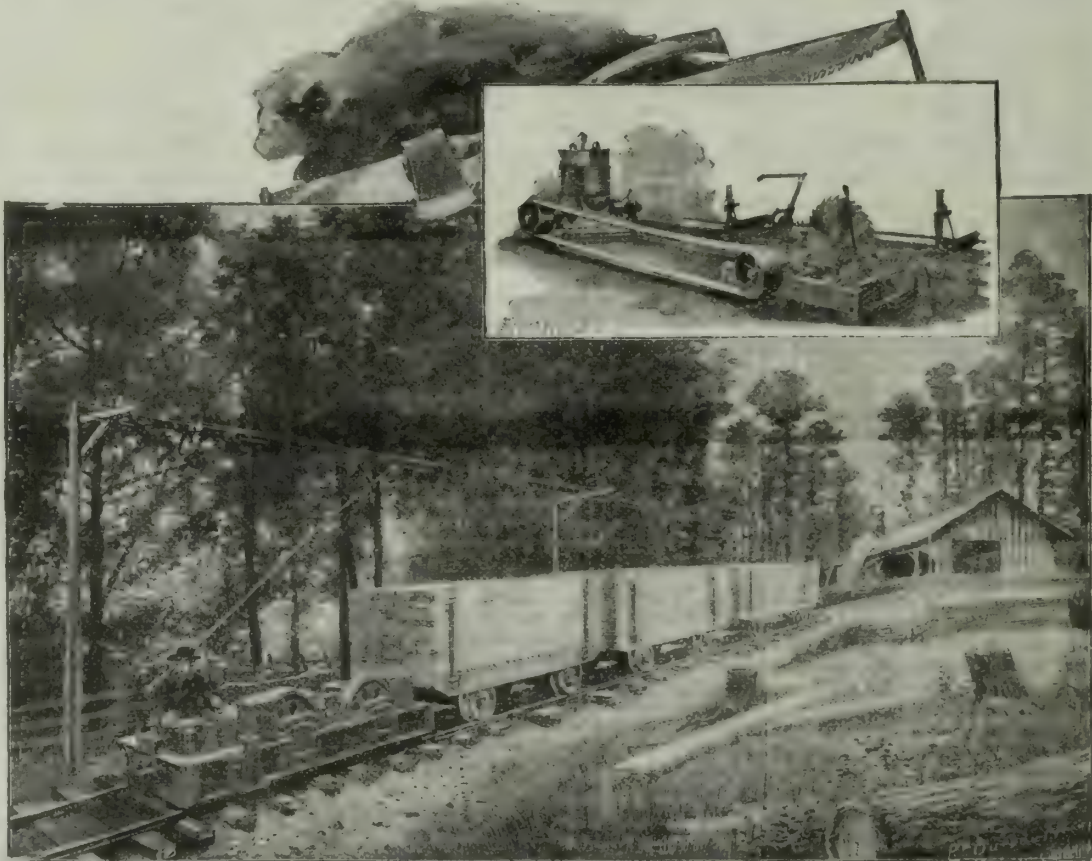


FIG. 4.—A COUNTRY TRAMWAY, SHOWING ONE OF ITS USES.

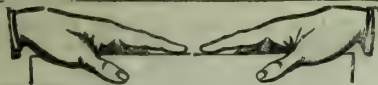
are usually large consumers of products raised on the neighboring farms, and it is almost always the case that they are so situated that all sorts of transportation, both to and from the institution, must be done by horses and wagon. It very often happens that boys' industrial schools,

they exist they open lines of travel and transportation which ultimately become feeders to the steam railroad. If this is true of the ordinary macadamized road, there is no doubt about its being true of the electric road, which might be constructed for less money over the same route.

The great additional advantages to be obtained by the construction of a tramway over a country district in

common country road. Some of these have already been constructed and operated with success in different parts of the country. Ordinarily a motor is attached to the carriage, to which current is supplied by storage batteries carried under the seat. Carriages of this kind would, of course, be entirely practicable in country service and the batteries could be charged from any suitable source.

* In a series of five articles reprinted from the *Electrical World*, New York.



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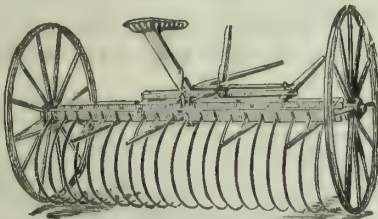
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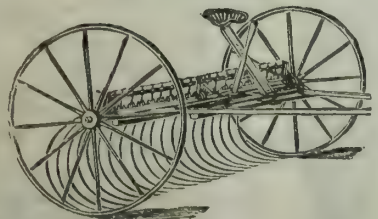
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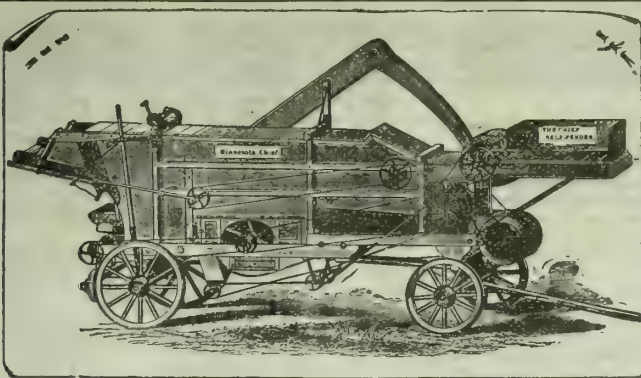
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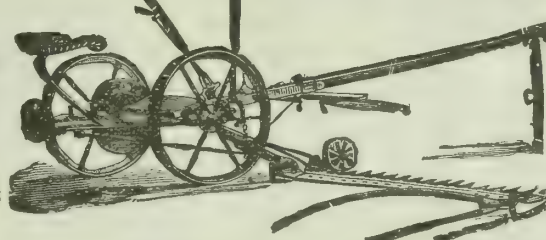
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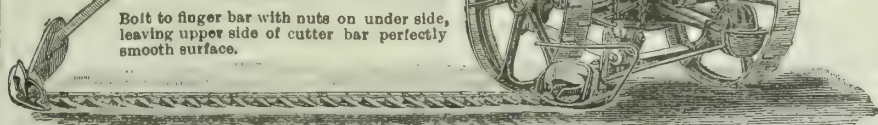
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AGRICULTURAL NOTES.

CALIFORNIA.

Butte.

Mr. Phillips of Wyandotte is planting 1500 orange trees at that place.

Chas. Bloomfield of Clear Creek planted this spring 3000 Mission olive trees, and all are starting to grow, not a single tree having died. The Clear Creek locality is admirably adapted to the olive, orange, fig and lemon.

Palermo Progress: A new pest has made its appearance at Palermo, and is causing the orange-growers a great deal of annoyance by boring into and destroying the bark of their trees. If not prevented, they will completely girdle the tree, which means its destruction. W. W. Gillet succeeded in stopping their depredations by applying a heavy coat of whitewash to each tree.

Chico Chronicle-Record: From H. Vermett we learn that 200 acres of land on the Parrott grant have been cleared of timber, and the land has been thoroughly cultivated and put in shape for the planting of an olive grove. The entire 200 acres will be set to olive trees. This will be a big increase in the acreage of olives in Butte. The land to be set to olives is alongside the upper lake, just below the home buildings on the Parrott grant, and the soil here is a rich alluvial and should produce a first-class olive, which would turn out a big yield of oil.

Register: D. K. Perkins drove down to Palermo, Honcut, Central House and Gridley this week, and says the crops on the lowest lands are very poor on account of amount of water this winter. On lands that are a little higher the crop promises well, but taken altogether he thinks there will be much over half the ordinary crops this season. The hay crop will be short unless rains come at once to help out. At Gridley he saw several new buildings being erected, and there was an air of stir and bustle which showed much business industry.

Oroville Register: The outlook for fruit is somewhat mixed, judging from the various reports. The apricot crop by one man is reported a total failure, and by the next a partial crop at least. One says the curl leaf is certain to cause a great loss in peaches, while another says not a single one of his trees is affected. One says the prune crop will be light, and the next swears it will be heavier than an iron-clad mortgage bearing ten per cent interest. One man told us this week that the prospect of his orchard was never better for all kinds of fruit, while the very next man we met had a face longer than the bill from a grocery store at the end of a year, and said that his apricots were not in bearing, that his peach trees had the curl leaf, and that his almond trees were dying. So the different reports come. It is certain that on very low or wet land there will be some loss in trees, that the apricot will not be a full crop, and that there will be some loss from curl leaf. Taken as a whole, however, it appears to us that unless some disaster occurs the fruit crop will be above the average this season.

Humboldt.

Rohnerville Home-Journal: At least 14 less coyotes will remain to prey upon the flocks in southern Humboldt. Very recently, Young Phelan, an Arkansas hunter in the Yager region, killed eight of these varmints, and a young man in the same section, whose name is given as Felby, permanently quieted six more. The county bounty on these pests of the range is \$16, one dollar of which goes to the magistrate before whom the required affidavit is made.

Arcaia Union: The band of steers raised on the ranch of L. C. Tuttle, near Garberville, now at Vance's on Mad river, were weighed and measured last Wednesday. The band is composed of 17 head. The smallest measurement was 7:6, and the largest 8:3. The cattle are grass fed, and averaged, gross weight, after a rough drive of 14 days, 1722 pounds. They were bought for work oxen, but the steam donkey having done away with the use of oxen, they will be used for beef. How cattle can keep as fat as they are, on an open ranch where it has rained and snowed almost continuously for the past five months, is one of the possibilities of Humboldt that is hard to explain.

Kern.

Californian: The orange orchards of San Emidio are now in full bloom, and the prospects for a heavy yield next season are very excellent.

Californian: A very attractive box of large, fully matured strawberries, Jessie variety, was brought into the office of the Land Company this morning. The berries came from the experiment garden in charge of Mr. Cruikshank. That experimental station, by the way, is destined to prove of great practical value, particularly in demonstrating that we do not have to wait for four years to get something eatable out of our lands, as they are so willing to demonstrate in the East. The berries in question were planted the 16th of March; consequently a first-class crop of strawberries can be produced within from five to six weeks.

Los Angeles.

The following statement of the shipment of fruit trees from the Pomona nurseries for the month of April is reported by the inspector, T. B. Atkinson:

Olive trees.....	66,853
Orange trees.....	38,141
Lemon trees.....	10,495
Prune trees.....	2,624
Total.....	109,113

Mendocino.

Chester Ayres, with traps baited with cotton saturated with a nostrum whose odor is pleas-

ant to the nostrils of coyotes, has been able to capture and kill within five weeks 46 coyotes in Mendocino county, whose scalps bring him near \$1450, the bounty from the county and the sheepmen.

Statistics at hand place the number of sheep in Mendocino county at 250,000. Just now sheep men are busy herding their flocks in closures for the purpose of marking lambs, and this is the annual occupation that develops the losses from severe weather and ravages of coyotes. The estimate made 25 per cent loss in spring lambs, half of which is attributed to the coyotes.

Monterey.

Pajaronian: The Moro Cojo ranch is in fine shape this year. The ground was never in better condition, and it is as free from weeds as a choice orchard. About 400 acres of the ranch will be put in beets—the smallest acreage of that crop it has had since the management of W. V. Gaffey—and the balance will be put in potatoes. Mr. Gaffey thinks this should be a good potato year on the ranch.

Watsonville Rustler: White & DeHart's box mill is running on orders for cherry boxes. Most of these boxes are made out of spruce. The mill has a busy season before it, and already has a large line of orders secured. All indications point to a big demand for boxes in the Pajaro valley this year.

Orange.

The Anaheim beet-growers have decided not to try to complete their co-operative beet-sugar factory in time to handle this season's crop, but will plant about 1200 acres and deliver the product at the Chino factory. They expect to have the factory ready for the next year's crops, if the industry still promises well.

Santa Ana Blade: Hay-making is now being carried on in the valley to such an extent that there is not an idle man to be found who is willing to work. In fact, from this time on there will be plenty of work in the Santa Ana valley for all who understand farming. Following hay-making comes the harvesting of barley, and that means work for an army of men.

Santa Ana Blade: The scale spoken of in the Blade the other day as attacking the walnut trees in certain places in this locality is reported as the frosted scale and believed by horticulturists to be harmless. I. N. Rafferty, one of the Horticultural Commissioners, has examined the scale and says it has existed on deciduous fruit trees for several years, and so far has worked no harm.

Anaheim Gazette: B. H. Hiss and J. B. Giel, who have in 65 acres of sugar beets on the Culton place below town, are in common with the other beet raisers of the neighborhood, engaged in thinning their crop, and during the week have had 16 men at work in their field. Both gentlemen have raised beets successfully at Chino, and say that their present crop looks better than any beets raised at Chino last year. They expect a yield of not less than 20 tons per acre, and look for an average of about 15 per cent of saccharine. This will give them \$94 per acre, and we hope they will get all they expect. It costs them \$8 per acre to thin, and their beet patch is one of the busiest places in the county.

Placer.

Republican: E. O. Smith, as president of the Auburn Co-operative Fruit Growers' Association, received a letter from J. Z. Anderson, of San Jose, one of the largest fruit shippers in the State, offering to make contracts for the entire fruit crop of the company. Letter was put before the managers, who decided not to accept. Below we publish the sums offered, as showing the practical state of the market at the present time: Cling and freestone peaches, packed in 4½-inch boxes, two tiers to the box, 60 cents; in 5-inch boxes, two tiers to a box, 70 cents. Grapes—Rose of Peru, Muscat, Black Hamburg and Black Morocco, single crates, 50 cents; Tokay, Emperor and Cornichon, single crates, 75 cents. Pears—Bartlett, \$1.25 per box; other varieties, \$1 per box. Plums and prunes—Kelsey Japan, 90 cents per crate; Hungarian prunes, 80 cents per crate; shipping plums and prunes, other varieties, 75 cents per crate.

Riverside.

Riverside cor. to Los Angeles Express: Probably the largest rose tree in this part of the State is on the ranch of J. M. Edmiston, on West Central avenue. It is 9 feet high, 16 feet through the branches, and the trunk is 28 inches in circumference. When in bloom it is a wonderful sight.

San Bernardino.

Between 300 and 400 acres have been planted to deciduous fruit trees in and near Ontario this season—the same territory heretofore having been largely occupied by citrus fruit planting.

The summary of orange shipments from Ontario for the season, by months, is as follows:

	Boxes.	loads.
December.....	1,839	7
January.....	3,119	11
February.....	3,265	11½
March.....	9,457	34
April.....	24,110	86
Total.....	41,890	149½

The Supervisors of San Bernardino county have passed an ordinance relative to the raising, grazing, herding and pasturing of sheep, and have placed the license as follows: For 5000 sheep, \$500 per annum; each 1000 over 5000, \$25; 4000 and less than 5000, \$400; 3000 and less than 4000, \$300; 2000 and less than 3000, \$200; 1500 and less than 2000, \$150; 1000 and less than 1500, \$100; 500 and less than 1000, \$50; under 500, \$25.

Chino Champion: The beet crop on the Chino

ranch has never looked better than it does now. The past week has been splendid growing weather, and the beet fields are beginning to present a fine appearance, with their covering of bright green foliage. Thinning is going on with large forces. While Mr. Gird does not have as many thinners as at some times last year, more of the other farmers are running large gangs. W. A. Johnson, W. A. Lyell and several other farmers are farming beets this year on a large scale, and are working big forces of men and boys.

Citrograph: Information gleaned from the residents and horticulturists of this section seems to indicate favorable prospects for fruit. While the apricot outlook may be a little lighter and crop later, still the quality will be much improved over that of other seasons. Peaches are looking unusually fine and a heavy crop is predicted. The hay and grain crops never were better in the memory of the oldest inhabitant. The outlook for deciduous fruits is very favorable this season, which fact has stimulated extensive improvements in the packing and canning industries of this city.

Santa Clara.

Los Gatos cor. to Mercury: The crops on neighboring ranches promise to be excessively productive of results, and this fact more than ought else gives a sense of security to all branches of trade. In fact, Los Gatos bids fair to outdo herself in the near future and will attract many people the coming season who will add cash benefits to her daily increasing prosperity.

San Diego.

George W. Durbrow, at Indio, has received a consignment of coffee trees from Guatemala which he intends planting on irrigated lands. As the wild coffee is found in the foothills in southern California there is every hope its culture will prove profitable.

The new Board of County Horticultural Commissioners has organized by electing W. R. Gunnis chairman. As preliminary to its work it was decided that the commissioners should first visit the adjoining counties to ascertain the successful methods employed to destroy fruit-tree pests.

Santa Barbara.

The Carpinteria correspondent of the Independent says: Five large orange trees, fruit-laden, from S. J. Knapp's place, are at the depot awaiting shipment to the World's Fair. Willie Ogan picked over 60 gallons of olives from one tree this year; at 40 cents a gallon, \$24 would be derived from this one tree.

San Luis Obispo.

Tribune: The cold north wind that has been prevailing during the past few weeks is causing our farmers, this side of the mountains, a little uneasiness. The hay crop has already suffered considerable damage and the yield will be reduced one-third from that of last season. There is every evidence of a late rain, however, and as a consequence the corn and beans just going into the ground will make up the deficiency with big yields.

Solano.

Republican: Some time ago the fruit-growers of Suisun valley organized a union for the purpose of placing their fruit on the market without the aid of the fruit-shipping companies. They have obtained a lease from the railroad company and a contract was awarded to S. M. Bassett for \$980 for the erection of a depot at the station in Suisun. On last Monday work on the building was commenced. It is to be a commodious structure, 30x70 feet.

Sonoma.

Index-Tribune: The grain on the Senator Jones' farm, a few miles southeast of Sonoma, shows the finest stand of any grain in the State. There is one solid field of at least 1000 acres that will yield between 70 and 80 bushels to the acre.

Tribune: Mr. William Kettlewell brought in a nice cluster of oranges of the Mediterranean-Sweet variety, for which he has our thanks. It was grown on Mrs. Pope's place, on Main street, and is a fine specimen. Mr. Kettlewell said he had just picked seven dozen lemons off of one tree, five dozen of which he shipped to Mrs. Pope in San Francisco, and were of as fine quality as can be bought anywhere for 40 cents a dozen.

Sebastopol Times: Mr. Atkinson, of the Alameda Sugar Co., at Alvarado, was in town a few days ago. The gentleman informed us that he had contracted for about 400 acres of sugar beets that will be grown in this vicinity this spring. This is considerably in excess of the acreage of last season. The soil in this section produces a first-class sugar beet, as was shown by last year's crop. The beets gave good satisfaction.

Stanislaus.

Charles Nye, of Newman, has made application for a patent on a straw-burning engine, which he expects will some day, not far distant, make him a rich man. By certain appliances added to the boiler it is said to save him \$12 per day in the cost of fuel.

Tulare.

Delta: Eleven thousand orange trees have been planted on Section 30 on Tule river. Citrus tree-planting in the Tule river region still continues.

Delta: The high prices potatoes have been commanding here for several months is likely to stimulate the "swampers" to overproduction the coming season.

Delta: Farmers on Deer creek are irrigating their grain, much of which has begun to burn. There is plenty of water in the creek at present and farmers are making good use of it.

Delta: John F. Firebaugh, proprietor of the San Joaquin Roller Mills, seven miles east of this city, secured some mountain-grown corn last season, which he manufactured into corn-

meal. It had a richness and flavor surpassing that manufactured from corn grown on the plains.

Delta: The northwest winds that have been blowing for the last few days have proved damaging to growing crops, yet there is much grain in the county that will return a good yield.

Citizen: R. Priest was over from San Jose last week to see what prospects he has for a crop on his Pixley ranch. He informed us he thought his wheat still good for six sacks per acre, but a rain in the first part of the month would have insured much more.

Times: D. L. Reed is farming 3,500 acres of land northwest of Oroqui. He has 2600 acres in grain, which is looking well. He has 240 acres of barley on summer-fallowed land that is all headed and will average four feet in height and the heads are unusually large. His wheat on the same quality of land is as good as one ever sees and will make a fine crop without more rain.

Hanford Sentinel: L. C. Hawley has some orange trees two years old from the bud, which are in full bloom. They have had no protection from the frost and are in a thrifty, growing condition. All that is required is to plant the trees on the west side of something that will shade them from the morning sunshine in time of severe frosts. Hawley's trees are on the west side of a row of Monterey cypresses.

Yolo.

Capay Cor. to Woodland Democrat: I learn that Wat. Barnes started three mowers in his hay field, near Esparto, yesterday. The hay crop in this neighborhood will all soon be ready for the mower, and the yield will probably be very good.

Cacheville Cor. to Democrat: Strawberries raised in local gardens, and of a very superior quality, promise to be plentiful in a few days. In many localities along Cache creek the soil is peculiarly adapted to the successful cultivation of this delicious fruit, and no doubt Woodland will furnish a profitable market for the surplus after the local trade is supplied.

Woodland Democrat: We are indebted to Mr. D. P. Diggs for a mess of new potatoes, raised on his farm near Cacheville. They are a splendid quality and by next week will be ready for market. One hundred and twenty acres of his farm are in potatoes. Himself and his son Marion have 50 acres, A. W. Morris has 50 acres, and Mr. Lippincott has 20 acres. If the price keeps up they will each net a handsome profit.

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We take pleasure in advising the readers of the Pacific Rural Press that the UNION PACIFIC is the most direct and quickest line from San Francisco and all points in California to the WORLD'S FAIR.

It is the ONLY LINE running Pullman's latest improved vestibuled Drawing-Room Sleepers and Dining Cars from San Francisco to Chicago without change, and only one change of cars to New York or Boston.

Select Tourist Excursions via the UNION PACIFIC leave San Francisco every Thursday for Chicago, New York and Boston in charge of experienced managers, who give their personal attention to the comfort of ladies and children traveling alone.

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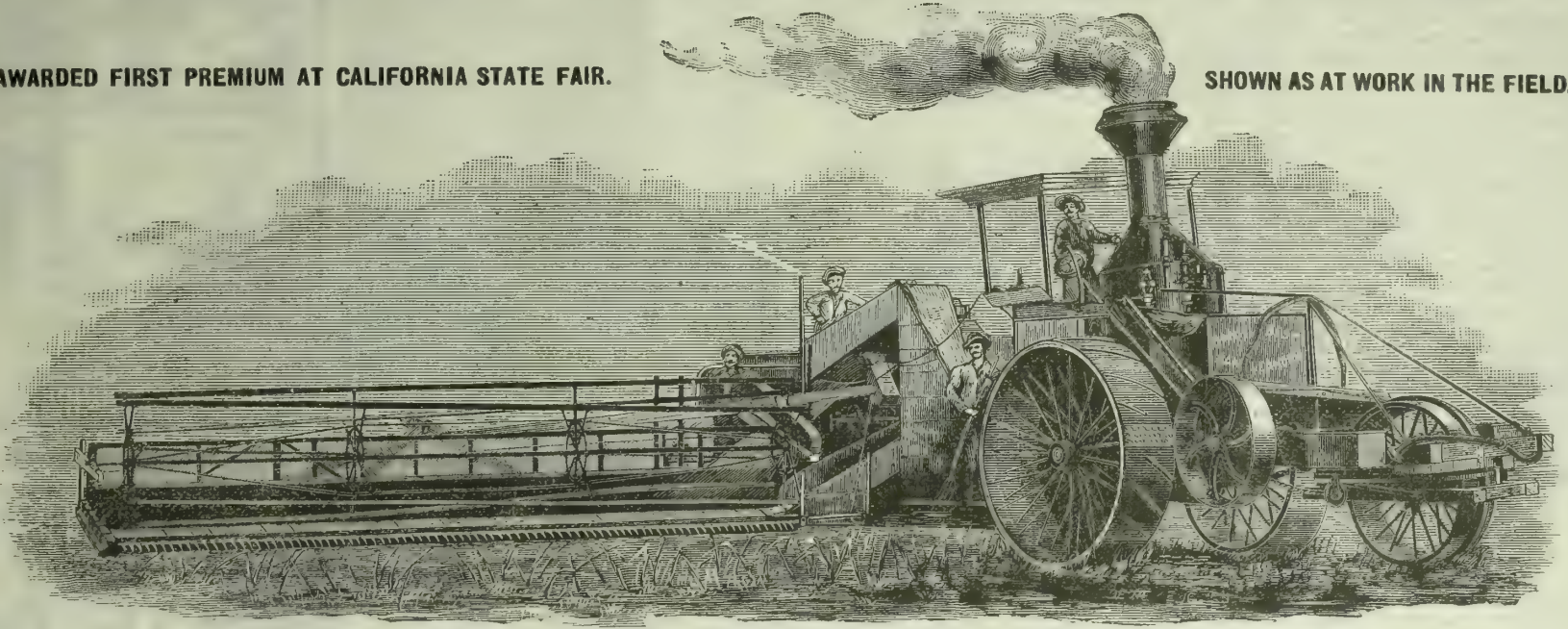
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This Harvester is run in connection with the Best Traction Engine, which I am now building for that purpose, both being combined to run as a **Steam Traction Harvester**.

An Auxiliary Engine is used on the Harvester, taking steam through a flexible steam pipe from the boiler of the Traction Engine, doing away with all gearing necessary to run the Harvester, the effect being a steady, uniform motion at all times and in all conditions of the grain, and at any speed the Harvester may be running.

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These Steam Harvesters were run successfully all last harvest, giving entire satisfaction in all ways, in grain in all conditions.

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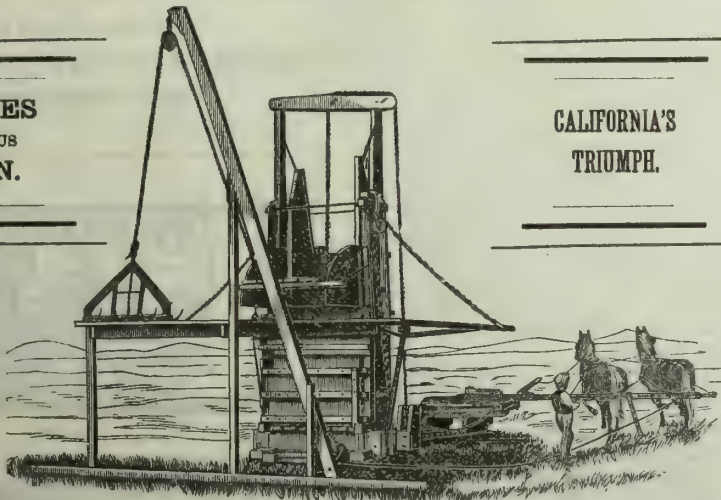
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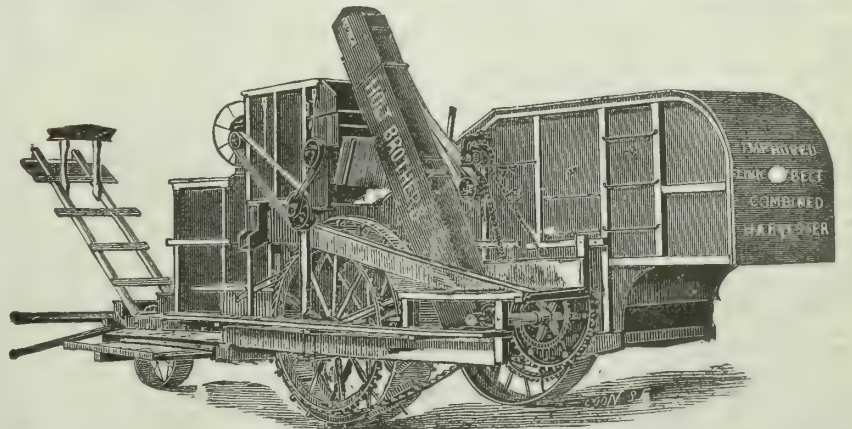
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Send for Circulars describing the Side Hill Harvester.

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Cholera, Its Cause and Prevention.

At the State Sanitary Convention held in this city last week under the auspices of the State Board of Health, Dr. Geo. C. McDonald of Sausalito, submitted a very able paper, "Cholera, Its Cause and Prevention." The speaker reviewed the history of cholera from 1669 to the present day. It had been proven, he said, that air had little, if anything, to do with spreading the disease. It was disseminated through the medium of water, food and merchandise. This was shown by the fact that the disease followed the line of commerce, moving neither faster nor slower than people and freight moved. The bacillus of cholera lives in butter a month, in beer five days, in cheese curds not quite a day, in boiled milk, if the cholera germ is added after the boiling, it will live indefinitely, in white wine it lives but five minutes, in red wine fifteen minutes, in cold coffee two hours, in cold tea nine days and in strong tea an hour. In spring water the cholera bacillus lives to eight days, in well water three months. It lives in ice, is propagated best in warm, damp places and is only killed by boiling.

As a prevention, while favoring inoculation by Koch's method, he was aware that even that remedy would not afford complete immunity. As for quarantine, personally he considered it absurd. What was the use of imprisoning people and fumigating them when the ships with cargoes of sugar, etc., in which tens of millions of cholera germs were living, come into port untouched. Absolute quarantine was a commercial impossibility, and anything less was useless. If he could have his way he would have in every city, town and hamlet corps of competent inspectors to make a house to house canvas and clothe them with authority to compel the people to keep themselves and their premises clean. Disinfectants should be furnished by the State and lavishly used. There should be no public funerals, and the bodies of all persons dying of cholera should be cremated. Then he would have slips printed in every known language as follows, and distributed to every house should cholera make its appearance in the State:

Keep your house well ventilated, light and thoroughly dry; do not wash the floors, but give them a dry scrub. See your air shafts, traps and drains are in perfect order; see your dust-bin is frequently emptied and its contents disinfected. Burn in your stoves all rags, vegetable refuse, such as cabbage-leaves and potato peelings. Sever all direct communication with the waste-pipe of the drain. Cleanse and wash out all your water-pipes and tanks. Let every drop of water used for drinking or washing be boiled before use. Do not use boiled water which has been standing for six hours without again boiling. Never use ice in any form; it may contain the germ of disease. In the same way and for the same reason avoid ice-cream and candy and tinned provisions. Never use filters, for if not kept perfectly clean and in working order they are simply deathtraps. Do not eat any raw fruit or salad, or bread more than twenty-four hours old; bake your own bread if practicable; if not use toast. Take no milk unless it has been previously boiled. Use no syrups of any kind; eat no butter; avoid weak cold tea; hot coffee is the best drink. Take four wholesome meals a day. Do not overload the stomach. A meal may consist of any sort of nutritious food, fresh and thoroughly cooked meats and fish, well-toasted bread, well-boiled green vegetables and potatoes, plain farinaceous pudding, eggs, etc. Alcohol must be taken in great moderation, only at lunch and dinner. Avoid purgative medicines, excesses, irregularities of every kind, over-fatigue, prolonged watching, excitement and undue mental strain on anything which will exhaust or irritate the nervous system. If cholera symptoms appear go to bed in airy room. Keep warm and send at once for your doctor. Drink hot lemonade, and if weak take a little old brandy well diluted. Drink one-half pint of the following mixture every morning: Thirty drops diluted sulphuric acid in a half pint of boiled water adding sugar to taste.

The Age of the Earth.

Among the wider problems of natural science toward the solution of which contributions have been made during the last month, the most striking is that of the age of the earth. Mr. Clarence King, the well-known American geologist and explorer, contributes an elaborate article on the subject to the *American Journal of Science* (ser. 3, vol. xiv., pp. 1-20, pls. i., ii.), in which he claims to have advanced Lord Kelvin's method of

determining the earth's age to a further order of importance. He discusses the experimental investigations of Dr. Carl Barus on the effect of heat and pressure on certain rocks, and particularly selects the case of diabase, which has a specific gravity approximately equal to the average specific gravity of the earth's crust. In the light of the new facts, he then reconsiders the probable rate of cooling of the earth, rendering more precise the conclusions of Lord Kelvin. As the result of the detailed discussion, Mr. King concludes that the earth's age probably does not exceed twenty-four millions of years—in fact, that the estimate of the physicists is approximately correct, while that of the geologists is "vaguely vast."

AN OAKVILLE MIRACLE.

THE REMARKABLE CASE OF MR. JOHN W. CONDOR.

A Helpless Cripple for Years—Treated by the Staff of the Toronto General Hospital and Discharged as Incurable—The Story of his Miraculous Recovery as Investigated by an Empire Reporter.

(Toronto Empire.)

For more than a year past the readers of the *Empire* have been given the particulars of some of the most remarkable cures of the 19th century, all, or nearly all of them, in cases hitherto held by the most advanced medical scientists to be incurable. The particulars of these cases were vouched for by such leading newspapers as *The Hamilton Spectator* and *Times*, *The Halifax Herald*, *Toronto Globe*, *Le Monde*, *Montreal*, *Detroit News*, *Albany*, *N. Y. Journal*, *Albany Express* and others, whose reputation placed beyond question the statements made.

Recently rumors have been afloat of a remarkable case in the pretty little town of Oakville of a young man recovering after years of helplessness and agony. The *Empire* determined to subject the case to the most rigid investigation, and accordingly detailed one of our best reporters to make a thorough and impartial investigation into the case. Acting upon these instructions, our reporter went to Oakville and called upon Mr. John W. Condor (who it was had so miraculously recovered), and had not long been in conversation with him when he was convinced that the statements made were not only true, but that "the half had not been told." The reporter found Mr. Condor at work in one of the heaviest departments of the Oakville Basket Factory, and was surprised, in the face of what he knew of this case, to be confronted by a strapping young fellow of good physique, ruddy countenance and buoyant bearing. This now rugged young man was he who had spent a great part of his days upon a sick-bed, suffering almost untold agony. When the *Empire* representative announced the purpose of his visit, Mr. Condor cheerfully volunteered a statement of his case for the benefit of other sufferers. "I am," said Mr. Condor, "an Englishman by birth, and came to this country with my parents when nine years of age, and at that time was as rugged and healthy as any boy of my age. I am now 29 years of age, and it was when about 14 years old that the first twinges of inflammatory rheumatism came upon me and during the 15 years that intervened between that time and my recovery a few months ago tongue can hardly tell how much I suffered. My trouble was brought on, I think, through too frequent bathing in the cold lake water. The joints of my body began to swell, the cords of my legs to tighten and the muscles of my limbs to contract. I became a helpless cripple, confined to bed, and for three months did not leave my room. The doctor who was called in administered preparations of iodide of potassium and other remedies without any material beneficial effect. After some months of suffering I became strong enough to leave the bed, but my limbs were stiffened and I was unfitted for any active vocation. I was then hampered more or less for the following nine years, when I was again forced to take to my bed. This attack was in 1886, and was a great deal more severe than the first. My feet, ankles, knees, legs, arms, shoulders, and in fact all parts of my frame were affected. My joints and muscles became badly swollen and the disease even reached my head. My face swelled to a great size, I was unable to open my mouth, my jaws being fixed together. I, of course, could eat nothing. My teeth were pried apart and liquid food poured down my throat. I lost my voice, and could speak only in husky whispers. Really, I am unable to describe the state I was in during these long weary months. With my swollen limbs drawn by the tightening cords up to my emaciated body, and my whole frame twisted and contorted into indescribable shapes, I was nothing more than a deformed skeleton. For three long weary months I was confined to bed, after which I was able to get up, but was a complete physical wreck, hobbling around on crutches a helpless cripple. My sufferings were continually intense, and frequently when I would be hobbling along the street I would be seized with a paroxysm of pain, and would fall unconscious to the ground. During all this time I had the constant attendance of medical men, but their remedies were unavailing. All they could do was to try to build up my system by the use of tonics. In the fall of 1889 and spring of 1890 I again suffered intensely severe attacks, and at last my medical attendant, as a last resort, ordered me to the Toronto General Hospital. I entered the hospital on June 20th, 1890, and remained there until September 20th of the same year. But, notwithstanding all the care and attention bestowed upon me while in this institution, no improvement was noticeable in my condition. After using almost every available remedy the hospital doctors—of whom there was about a dozen—came to the conclusion that my case was incurable, and I was sent away, with the understanding that I might remain an outside patient. Accordingly, from September, 1890, to the end of January, 1891, I went

to the hospital once a week for examination and treatment. At this stage I became suddenly worse, and once more gained admission to the hospital, where I lay in a miserable suffering condition for two months or more. In the spring of 1891 I returned to Oakville, and made an attempt to do something toward my own support. I was given light work in the basket factory, but had to be conveyed to and from my place of labor in a buggy and carried from the rig to a table in the works on which I sat and performed my work. In August, 1891, I was again stricken down, and remained in an utterly helpless condition until January, 1892. At this time Mr. James, a local druggist, strongly urged me to try Dr. Williams' Pink Pills for Pale People. I was prejudiced against proprietary medicines, as I had spent nearly all I possessed on numerous highly recommended so-called remedies. I had taken into my system large quantities of different family medicines. I had exhausted the list of liniments, but all in vain, and I was therefore reluctant to take Mr. James' advice. I, however, saw strong testimonials as to the value of Dr. Williams' Pink Pills as a blood builder and nerve tonic, and thinking that if I could only get my blood in better condition my general state of health might be improved, I resolved to give Pink Pills a trial. With the courage born of despair I bought a box, but there was no noticeable improvement, and I thought this was like the other remedies I had used. But, urged on by friends, I continued taking Pink Pills, and after using seven boxes I was rewarded by noticing a decided change for the better. My appetite returned, my spirits began to rise and I had a little freer use of my muscles and limbs, the old troublesome swellings subsiding. I continued the remedy until I had used twenty-five boxes, when I left off. By this time I had taken on considerable flesh, and weighed as much as 160 pounds. This was a gain of 60 pounds in a few weeks. My joints assumed their normal size, my muscles became firmer, and in fact I was a new man. By April I was able to go to work in the basket factory, and now I can work ten hours a day with any man. I often stay on duty overtime without feeling any bad effects. I play baseball in the evenings and can run bases with any of the boys. Why I feel like dancing for very joy at the relief from abject misery I suffered so long. Many a time I prayed for death to release me from my sufferings, but now that it is all gone and I enjoy health as only he can who suffered agony for years. I have given you a brief outline of my sufferings, but from what I have told you can guess the depth of my gratitude for the great remedy which has restored me to health and strength.

Wishing to substantiate the truth of Mr. Condor's remarkable story, the *Empire* representative called upon Mr. F. W. James, the Oakville druggist referred to above. Mr. James fully corroborated the statements of Mr. Condor. When the latter had first taken Dr. Williams' Pink Pills he was a mere skeleton—a wreck of humanity. The people of the town had long given him up for good as dead, and would hardly believe the man's recovery until they saw him themselves. The fame of this cure is now spread throughout the section and the result is an enormous sale of Pink Pills. "I sell a dozen and a half boxes of Pink Pills every day," said Mr. James, "and this is remarkable in a town the size of Oakville. And better still they give perfect satisfaction." Mr. James recalled numerous instances of remarkable cures after other remedies had failed. Mr. John Robertson, who lives midway between Oakville and Milton, who had been troubled with asthma and bronchitis for about 15 years, has been cured by the use of Pink Pills, and this after physicians had told him there was no use doctoring further. Mr. Robertson says his appetite had failed completely, but after taking seven boxes of Pink Pills he was ready and waiting for each meal. He regards his case as a remarkable one. In fact Dr. Williams' Pink Pills are recognized as one of the greatest modern medicines—a perfect blood builder and nerve restorer—curing such diseases as rheumatism, neuralgia, partial paralysis, locomotor ataxia, St. Vitus' dance, nervous headache, nervous prostration and the tired feeling resulting therefrom, diseases depending upon humors in the blood, such as scrofula, chronic erysipelas, etc. Pink Pills restore pale and sallow complexions to the glow of health, and are a specific for all the troubles peculiar to the female sex, while in the case of men they effect a radical cure in all cases arising from mental worry, overwork or excesses of whatever nature.

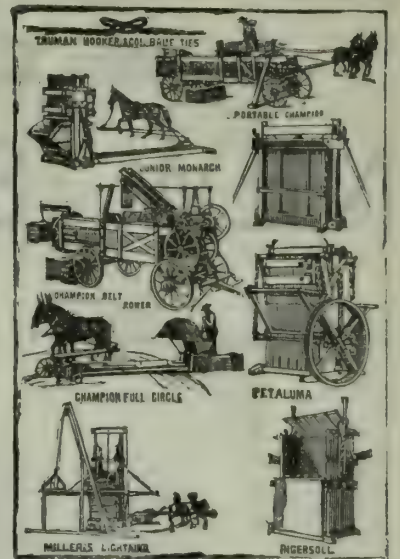
The *Empire* reporter also called upon Mr. J. C. Ford, proprietor of the Oakville Basket Factory in which Mr. Condor is employed. Mr. Ford said he knew of the pitiable condition Condor had been in for years, and he had thought he would never recover. The cure was evidently a thorough one for Condor worked steadily at heavy labor in the mills and apparently stood it as well as the rest of the employees. Mr. Ford said he thought a great deal of the young man and was pleased at his wondrous deliverance from the grave and his restoration to vigorous health.

In order to still further verify the statements made by Mr. Condor in the above interview, the reporter on his return to Toronto examined the General Hospital records and found therein the entries fully bearing out all Mr. Condor had said, thus leaving no doubt that his case is one of the most remarkable on record, and all the more remarkable because it baffled the skill of the best physicians in Toronto.

These pills are manufactured by the Dr. Williams' Medicine Company, Schenectady, N. Y., and Brockville, Ont., and are sold in boxes (never in loose form by the dozen or hundred, and the public are cautioned against numerous imitations sold in this shape) at 50 cents a box, or six boxes for \$2.50, and may be had of all druggists or direct by mail from Dr. Williams' Medicine Company from either address. The price at which these pills are sold make a course of treatment comparatively inexpensive as compared with other remedies or medical treatment.

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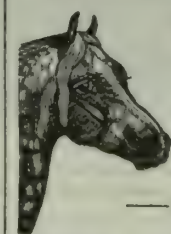


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Messrs. H. H. Moore & Sons, Stockton, Cal.—GENTLEMEN: In answer to your inquiry, would state that I used your H. H. H. Liniment on my Holland prize-winning cow, "Lena Menlo," for a wrenched shoulder, and it relieved her very much. She calved the next day, and while still suffering from the sprain gave the largest authenticated quantity of milk ever given on this coast (104 gallons per day), showing conclusively the great relief received from your remedy. I consider it a necessity in my stables, and when away from home feel perfectly safe, as inexperienced men can do no harm with it, as they can with the more powerful blister. Respectfully yours, FRANK H. BUCKE, Breeder of Registered Holsteins and Berkshires. Menlo Park, Cal., January 22d, 1889.

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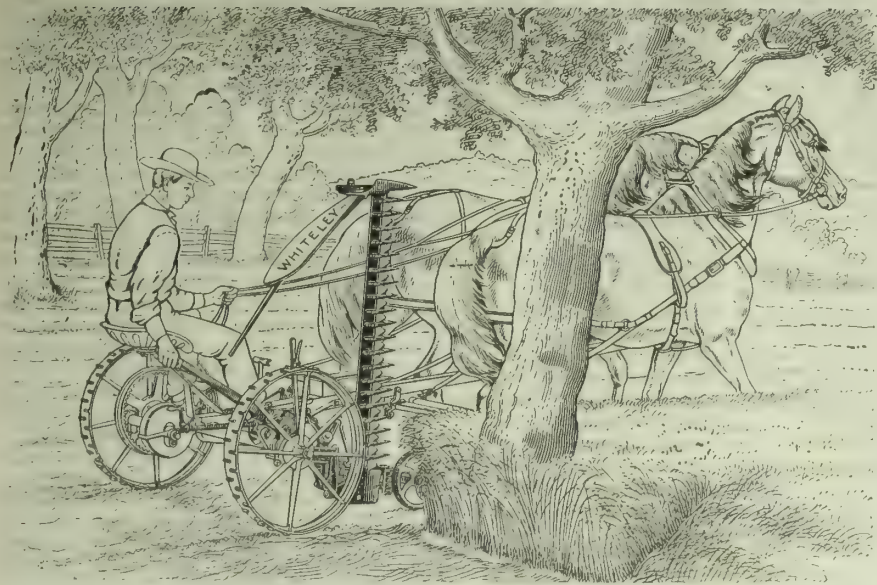


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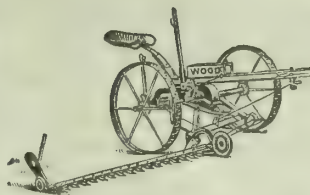
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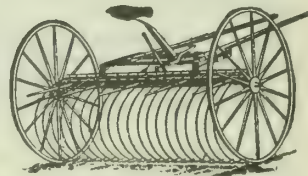


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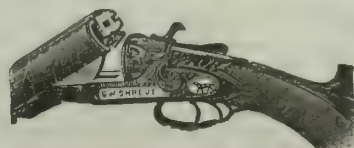
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PATRONS OF HUSBANDRY.

From the Worthy Master.

Stand for the right! Stand for the grange!

Are you going to Chicago? If so, don't fail to give the patron's sign. You might, doubtless would, find some one for whom you are looking. Better study up the secret work a little bit.

The financial question seems to be engaging the most careful attention of the political powers that be. There is a disposition to do something, just what, this "deponeth sayeth not." Let farmers keep a "weather eye" open for they may be breakers ahead.

Keep the eye of the mind open, and don't let any weed crop, moral, social, financial, political, religious or otherwise, rise to baffle and torment you. Use the hoe, the plow, the spade, the harrow, and the mind as well as the muscle, to clear the way for those who are to come after you.

The grange wants "to reduce expenses, both individual and corporate." There is a large field open for them. But much good has already come from some of these efforts. Several nefarious measures, both in Congress and in State Legislatures have been "nipped" through the influence of the grange. Yet there is much more extravagance in public service than there should be. Patrons, please give this subject some of your practical thought, and discuss it at the grange meetings. Let decisive action be taken, when you know just what to do. Otherwise, go slow till the facts are obtained. Deal with facts, not fancies. Hit hard when you strike, but be sure and hit the nail, and not your own finger.

Not many weeks will intervene before harvest begins, but if every member of the order will secure one application for membership, the total membership of the order will be doubled. What a grand showing that would be. Let it be so reported at Petaluma next October, when the State Grange convenes. Vaca Valley Grange had a most successful social meeting in their (Masonic) hall, Saturday night, April 29th. One hundred persons were present.

There are several counties in which no new County Deputy for 1893 has yet been appointed. This is no fault of the master. He has been patiently waiting for subordinates to make their recommendations. It is high time some action were taken. Let us hear from every subordinate in the State where a County Deputy is not yet appointed right soon. Life is short. Work is necessary. The grange can only be made to grow in numbers and in influence by the labor of its votaries. Let each one who loves the order of Patrons of Husbandry put head and hands and heart into the work, and the increase will be marvelous. Deputies will be appointed as fast as their applications are received.

Bro. Lewis J. Wells, ex-secretary of the Connecticut State Grange, is visiting in California. We hope to be able to get him to do some active work for the grange.

The grange is national, State, county and local in its work of protecting and assisting the farmers of America to throw off some of the burdens under which they now labor. The profits of agriculture ought to be increased to the producers. Few vocations in which men engage, with same capital invested, would be as long-suffering and patient as the farmers have been. But a day of reckoning is not far away, and perhaps the American farmer may yet be considered competent to do more than hew wood and hop over the clods.

Do you have any idea how much personal property there is in California which escapes taxation, especially in the cities? You know how very little of the personal property of the farmer escapes. His horses, wagons, harness, plows, hay, grain, and even the "setting hen," come under the keen eye of the assessor. And that is all right. But it is not right that the notes, bonds, jewelry, plate, coin and other evidences of wealth of the city cousin should escape the same keen eye of the assessor. Equal and exact taxation, in so far as it is possible to have it, is all the farmers want. Justice hurts no one but the rogue and he ought to be punished. Let the subordinate granges of California see to it at once that the personal property of each county is fairly and fully assessed, and they will thus relieve real estate of some of its burden of taxes. Let all the wealth of your country pay its share to the support of Government. Thus no one will be harmed and all will be benefited.

The tax-payers of this State will have all they can bear during the next two years, and the farmers should see to it, through the subordinate and Pomona Granges, that agriculture does not pay more than its proper and just proportion.

From Mr. Ohleyer.

He Writes Entertainingly About Yuba City Grange and Other Things.

TO THE EDITOR:—Let me assure you and the array of old and new correspondents of the RURAL of the unmixed pleasure enjoyed by this scribe in the perusal of the several epistles from different sections of our glorious State. Like the Worthy Master, I feel as if in the face of so much ability and fluent pens I might take a recess or hide in the crowd to the mutual advantage of writer and reader. However, it seems about time that little Sutter should step to the front again if only to tell the world she still exists and proposes to remain a member of the State's family.

To begin, I am at a loss for a subject, so will tackle the weather, which in a parliamentary phrase is "always in order." California does not enjoy the great variety they have east of the Rockies and which from recent reports have all been worked in successfully with several new lines thrown in.

Since speaking my last piece in your columns the writer made a flying trip to Ogden, Utah, and do you know that beyond the summit of the Sierras the "summer arrangements" had not been announced, or hadn't been a week ago. There were experienced spirits of snow, hail, rain and sunshine. Mountain breezes that were provided with sharp teeth, leaving in their tracks ice and frost, and we were told this panorama extended across the continent to the eastern limits. Nothing of consequence felt the approach of spring, hence we were more than ever content with our own California, where trees and vines are in full leaf, grain from one to three feet in height, grass ready for the mower, strawberries, cherries and new potatoes in great abundance and garden truck that flourishes the year round. And all this, notwithstanding an eccentric rainy season along this sunset land.

I am happy to say the result of this eccentricity upon our fields and landscape in the shape of a superabundance of moisture is being minimized by the effulgent May days.

No country can ever look lovelier than these great interior valleys do from March to June inclusive. The balmy air, the almost tropical growth of vegetation, the sleek and lowing herds and flocks, the clean and splendid roads trodden by magnificent turnouts to be found in every home, all bordered in the distance by snow-capped mountains and the darker forests between the white line above and the valley below.

These scenes give the country the appearance of a fairyland with one exception. Fairylands are supposed to be miniature affairs, while the Sacramento valley extends for hundreds of miles, and wherein its environment could be comfortably transplanted the population of several of the most populous Eastern States. Who may foretell the future of such a region? Though isolated from the rigorous and populous east and north, it will ere long be sought and found for its intrinsic worth.

But do I hear you say, "What of the Ogden Congress?" Well, I can scarcely add anything to what the daily press has told you. These huge conventions are simply co-operative efforts to obtain or produce what isolated communities dare not hope for on account of lack of numbers and cohesiveness. It is a striking endorsement of the theory the RURAL has been advocating for years. You see, one or two western States or Territories, situated far from the heart of the nation, may wield but little influence at the central head, but the voice of 20 will hardly be ignored in their just demands. The recent Congress gave each and every member by resolution all they asked for, being in this respect largely a "mutual admiration society," and it remains to be seen whether these conferences will grow beyond that limit, and yet, if they do not, they are not held in vain.

We spent a day in Salt Lake City, and were treated most royally by its people, and absorbed as much sight-seeing and hospitality as we had capacity for.

Ogden and Salt Lake, as municipalities, are governed by "Gentiles;" but the question of religion does not, or did not, protrude itself to the visitors, and to all outward appearances it seemed as if we were in any other American city similar in size. The recently completed temple was seen from the outside and the Tabernacle from the inside. Both are wonders of the world, and must be seen to be appreciated.

Now, Dear Editor, if there is yet space,

let me say that Yuba City Grange continues to flourish, and the "great class" saw, on Saturday, some of the inside workings of a farmers' organization that in numbers has no precedent in the world's history. On the first Saturday in June the lessons will be completed, and the day's labor will conclude with the usual Harvest Feast, to which all members are invited.

We are all agog over the coming Grangers' Picnic on Thursday next. Every preparation is being made to insure a day's enjoyment; but since the affair will be over when this meets the reader's eye, and your editor will doubtless attend to see for himself, I will quietly subside. GEO. OHLEYER.

Yuba City, May 8, 1893.

From Grimes Grange.

How It Died, and How It Was Brought to Life Again.

TO THE EDITOR:—One bright spring morning about three years ago Grimes Grange was organized. For a month or two things went along nicely. The meetings did not come often enough, and when they did come, every member was present.

But soon a change came. The work of harvesting the crops made it difficult for many to attend, and after the harvest was over the novelty of "going to grange" had somewhat worn away; so, of the many who started, but few remained to "assist the Master in opening the grange." Things went from bad to worse, meetings were skipped, dues remained unpaid, hall rent was due. What was to be done? Clearly, but one thing. The faithful few met and resolved to quit, and quit they did.

How many Granges, Mr. Editor, is this the history of? There is a reason for it, too. Past Master Webster probably could give you the correct reason.

But Grimes Grange has been revived and is now in a truly prosperous condition. We are ascending the hill of Progress, and the summit is nowhere in sight, but when we do reach it there is now enough good material in Grimes Grange to plant the grange banner there and hold the fort against any attempt at dissolution.

Just at present, the only fault the members have to find is that conferring degrees seems to occupy all the time of the grange. At the last meeting the Third and Fourth Degrees were conferred on a class of seven, and when they were through the Secretary read the applications of six more, and so it goes. But we are going to have a change soon, and a committee is now at work arranging a literary program, and something good in the way of music, reading and debate can be looked forward to. Besides, on the 26th of May we are going to give a grand grangers' picnic (to which every one is invited), and the success of that will occupy the attention of the members from now on.

Nor is this all. This grange took an important step at our last meeting, and Bro. Webster and all languishing grangers' attention is called to it. The step was small enough (being a protest against an expensive road, not a public necessity, but for the private convenience of a few people who desire the county to build it), but quite large enough for a new grange policy that in the near future will discuss and take action on not only local matters, but national affairs as well. Herein lies the secret of whatever failure the grange as an organization has made. Harvest Feasts, picnics, good times are all well enough in their way, but something else is needed. The past few years have witnessed a surprising increase of knowledge in regard to governmental affairs among all classes of people, but more especially among the farmers and laborers of the West. Men who formerly delegated to politicians the right to think for them have discovered that they, too, possess a thinking machine of their own, and have used it, much to the discomfort of some of our so-called statesmen. The result of the campaign of education that has been waged in this country for the past few years has been to make wiser and better citizens of our voters, and to tear away the veil that has obscured much of the workings of our Government. No man is performing his duty as a citizen, who does not inform himself on all policies that are brought forward claiming to be an improvement on existing laws. And where better than in the grange can such questions as the "Free coinage of silver," "The Government ownership of railroads," "The need of a more flexible currency," and the many other questions that are pressing for solution in this country to-day, be discussed with the sole purpose of arriving at a better understanding of the affairs of this country?

But I must close this letter.

Grimes, May 7, 1893. A MEMBER.

From Mr. Adams.

Personal and Other Matters of Interest Concerning San Jose Grange.

TO THE EDITOR:—Some eight or ten active members of San Jose Grange have packed their gripsacks and hid themselves away to the windy city, where cyclones, thunder and rainstorms most do congregate. And if reports are true twenty other members of our grange will visit the World's Fair later on in the season, making a delegation of thirty from this grange, which speaks well for the financial standing of its members as well as the profits of fruit culture when intelligently conducted. And herein lies the secret of the success of most farmers—the intelligent management of their business. It is not the amount of muscle that is put into the farm work that brings success. If muscle alone was needed the horse or ox would excel man because of the superior strength. Therefore, if a farmer desires success he must, like persons in other professions, possess himself of a thorough knowledge of the branch of farming he is engaged in, and, until a better system than now exists of disseminating the benefit farmers are supposed to derive from our agricultural college is carried into effect, the grange is decidedly the best place to obtain such knowledge. The plan adopted by the members of San Jose Grange of relating their successes and failures in the management of their farms has had much to do in bringing financial success to its members.

At our last meeting a very attractive musical and literary programme was given, under the leadership of Miss Hattie Wells. A class of five was placed on the road to the master's office to be given employment if found qualified. San Jose Grange voted to hold a picnic at Glenwood farm on last Saturday in May at 10 o'clock A. M., to which all grangers are cordially invited to attend.

AMOS ADAMS.

From Millville.

Very Much Alive and Steadily Growing.

TO THE EDITOR:—We, like our sister lodges, desire to be heard through the columns of the RURAL PRESS. Millville Grange, No. 221, is in a flourishing condition. We have a membership of 80 in good standing.

A majority of the grangers reside within a radius of seven miles of the town of Millville, consequently our meetings are held monthly—on the third Saturday. A great deal of interest is manifested at these meetings. Candidates are initiated, and, after other business is dispensed with, and important questions discussed, a short period of time is devoted to literary exercises. The attendance has been somewhat small this winter, owing to the continued rains making the roads almost impassable; but now that summer is approaching, the attendance will show an increase.

Our regular meeting was held on April 22d, 35 members being present. The third and fourth degrees were conferred upon a class of three. A committee consisting of Mrs. Mary Webb and Nellie B. Garrecht was appointed on Women's Work. A communication from the State officers, desiring to visit our grange, was read. It was decided to receive them at our next regular meeting, May 20th.

Special meetings were held April 29th and May 6th, respectively, and the first degrees conferred upon a class which will receive further instructions from the visiting brothers. After the degree work, a grand picnic will be enjoyed, followed by an entertainment in the evening. An enjoyable time is anticipated, as an enthusiastic crowd will endeavor to make the day one that will be long remembered.

May 1, 1893. NELLIE B. GARRECHT.

Flora's Day at Two Rock.

TO THE EDITOR:—Two Rock Grange must be heard from through the PRESS. Upon this resolution an election was ordered to choose a correspondent and resulted in selecting the undersigned. I will therefore get down my old rusty pen and proceed to business.

Two Rock Grange is marching onward. Remembering nature's motto, it "never goes backward." First regular meeting in May is a day set apart by our grange for decorating the graves of our departed brothers and sisters, but this time we added Flora's Day with it and, at the close of the exercises, using the flowers for decorating the graves. The day was a pleasant one, and there was a full attendance of members, friends and patrons from Sebastopol, Santa Rosa and Petaluma Granges.

The grange was called to order at 11

o'clock A. M., and some business was transacted, after which a recess was given and all repaired to the banquet-room. After all had satisfied the inner man the master's gavel was again heard in calling the meeting to order, and, in a short address, he announced that a program had been prepared for the occasion, which consisted of reading and recitations, interspersed with singing by the grange choir.

Bro. Coulter of Santa Rosa Grange was present, and being called upon gave us some of his usual good talk. Bros. Sanborn and Litchfield of Sebastopol Grange, and Bro. Grover of Petaluma Grange were also called on and responded.

The exercises in the hall completed, all, led by Worthy Flora, marched to the cemetery where the graves of the departed brothers and sisters were strewn with flowers. I will state before closing that we expected Worthy Master Davis with that day, but for some reason unknown to us he did not show up. I will not take up too much of your valuable space this time; will come offener and not stay too long. J. C. P.

Two Rock, May 6th, '93.

Sacramento Grange News.

TO THE EDITOR:—At a recent meeting of Sacramento County Pomona Grange No. 2, P. of H., the Committee on Farmers' Institute reported that an Institute was conducted by Prof. Wickson on March 1st, and the general expression was that it should have been extended to two days. As an initiative meeting it was a success and was well attended. Several of the papers have been published in the PRESS, and the reading of all papers was followed by general discussion of great interest.

Although the State Grange was the instrument to put in motion the machinery to give to farmers the aid of professors from the Agricultural College of this State through Institutes, this is the first held under grange auspices.

The next regular meeting of Pomona Grange No. 2, Sacramento Co., will be held at Elk Grove at 10 A. M., followed by an open meeting at 1 P. M. Mrs. A. M. Jackman, Miss Della Krull and Mrs. H. S. Jones have been appointed to prepare a program for the afternoon. An invitation is extended to all interested to be present. Announcement of the program will be made in due time.

The grangers' picnic on the 6th was the picnic of the season. The attendance was numbered by thousands and the day thoroughly enjoyed, as a day in the woods can be.

W. P. M. Daniel Flint and wife leave for Chicago and the East on May 13th, expecting to be absent three months.

CORRESPONDENT.

Sacramento, May 6th.

Grange Social at Petaluma.

TO THE EDITOR:—Mr. and Mrs. Frank Enos, residing in Cherry valley, on Friday evening of last week, threw open their hospitable doors for the reception of their fellow grangers. Excellent music formed the principal feature of the entertainment. Simple, old-fashioned ballads, such as touch the soul and awaken hosts of tender memories of the long ago, were sung. Delicious refreshments were served. Another day was ushered in ere those present turned their reluctant footsteps homeward. This was not as it should have been, for midnight ought to find all good and worthy grangers snugly tucked in bed. But Bro. Hopkins was solely to blame, for all were waiting for him to sing "Home, Sweet Home," and he was somewhat dilatory. It was an event greatly enjoyed by all who participated, and will tend toward the promotion of good fellowship among the brethren.

Cherry valley, as Bro. Enos' home is called, might properly be termed a suburb of Petaluma, and derives its name from the abundance of cherry trees in the vicinity. Bro. Enos' cozy home is on a five-acre orchard tract, and he informed your correspondent that his cherries ripen a week or ten days earlier than those in other localities contingent to Petaluma. An abundant fruit yield is predicted. The cherry crop will be heavier than for some years past. Rain is greatly needed, and present indications are favorable for it. E. S.

Petaluma, May 7, 1893.

Notes.

Recent appointments of Grange correspondents who have reported to the RURAL are: Two Rock, J. C. Pervine; Vacaville, Miss Genevora Smith; Santa Rosa, W. L. Whitaker; Jolon, Mrs. E. R. Smith. Washington Grange, 228, P. of H., to-day

adopted the Stockton Grange resolution of April 15th on the removal of the State capital.

Grange Co-operative Project.

(Watsonville Rustler.)

Under the system practiced in this valley, the distributor certainly comes in for a greater share than the producer, and while no one objects to the "live and let live" policy, it must be evident to our horticulturists that as long as they are content to sell green fruit, just so long will they lose the difference between it and the manufactured article, not to mention the enormous amount paid for useless freight. With a view of diminishing these needless drains (which often amount to the difference between success or failure) Watsonville Grange will, at its next regular meeting on May 6th, discuss the question of the erection of a combined cannery and drier and other features of importance to the members and the general community. As the grange is composed largely of fruit-growers, something practical is likely to result from this discussion. All members are requested to be present.

ALBERT F. AVERILL, of Pomfret Center, Conn., Past Master of "Wolf Den" Grange, recently paid us a fraternal visit. Himself and daughters have been spending a month at Pasadena. Pomfret Center is near the famous wolf's den heroically entered by Gen. Putnam of revolutionary fame.

FLORAL DAY.—The first regular meeting in June is recommended as the time for devoting one day in each grange to exercises complimentary to Flora's station in the grange.

SPECIAL ANNOUNCEMENT.

We have made arrangements with Dr. B. J. Kendall Co., publishers of "A Treatise on the Horse and his Diseases," which will enable all our subscribers to obtain a copy of that valuable work free by sending their address (enclosing a two-cent stamp for mailing same) to DR. B. J. KENDALL CO., ENOSBURGH FALLS, VT. This book is now recognized as standard authority upon all diseases of the horse, as its phenomenal sale attests, over four million copies having been sold in the past ten years, a sale never before reached by any publication in the same period of time. We feel confident that our patrons will appreciate the work, and be glad to avail themselves of this opportunity of obtaining a valuable book.

It is necessary that you mention this paper in sending for the "Treatise." This offer will remain open for only a short time.

A Government Test.

The wonderful advance made in the construction of mowing machines was clearly shown in a Government test at the Utah Experiment Station at Logan, where fifteen machines of five different makes were each given 30 equal and impartial tests in various grasses. The trial lasted three days and the report showed that the Walter A. Wood not only did the cleanest mowing throughout, but scored a general average draft of 215 1-5 pounds in all grasses, an unequalled record.

"The Best I Ever Used."

SAN LUIS OBISPO, Cal.

The Lawrence-Williams Co.,—

Enclosed find money order for one dozen Gombault's Caustic Balsam. I obtained a few dozen in San Francisco, and I have tried to get the druggists here to keep it in stock, but as they seem indifferent in regard to the matter, and several here want it, I concluded I would send and take the agency, as it is the best medicine I ever used for a blister or other purposes for a horse. A. T. MASON.

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THE PELTON WATER WHEEL CO.

GENERAL WESTERN AGENTS, 121 MAIN STREET, SAN FRANCISCO, CAL.



Works While You Sleep.

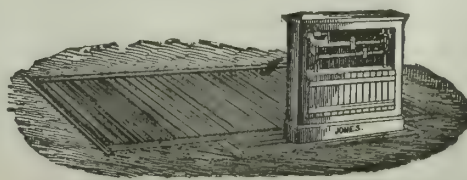
THE RIFE HYDRAULIC ENGINE is the most simple and efficient machine yet devised for elevating water for irrigation, filling railroad tanks, supplying mills, factories, dairies, stock yards, country residences, small towns, and for various other purposes. This ram is self-operating, constant in action, and is not only much more efficient than anything of the kind ever put upon the market, but from absence of wearing parts, more durable and every way reliable. Many may be referred to that have run for years, elevating water in some cases from 100 to 300 feet without any attention or expense in the way of repairs.

These machines have already come largely into use in all parts of the country, and are rapidly superseding every other device for the purpose. They will work effectively under a head as low as two feet and for every foot of fall will elevate 20 feet. By means of an adjusting lever the capacity of any of the various sizes can be reduced 50 per cent or more, as may be desired, to provide for a variation in water supply, without disadvantage or loss in efficiency.

WATER RAISED AND WASTE.—The fall from the spring, stream or other source of supply to the engine determines the height of which the water can be elevated, as well as the relative proportion between the water raised and wasted, the quantity raised varying according to the height it is carried and the distance conveyed. For ordinary purposes it is sufficient to say that with a discharge pipe 1000 feet in length, one-sixth of the water can be raised and discharged at an elevation five times the height of fall or one-twelfth ten times the height of fall.

Parties writing for information should give the quantity of water that can be supplied to the engine, either in gallons, cubic feet or miners' inches; the head or fall from source of supply to point where the engine is to be located, length of drive pipe, height to which the water is to be raised, distance from engine to place of discharge and the quantity of water it is desired to elevate. No reliable information can be afforded without an explicit answer to these inquiries.

THE DAIRYMAN who is doing business for Profit must use the IMPERIAL RUSSIAN CREAM SEPARATOR. This machine is Perfection. The Best and the Cheapest of all. No Engine and No Engineer required. Simple and Safe. If you do Not use it you are Losing Money with every pound of milk. Capacity of different sizes from 500 to 2500 gallons per hour. Duplicate parts of Sharpless Separators kept on hand. Balancing Bowls and general repairs of Separators a Specialty. Send for Catalogue to A. J. VAN DRAKE, Pacific Coast Agent, 203 Fremont St., S. F.



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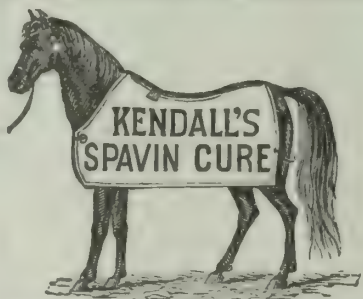
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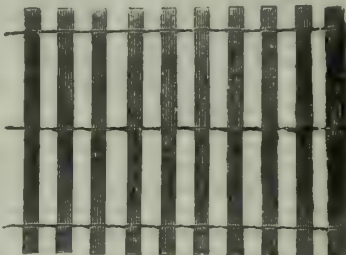
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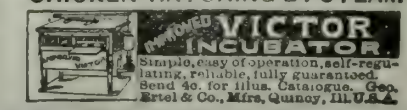
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Capital paid up and Reserve Fund 800,000
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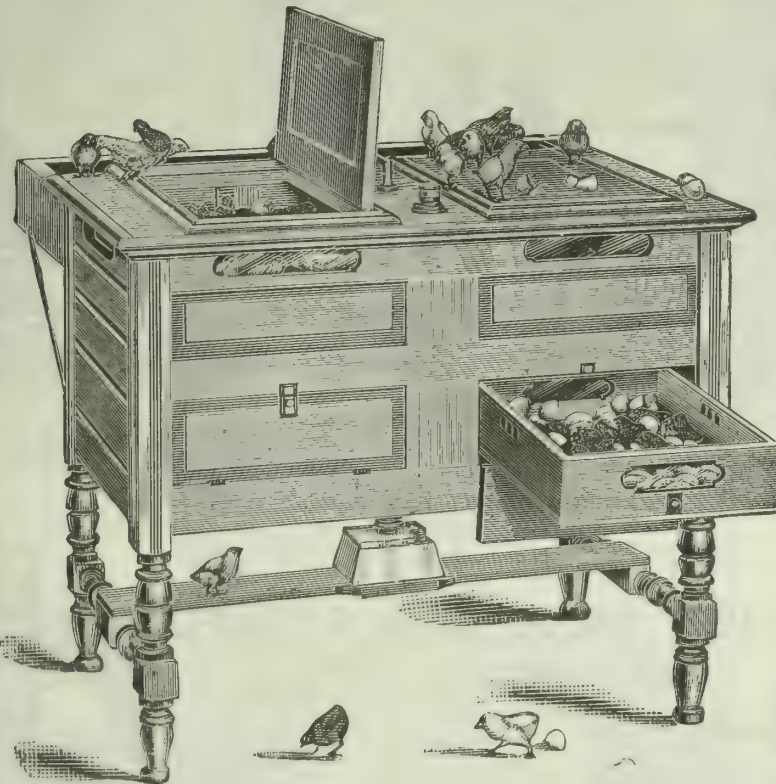
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Plants safely shipped every-
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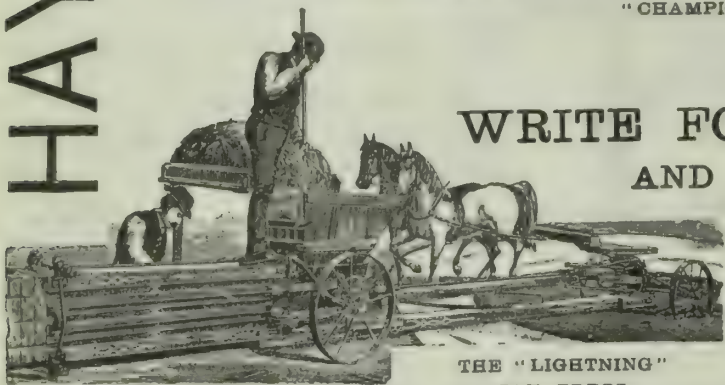
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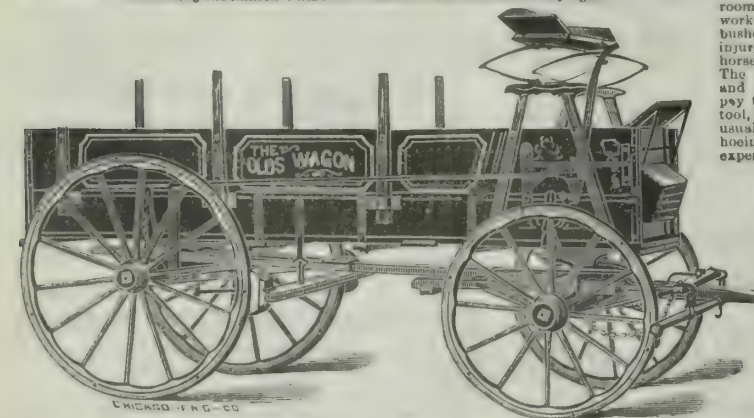
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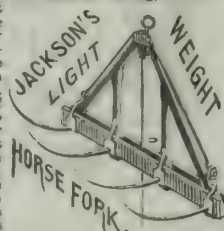
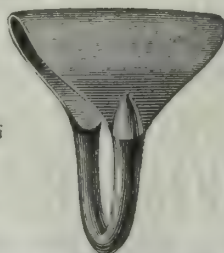
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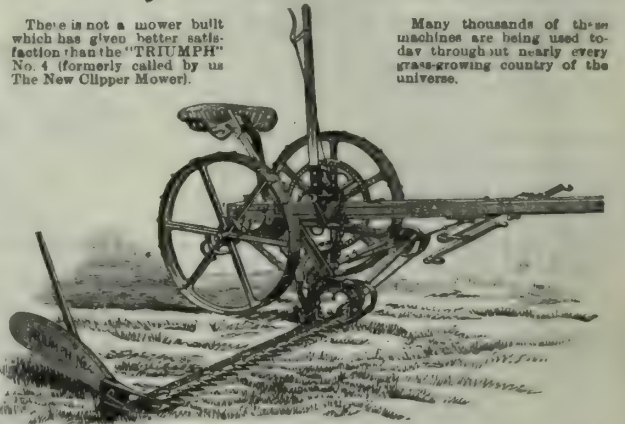
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Great Labor-Saving Tools.

THE TRIUMPH GRAPE HOE is one of the greatest labor-saving tools ever invented for use in culture of Orchards, and is especially adapted to Vineyard work. After cultivating between the rows, the Triumph Grape Hoe will take out all grass and weeds and will thoroughly stir the soil close to the vine or tree.

Without any careful attention to driving, the Hoe guided in and out around tree and vine by the Disc Castor wheel, to which handle is attached. The horse is hitched on one side of pole, which gives plenty of room for Plow to work under vines or bushes, and without injury to them from horse or wheel. The saving of time and labor will soon pay the cost of this tool, for this work is usually done by hand hoeing, a slow and expensive way.

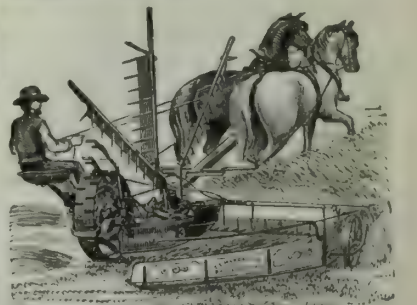
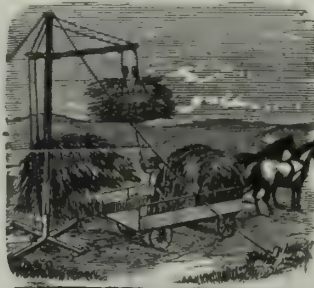


There is not a mower built which has given better satisfaction than the "TRIUMPH" No. 4 (formerly called by us The New Clipper Mower).



The steady growing demand again impresses upon us that it truly pays dealers to sell a good machine, and the TRIUMPH REAPER No. 3 has never been equaled or superior work.

We are Agents for the
Rock Island Hay Loader.
Please send for Circulars.



Warranted the
Best Rake on
Earth.



WHY IT IS THE BEST RAKE IN THE WORLD.

It has our sled-runner tooth to prevent scratching. It has no jar on the thills in dumping. Its thills work as freely as those on a carriage. Its oscillating cleaner keeps the hay from rolling and working out into the wheels. The oscillating cleaner has a lever in seat spring support so that the operator can raise the cleaner arm by pressing on the lever with his foot while sitting on the seat. The rake, all in all is better and will give better satisfaction than any other rake.

SEND FOR CATALOGUES AND CIRCULARS
OF ALL ARTICLES HEREIN SHOWN.



Vol. XLV. No. 20.

SAN FRANCISCO, SATURDAY, MAY 20, 1893.

THE DEWEY PUBLISHING CO.
Office, 220 Market St.

Dogs at the Bench Show.

Some one has said that the only true friend any man has is his dog. No matter what misfortune may overwhelm, or how others may shun or revile him, the affection of the dog shows no change, no weakening. Possibly the dog is so constant because he is never right well acquainted with the average man. Be that as it may, there is something about a dog that attracts the liking and attachment of all. A good dog has as many friends as a baby. Even a bad dog—if there are any—generally finds a devoted master and protector.

It was of the dog that Byron wrote:

"In life the firmest friend,
The first to welcome, foremost to defend,
Whose honest heart is still his master's own,
Who labors, fights, lives, breathes for him alone."

Dogs have become so important a factor in our social economy that it is considered both proper and profitable occasionally to make a collection of them and have what is known as a "bench" show. These shows generally attract the finest-blooded dogs in the land, and are altogether an exhibition of all that is valuable and interesting in the dog line. Bench shows were recently held in Los Angeles and San Francisco. At both the number of exhibits was large, and the attendance of fanciers, breeders and the general public was very heavy. We are able



TWILIGHT.

to present this week—through the courtesy of *Field Sports*—illustrations of a number of the best exhibits. They are as follows:

Bull Terrier—J. F. O. Comstock's *Twilight*, by Hinks—*Starlight*. Winnings—1st Puppy and 1st Open at Los Angeles, 1892; 1st Puppy and 1st Open at San Francisco, 1892; 1st Open at Los Angeles, 1893; 1st Open at San Francisco, 1893.

Collie—E. A. Rix's *Fordhook Paragon* (14,038) by Olif-ton Chief—*Frisk*. Winnings—1st, and special for best Collie, San Francisco, 1893.

English Setter—H. T. Payne's *Countess Noble*, Stanford. She won second in the Pacific Coast Field Trial Club's Derby last January. First in the open bitch class and special for the best English setter, any sex, at the Los Angeles show.

St. Bernard—California Alton (22,347) by Alton—*Cor-vette*. Winnings—1st San Francisco, 1892; 2d Los Angeles, and 2d San Francisco, 1892.

St. Bernard—J. G. Barker's *California Bernardo* (26,803) by Duke of Wellington—*Tomah*. Winnings—1st Los Angeles and special for best St. Bernard, 1st and special for best California-bred St. Bernard, San Francisco, 1893.

PALM SPRINGS has made the first big shipment of large figs.



COUNTESS NOBLE.



PARAGON



CALIFORNIA ALTON



CALIFORNIA BERNARDO

PRIZE WINNERS AT THE LATE BENCH SHOW.

PACIFIC RURAL PRESS.

By THE DEWEY PUBLISHING CO.

Office, 220 Market St.; Elevator, 12 Front St., San Francisco, Cal.

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ANY subscriber sending an inquiry on any subject to the RURAL PRESS, with a postage stamp, will receive a reply, either through the columns of the paper or by personal letter. The answer will be given as promptly as practicable.

ALFRED HOLMAN.....General Manager

San Francisco, May 20, 1893.

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The Week.

Rain has fallen over quite an area of the upper half of the State, but thus far it has not exceeded the customary "hay rain" of May. It has not been sufficient in amount to do any harm, and, as a rule, has been insufficient to do any good to suffering interests. It has hardly been a dust-dampener in many parts, and could not have penetrated even to the upper roots of plants. Those who have builded upon hope of an effective May rain will have to prop up their structures with more hope. At the same time it is coming along to a date at which rain would do more harm to fruit than good to grain and pastures.

The rose show of the State Floral Society is opening in the Mechanics' pavilion, in this city, as we write on Wednesday. It has drawn exhibitors from long distances, and the display for extent and quality is exceptionally fine. The exhibition will continue until Saturday night in full form.

LOCAL capitalists are making a move to erect a wool-scouring establishment in Reno.

BIGGS, Butte county, wants a fruit cannery, as there are thousands of acres of fruit trees of all varieties near the town.

BETWEEN 600 and 700 men are now employed in thinning beets at Ohino. The factory is being enlarged for the coming crop.

THE San Francisco Produce Exchange has sent forward to Chicago a collection of the cereal products of California, consisting of 144 samples. It will be displayed at the World's Fair.

RIVERSIDE has so far this season shipped East 1700 carloads of oranges—500 more than was forwarded during the entire season last year. There are fully 500 carloads yet to ship. Riverside growers know by experience that it pays to co-operate.

How Trees Grow.

We trust all fruit-growers will read carefully the lecture on the movement of sap in plants which we print on another page. We never saw a clearer description of the phenomena of this phase of plant growth than Prof. Barnes has given. As he says in his introduction, there are most serious misapprehensions common among practical men upon this matter. One of the commonest is in drawing certain conclusions from a fancied analogy between the movement of sap in the plant and the circulation of blood in the animal. Not only does this serve as a basis for some ill-advised systems of pruning or possibly for a denouncement of all pruning, but it is carried beyond practice into a sort of sentimentality in the conception of plant life as such. This is probably ministered to by hazy knowledge of the border land between plants and animals and to the frequent impulse to attribute similar life to entities which follow different lines backward to common darkness. However, the evolution theory may derive all forms from primordial protoplasm or the ideal philosophy declare the non-existence of material at all, except as a creation of the mind of man, the ordinary observer and the practical horticulturist will do well to refrain from arguments by analogy and give some effort to understand just what is known and what is still obscure as to how the plant and tree maintain their lives. To a great extent this knowledge can be secured from the very clear exposition of which we print this week of what is known on this subject. It will then be found that really there is much still to learn about the vital processes of the plant, and this should check the too common disposition to base theories which simply "hold to reason." We are all too apt to trust to our imagination for facts, and on such establishment found very elaborate theories. This is common in all lines of agriculture and should be checked as far as possible. Fortunately it does not always affect the success of practice because the method of work may be good, though the reasoning which is summoned to explain it be defective.

Perhaps the most important practical conclusion to be drawn from the lecture which we publish is that pruning systems usually followed do not occasion serious losses to the tree. It is generally the sentimentalist who holds to the contrary and denounces as a "tree butcher" the man who forms his tree into good fruit-bearing and fruit-holding form. When it is shown that the commercial tree is almost unattainable without proper pruning, and that a tree which is grand for forest is an impracticable affair for the orchard, it does not relieve the feelings of those who count sap as blood and lopped off limbs as severed members of the animal body. Such sincere though ill-advised friends of the tree should be assured that sap is not blood, and that branches are not arms or legs, nor do they serve the vegetable being as vital fluid and essential members do the animal. Consequently tender regard based upon such conceptions is unnecessary. Unquestionably trees were given for the benefit and advantage of mankind in many ways, and adoration or admiration are well placed, but there is no reason to hold that it is kindness to a tree to neglect to shape and train it. If one desires to awake sentiment in the interest of our cultivated classes of trees, let him mourn that a plant brought by man out of its wild state into advanced horticultural value should be consigned by its parent to the wild conditions which are not suited to its advanced needs. Therein is the cruelty, if cruelty there be. The pampered offspring of the rich endure hardship when they are subjected to conditions under which the children of the poor grow strong and handsome. But we are now writing of a tree as though it were an animal, and that is what we protested against. As a matter of fact, we do not know that there are any such things as prosperity or hardship to a plant.

The phenomena discussed in the lecture to which we allude are of course only a few of the many which constitute vegetable physiology, but they are elementary and should be widely understood. We think our instructors do well in bringing the results of their studies to the attention of our practical workers. The experiment station establishments are proving most valuable and effective public instructors. They are bringing the learning of the laboratories to the firesides. The result must be a great advance in correct popular conceptions of natural methods and processes and this will minister to wider industrial success and to the elevation of manhood.

THE prize oranges are reported from Riverside. An 18-year-old seedling of Mr. George H. Rogers produced two oranges weighing together five pounds. One was 21½ inches in circumference, the other 21. Eight oranges from this tree filled an ordinary orange box, four on a side—so the newspapers say. It is now in order for some southern California journalistic mathematician to make a

little calculation, something like this: "If a tree 18 years of age produces oranges 21 inches in circumference, when the tree is 90 years of age it will grow oranges 105 inches, or 8½ feet, in circumference, or nearly 3 feet in diameter. If the orchard has 5000 trees and each tree grows 500 oranges, there will be 2,500,000 oranges, or enough, placed side by side, to cover the entire surface of Riverside county, leaving no room for inhabitants, or fruit Munchausens. The oranges placed in a row would reach from Riverside to the north pole, affording a secure roadway to the hitherto unreached hyperborean phantom, or fill 100 trains of 100 cars each. Mr. Rogers' profits at \$1 a box—each orange filling four boxes—would be \$10,000,000 from this orchard alone." Perhaps Mr. Rogers' tree would better be cut down at once.

PRESS DISPATCHES give an account of an interview between Representative Caminetti of California, and Secretary of Agriculture Morton, in which the former preferred a request that the department send to California an entomologist to look into various scales and other fruit pests. The secretary is reported to have been much surprised that California horticulturists would expect the Government to pay the expenses of such an expedition. The attitude of the secretary, if correctly stated, will occasion some surprise among California horticulturists. If it is not a part of the functions of the agricultural departments to investigate the habits of fruit insects, and methods to destroy them or prevent their ravages, it may appropriately be inquired what the horticultural department is for? Probably the secretary has been misquoted.

TWO-THIRDS of an average crop now seems to be a fair estimate for the California wheat output for 1893, even assuming that conditions from this time forward will be favorable. A month or more since every assurance was given that the total yield would be somewhere near average, despite early losses in northern California from floods and abundant rains. But since then drought and hot winds have wrought much damage and there is scarcely a section of the State that has not suffered. The only encouraging feature for the wheat farmer in California is the improved market situation. The shortage East will be heavy and more or less authentic reports tell of material damage in Europe from drouth. California is in good company, anyway. Let us extract what comfort we can from the contemplation of that fact.

REPORTS of the condition of the California exhibit at the World's Fair are somewhat disappointing. The State building is not yet completed and a large part of the exhibit is as yet unpacked. Complaints by visitors and intending exhibitors are numerous and caustic, and correspondents are sending to home papers severe comments on the unfinished appearance of things. Southern California, however, has been forehanded, and the exhibits of Los Angeles and San Diego make a very fine showing. It is said that the Florida oranges suffer greatly by contrast with the big navels of the Golden State. The exhibit in the horticultural building is said to surpass that of any other State. A few weeks time will doubtless remedy all defects. So far California has simply shared the general incompleteness of the Fair.

COL. C. J. MURPHY, representative in Europe of our Department of Agriculture, says: "Considering the cheapness of ocean transportation and the extraordinary excellence of our fruits, such as California and Florida oranges, prunes, figs and raisins, than which no better are raised anywhere in the world than in California, I am satisfied we can secure a good market for these products, even in the face of the competition of the Mediterranean countries." Col. Murphy thinks also that Europe offers a market for our moderate-grade wines. It seems a little like carrying coals to Newcastle, this competing with European products in their own markets; but experiments have already fairly demonstrated that Col. Murphy is right. Cheap transportation is the great desideratum.

In a recent letter, Bill Nye, the humorist, burlesques a custom of some California papers which cite sporadic instances of profits realized from a few acres of fruit, and calculate that, "at this rate the profit on 100 acres would be" some immense sum. Mr. Nye is not alone in his observation of this tendency toward exaggeration. It has become altogether too common a practice, and is certain to work injury in the long run. It leads to expectations which can never be realized. It places a fictitious value upon lands adapted to orchard-planting. Statements of actual average results are safer, nearer truthful, and altogether fair. They are, besides, sufficiently creditable to the resources and capabilities of California soil and climate.

CITING the instance of a conscientious packing concern at North Pomona whose orange consignments invariably

bring a top price in the market, the *Riverside Press* comes to the obvious conclusion that honest and careful packing pays. People are beginning to learn that all sorts of rough and imperfect fruit cannot be put upon the market and bring fancy prices simply because it is branded Riverside. When the output is very large, and much inferior fruit is on the market, the buyer quickly decides to seek better qualities, and he is always willing to pay an advanced price.

REPORTS from Sonoma county and from the Santa Clara valley are to the effect that prunes are dropping heavily, and the early expectation of an enormous crop must be revised. The opinion in Santa Clara now is, that the yield will only be fair, probably not much heavier than last year; and the outlook in Sonoma and other places appears to be about the same. The task before the Santa Clara Fruit Exchange will doubtless be materially lightened by the changed conditions. It will not be necessary to find a market for an unprecedented yield. Doubtless, prices will be better. The diminished prospect, therefore, cannot be regarded as an unmixed evil.

THE Viticultural Commissioners are doing a good thing in preparing accurate information for free distribution at Chicago. There is in progress an illustrated pamphlet on the viticultural interests of California, giving a brief history of the growth and development of the wine industry, together with well-arranged tabulations of statistics. One hundred thousand copies will be printed for distribution at the World's Fair. There is also being prepared a statistical account of the wine production and trade which should be made of value to local interests.

FRUIT in the East is sold in baskets; in California, boxes. When a San Franciscian buys a quantity of oranges he must carry it home in a paper sack, which is unhandy; or, if a box, hire an express wagon, which is expensive. Californians know just a little more than any other people about advanced methods of fruit-production, but the packers certainly have several things to learn of modern devices for fruit marketing. Small packages would undoubtedly prove attractive and convenient for the retail trade. The basket must come.

REPRESENTATIVE CAMINETTI has obtained an order from the Department of Agriculture detailing an inspector to select from the sites offered that which would be most suitable for the establishment of a sugar experimental station in California. It will probably be located upon reclaimed swamp land somewhere in the delta of the San Joaquin or Sacramento rivers.

HEAVY FLOODS are to be expected next month along the rivers of the Pacific Northwest. Snowfall in the mountains has been deeper than for years, and, when the melting season begins, the streams are sure to be tremendously swollen. Farmers along the lowlands are already making preparations for a great freshet. June is the month of danger.

DEALERS at San Jose are offering 4½ cents for black cherries, but the opinion of the San Jose Grange is, that they will bring from 5 to 8 cents. Probably they will. The Santa Clara fruit-growers seem to have the faculty of sizing up the fruit situation in other lines about right, and the presumption is that they will make no mistake in cherries.

THE Santa Clara Fruit Exchange has prepared plans and advertised for specifications of a warehouse, to be constructed near the narrow gauge railway in San Jose. It will be two stories, brick and fireproof. The exchange believes that what is worth doing at all is worth doing well; hence the warehouse equipment will be complete.

IN its issue of May 1st, the *Fruit Growers' Journal*, Cobden, Illinois, presents a review of the condition of fruit crops in the Western and Southern States. Reports are almost uniformly of storms and late frosts. Some places escaped injury, but, in the great majority, a tale of damage and havoc is told.

THE first apricots of the season were shipped Tuesday from Winters by F. N. Wertner. They were destined for Chicago. It may be remarked that the quality of apricot this year will doubtless be first-class. What has been lost in quantity will be measurably made up in size, appearance and flavor.

THE 350-foot ocean wharf at Shelter cove went all to pieces the other day while the steamer Emily was landing her freight upon it. The wharf was the property of H. Dutard of this city.

NAPA voted bonds to the amount of \$27,000 for the building of Third-street bridge. The structure cost \$25,825.62 and is a useful ornament to the city.

From an Independent Standpoint.

Of chief interest among the events of the week is the affirmation by the United States Supreme Court of the Geary act, relating to Chinese resident in this country. By this decision it is held that it is perfectly competent for the legislative branch of the government to compel the registration of any class of aliens and to prescribe the penalty of deportation for the refusal or neglect to comply with the law. It will be remembered that this act was passed by Congress a year ago and that one year was given for the Chinese to comply with it. All who have not complied with it (and they number nineteen-twentieths of all the Chinese in the country) are now liable under the law to arrest and deportation.

On the basis of this decision, it has been hastily assumed by anti-Chinese enthusiasts that within a few weeks all the Chinamen in California will be bundled back to their own country, but this is the wildest sort of folly. It is, in fact, a thing physically impossible. The Chinese failed to comply with the law under the theory that it was not constitutional. Now that it is demonstrated to be constitutional, they will no doubt comply with it. Congress will, of course, extend the time for registration.

It is estimated that there are 80,000 Chinamen subject to arrest and deportation under the law, but it provided that in each case the delinquent must be brought before a United States Court, that his delinquency must be proved and that judgment of deportation must be rendered against him personally. If our courts were to devote their whole time to cases of this kind they could not dispatch one thousand per month. Furthermore, it is estimated that to send 80,000 persons to China would cost at least six millions of dollars, whereas there is available for carrying into effect the Geary law less than sixteen thousand dollars. Clearly the job is out of proportion to the means. Nothing can be done until Congress meets, and then no doubt time will be provided to enable the Chinese to comply with the law. Of course there will be a howl against President Cleveland for not enforcing the law, but just how he is to enforce the law under the circumstances we fail to see. It would be as easy, practically, for the President to transport Mt. Shasta to China within the next four months as it would be to send back eighty thousand Chinese under the provisions of the law and with only a fund of sixteen thousand dollars to work with.

There is the usual talk among naval and military men about war with China, about the expulsion of American missionaries and the massacre of American merchants, and all that kind of thing, but there will be no war, no expulsion and no massacre; and there will be no deportation from this country. In fact, the purpose of the Geary law was not to send away the Chinese now here, but to provide a means for detecting or identifying Chinese unlawfully present in this country. A little patience will accomplish all this.

The annual convention of the Republican League at Louisville last week was not, as it was expected to be, a representative gathering. None of the great light of the party who had been announced among the list of speakers were present. In fact, there was in the meeting nothing notable in any way and no expression of opinion of policy that the rank and file of the party will accept as authoritative. The future policy of the party remains to be fixed just as it did before the Louisville meeting. The chief trouble is that there is nobody to take Mr. Blaine's place as the general-in-chief. Those men who might do it take care to keep in the background, and those who seek the place are not big enough for it. It now looks as if the party would wait for time and events to fix its policy, just as the Democratic party did during all the years that it was out of power. This is not good tactics, but it seems the only possible course, unless, indeed, some Moses shall rise up big enough and strong enough to command the undivided and devoted party following.

The resignation of Minister Stephens has been accepted, and Commissioner Blount has been appointed Minister to Hawaii to succeed him. The appointment of Blount to a definite official status is very satisfactory, since there was something a little rasping in his position as the representative of the President alone. Mr. Cleveland did what seems to us a very improper thing in authorizing a man who had no official status (being merely his own personal representative) as the superior in authority of a regularly commissioned national minister. That sort of thing would perhaps be all right in Russia and perhaps not very much complained of in Germany, but in the United States we don't like it. Matters of international importance like the question of Hawaiian annexation ought to be determined not by the President alone, but by the representatives of the people as well. "A strong man" in the presidential chair is certainly very much to be desired, but a President is never so strong as when he remembers the

source of his power and does not seek to act arbitrarily in disregard of other branches of the Government. In dealing with this Hawaiian matter, Mr. Cleveland has acted as if he were the only interested party in the whole United States, and as if the whole authority of the Government reposed in his person; and, in so doing, he has surprised and grieved very many who admire him personally, and who would like to approve of his official course.

The Executive order informing office-seekers that the White House would no longer be open to them and that it would be better for them to go home and mind their business has had the effect of thinning out the floating population of Washington, and giving the President and the heads of Departments a little more time for attention to public duties. But it has mightily angered many members of Congress. One foolish young man representing Utah was so completely disheartened that he resigned his seat, but before the letter had time to reach the Governor he thought better of it and recalled it by telegraph. This incident shows the false estimate this man and many others place upon the duties of a member of Congress. The Utah man felt that if he could not have the distribution of the Government places in Utah there was no use of being a member of Congress. There are scores of others holding the same view. Just what temper these malcontents will be in when Congress meets in September it is impossible to foretell, but it looks very much as if Mr. Cleveland would find a hotbed of personal opposition among those whose hopes in the matter of patronage he has disappointed. Nevertheless, in this matter Mr. Cleveland has done perfectly right. The scramble for offices which succeeded his inauguration was such that neither he nor his chief subordinates had time for any serious attention to the real business of the Government. It was high time to remind the politicians of the country that the President has something more to do than to distribute patronage and that the chief consideration in filling the offices is to have the work well done rather than to reward political activity. If Mr. Cleveland will stand firmly by his order, he will have done the country a great service.

The pressure in the matter of Sunday closing of the World's Fair has become so great that the directors have determined to return to the government its gift of \$2,500,000 bestowed upon the condition that the gates should be closed on Sunday. From this time on, Sunday will be an open day; the gates and the doors of all the buildings will swing wide, but the machinery will be stopped. The fewest number of persons possible will be retained on duty, and the two big halls within the grounds will be open for religious and choral services. Every concession that it is possible to make to religious sentiment and still keep the gates open, will be made; and it is hoped that no conscience will be offended by the course to be pursued. It is not likely that the government will receive the money which it is proposed to return. Singularly enough, the clause against Sunday opening was proposed by that eminent moralist, Governor Hill of New York, and was opposed by men like Dolph of Oregon, and others who are well known religionists. When the proposition to return the money is made, if, in fact, it shall ever be made, the whole business will probably end in a hearty laugh. It is infinitely better, in fact, that the fair should be open on Sunday, since multitudes of people would, in case the gates were closed, find worse entertainment in other places. There is a common sense about this matter which recommends itself to everybody, except a few extremists, and they are of a sort that can never be satisfied under any circumstances.

Thus far the fair has been a failure financially. The daily receipts have been far short of the daily expenses, but this is explained by the fact that people are waiting until all shall be in good working order, and that will take at least another month. As yet there is not a single completed State exhibit, and none of the great buildings are in the shape they will be in, say by the 15th of June. This is a case where the "early bird" will get left, and where the best of the show will be for those who go later in the season.

Pruning to Thin.

TO THE EDITOR:—Aye, that's the thing to do, prune not only to thin the crowded branches, but also to thin the fruit. By a judicious system of pruning, much of the labor of thinning the fruit can be saved, besides saving to the tree and fruit left, the nourishment expended in what is thrown away. With a pair of light shears I think I could prune, so as to save the labor of two or three men in thinning the fruit; besides inducing the growth of the fruit near the body of the tree, thus giving it the benefit of its food at short range, and not obliging the sap to go through a long limb, to become heated and soured. If all long, rampant, pendent limbs be cut back, shortened in, as they should be, there will be no heavy weight of fruit at their

extremities weighing and splitting them down, and no propping up will be required. "Prevention," in fruit culture, as in everything else, "is better than cure."

Thin out the crowded limbs and fruit, brothers, but don't try to raise any crops but fruit on the same ground, after the trees get to bearing.
J. S. TIBBITS.
Plymouth, Mich.

Pork Production for Profit.

[Circular Issued by the Cudahy Packing Co., Los Angeles, Cal.]

The profitable porker, the hog of the times, is one that goes at the fastest possible gait from birth to the block, and reaches that goal in from six to nine months, weighing from 200 to 350 pounds, according to age, type and feed. He must possess a quiet disposition, early maturity and a neat, smooth body of moderate height. He may be one of several of the improved breeds, a thoroughbred or high grade, or, if simply for pork, cross-bred. His parents must be of good type. The boar should be thoroughbred, neat, compact and of fine external form. He may be lighter bone than the sow, but his muscular development must be of the best. The sow must have length, breadth and depth of body, well rounded ribs, a rangy, roomy, open build, ten or twelve well-developed teats, of inherited fertility, a greedy feeder and of distinctive maternal type. Both sow and boar must have strong vitality and assimilating power, and vigorous constitutions. They should have been as fully fed, for rapid development and to fix the feeding habit, upon food rich in muscle and bone-forming elements, as vigor and health permitted. They should have alfalfa pasture, barley, bran and oil meal and little or no corn. At eight months of age the boar would then be ready for limited service, and the sow to be bred for her first litter. But one service should be permitted, the sow going to the boar's den. On reaching the breeding age, the boar must have his own quarters, removed from the presence of other hogs. He should have a good dry sleeping place, a pen of sufficient size for necessary exercise, and, if possible, a small pasture. His food must be nutritious and of sufficient variety—not heating and fat producing. He and all the hogs should have abundance of good, clear water for drinking at all times. He must be kept vigorous and thrifty, but not so fat as to make him slow, clumsy, or unsure. If properly cared for, he will be at his best at from 18 months to five years.

The sow should be bred so as to bring her litter from the 10th to the 20th of April, avoiding the more generally rainy weather of winter, and early enough to enable the fattening of the pig during the early fall. When bred she should not be too fat, but thrifty and vigorous. After taking the boar she will take on flesh rapidly, and should go to the pigging pen in good flesh, but not overburdened with fat. The mature sow will carry her pigs about 112 days, and the young one near 106. The mature sow, as a breeder, is more desirable than the young one, and a protective, successful mother should be kept so long as she remains so. Seven or eight pigs successfully raised are generally better than more, and from a mature sow, usually weigh, at six or seven months, near 50 pounds more than the first litter on the same treatment, and will have more style and vigor. As farrowing time approaches, the diet should be of loosening character, six or seven parts bran, and one of oil meal by weight. In warm sloop will do, but potatoes, squashes, or any sufficient food will help them out. It would be still better if she could have the run of a full-sown barley pasture, after which farrowing will help bridge over to grass and clover. Ten days after farrowing she should go to her pigging pen, which should be warm, dry and ventilated. Her bedding should be given her to work over and make fine, the supply not too generous. The nest ought to be shallow, and next to the wall, eight or ten inches away, and the same height above the floor should be a rail to prevent the pigs from being overlaid or crushed against the walls. She ought not to be disturbed too much during farrowing, but left as quiet as possible. For twenty-four hours afterwards, little if anything but water should be given her, and for several days the food should be light, cooling and sloppy. During her sucking period her food must be generous and rich in milk-producing elements. Intelligence, care, watchfulness, close observation and judgment are required, and regularity in time, quality and quantity of food must be observed. Her food may consist of bran 4 parts, corn or rolled barley 3 parts, oil meal 1 part; or bran 2 parts, corn 2 parts, oil meal 1 part; or middlings 3 parts, bran 2 parts, corn 2 parts, oil meal 1 part, all by weight, the corn and barley ground, and all fed as a warm sloop, thin enough to pour well. The food should be always sweet. At two weeks of age the pigs should begin to have exercise and the sow access to alfalfa. The pigs should be taught to eat as soon as possible, and by four weeks of age should be eating regularly. By the second week apart from their mother they should have warm sweet milk in a shallow trough and whole soaked with corn and alfalfa. When they have fairly learned to eat omit the corn and give them milk, bran and ground oats, which, with alfalfa, will furnish them the best food for five or six months, or until fattening time comes, when corn must be the main reliance. If without milk, feed in warm—not hot—slop bran and ground oats, six or seven parts, and oil meal one part, by weight, using all the kitchen slop and buttermilk available.

About ten weeks old the pigs may be weaned, being gradually taken from the sow. Two or more weeks before weaning the castrating should be done. Feed now five times a day, reducing the feeds gradually with their growth to three. Good feeding consists in giving them every particle they will eat, without leaving any or losing their appetite. The troughs must be kept clean. Do not overfeed. They must not be clogged or surfeited, but should come to their feeds with zest and a keen, sharp appetite.

The essentials of success and profit are now alfalfa, the most economical and healthy food, the food of nature,

supplemented with the grain ration to aid in the greatest possible muscle and bone growth. When fattening time comes at four, five or six months they should go on to corn gradually, and with it have generous feeds of pumpkins, the seeds partly removed. In the absence of pumpkins a bran slop should be given to meet the demands for a bulky food. Barley and oil meal now being omitted, they will now come to a fat-producing corn with a wonderful power of assimilation, and will fill up and round out in a surprisingly short time. Now and all times free access should be given to salt, ashes and charcoal or soft coal. Corn feeding should begin with corn in the roasting ear, and feed stalk and all so long as the stalk is readily eaten.

In giving the above rations it has been the aim to select those readily obtainable and the cheapest for feeders; and while all rations are not scientific, they will be found eminently successful on trial and practically approaching a perfect ration. "By the general following of the directions briefly outlined in the feeding of grass, alfalfa, barley, bran and succulent foods, the ordinary diseases of the hog will, in time, become a thing of the past. Exclusive corn-feeding, either to the sow, boar or growing pigs, is neither economical, scientific or safe. On the other hand they apparently (because they have to be purchased) are in the truth most profitable, and in combination with cheap grass, alfalfa and corn are most essential to pork production for profit."

W. M. WILSON.

Syrup from Raisin Grapes.

Prof. H. E. Van Deman, pomologist of the Department of Agriculture, recently wrote to John S. Dore, of Fresno, as follows:

"The overproduction of raisins has indeed become a serious matter, especially to the growers, and we fully sympathize with you and are anxious to assist in an effort to alleviate the situation. Three years ago, in my annual report, I suggested the manufacture of grape syrup with a view to this end. Other than this I know of no published matter on the subject, except now and then a little note in one of the papers.

"The making of grape syrup has been conducted for thousands of years, and was a staple article in early Jewish times. I see no reason why it may not become equally popular now in this country. I have tasted samples made in your State that are indeed excellent, but I think they could be improved upon by evaporating by steam heat or some of the best improved syrup evaporators. The lighter colored the syrup can be made the better price it will bring.

"I have tested it on the table, used as maple syrup is used, and think it fully equal, although quite different in flavor. I have talked with some of the leading fancy grocers in this city, and they all say it could be easily introduced. My idea is to have a barrel sent to a very few of the best grocers in the large cities and have bottles holding a pint filled, and on the outside an attractive label stating just what it is, where it is made, and from what variety of grape, where this is practicable, and present a bottle to each of his best customers, as far as possible. The labels should also state what the syrup would cost per gallon, and then this should be backed up with a carload ready to be ordered and put on sale.

"All this would take some capital and some nerve, but you Californians have both, and if some such plan as this does not eventually prove a grand success then I am mistaken. You could use all of the surplus grape crop.

"We find at our house that it makes delicious cakes or cookies, and I think it can be produced and sold at a price that will warrant its use in this way. I think there might even be a chance for its exportation to Mexico, and possibly to Australia, unless the grape-growers there catch on to the same idea.

"This is perhaps not such a letter as will do you much good, but in the absence of any specific information in a public form, I merely wish to encourage you and to urge the practical application of some such ideas as I have just given."

Crops in Central California.

Crop Bulletin No. 7, for central California. Fresno, Cal., for the week ending Monday, May 15, 1893:

Fresno—The "cut worm" has done little damage about Fresno, but the "Sphinx moth," which produces the "tobacco or tomato" worm has been flying for several days in great numbers and many worms have hatched and are doing much damage. Grain in many places is badly fired, but unless strong, hot winds come within the next week the crop will be nearly up to the average. The cool weather has been very favorable, although the mean temperature is 2 degrees above the normal. Haying is in progress and is yielding largely. Cherries are coming in and are of fine quality.

Selma—The Paris-green treatment does not seem to have been effective on the "cut worm" which has done much damage in this section. Vines are now blooming and prospects good.

Kingsburg—The "cut worm" doing great damage to vines; other fruit looking well and grain is holding its own.

Reedley—Vines looking fine and wheat holding out well.

Sanger—Drought has injured all kinds of grain; vines are blooming and prospects good for a heavy crop of Muscats. A temperature of 102 degrees during the week has driven the "cut worms" into the ground, and they have quit work. Paris green was not effective in destroying them in our district. Haying is well under way.

Easton—Limited areas of wheat are burned, early sown on summer fallow will make a good crop. Malagas are blooming and Muscats nearly ready to bloom. No pests have appeared in that section. The peach crop will be short.

JOHN R. WILLIAMS, Director.

Gleanings.

THE way to co-operate is to co-operate.

SACRAMENTO COUNTY will make the experiment of sprinkling fifty miles of road this season.

It has been discovered that there are other fine exhibits at Chicago besides California's; and a contribution to a local paper has the unpatriotic temerity to insinuate that several are better.

MONGOLIAN PHEASANTS have been imported into Humboldt county. They are a most desirable acquisition to the game birds of California. There are some Chinese bipeds who must not go.

OFFICERS of the Napa Valley Fruit-Growers' Association have been elected to serve for the ensuing year, as follows: President, A. D. Butler; vice-president, Wm. Hunter; secretary and treasurer, W. H. Evans.

A GENTLEMAN has estimated that if all the roses in blossom in Pomona were picked they would occupy about seven closely-packed freight cars. There are literally millions and millions of roses in bloom there now.

THE directors of the Santa Clara County Fruit Exchange have permanently organized by electing the following officers: President, Philo Hersey; vice-president, E. F. Adams; secretary, W. H. Wright; treasurer, Union Savings Bank. It was decided to elect no manager at present.

"WHERE TO STOP IN CHICAGO," is the alluring title to an advertisement in the local papers. Judging from reports of practices on the unplucked visitor by Chicago hotel-keepers and others, we should say the best place for Californians to stop in Chicago is about 2500 miles west of Chicago.

JOHN W. MACKAY, is disconsolate because two physicians want \$12,500 for extracting Rippey's bullet from his person. He has been trying so hard, poor man, to lay up money for a rainy day, and this is the way his frugal endeavors are set at naught. Mr. Mackay thinks he ought to store up treasures on earth, not in Heaven. He wants to see them again.

A VISALIA PAPER contains a circumstantial account of the deed of a rooster in that vicinity which laid an egg; and the paper has placed the egg on exhibition in proof of its assertion. If the rooster was likewise to be displayed, no possible link in the chain of evidence would be missing. There is talk of sending the rooster to Chicago as a sample of California prodigies. Why not send the author of the story instead?

SHEEP-OWNERS in the southern part of the San Joaquin valley are said to be much disturbed over the order of the Government excluding sheep from the forest reservations, which are said to cover 4,000,000 acres in the mountains. The object of this exclusion is to protect the forests from injury or destruction through fire, which too often marks the journeys of sheep-herders in the Sierras. The sheep men have been accustomed to pasturing their flocks on Government land in summer and are naturally loath to surrender the privilege.

SEÑOR TAMOS O'RAMOS, the celebrated weather prophet who predicted the election of Grover Cleveland, writes to the RURAL PRESS that he enjoys the proud distinction of being a citizen of this great country, being of Spanish parentage. Señor O'Ramos further declares that a recent assertion in "Gleanings" that "Tamos O'Ramos is a funny name for an Irishman" is an error. While loath to combat the eminent authority of the distinguished Sanger prophet and philosopher, we feel constrained to re-assert our position: Tamos O'Ramos is a funny name for an Irishman.

A VALUED SUBSCRIBER forwards to us several documents he received through the mail, which appear plainly to be a proposition to sell counterfeit money. They consist of a circular designed to capture the dishonest and unwary by a statement that the counterfeiters are printed from genuine plates stolen from the Government, a bogus newspaper clipping describing the methods of the counterfeiters, and a slip telling how to reach the dealers. Prices are \$300 for \$3000, \$400 for \$5000, etc. The scheme is not what it appears to be. It is a bunco game. The alleged counterfeiters get the money and pocket it. They never deliver the goods.

THE Suisun Valley Fruit Association met May 6th and selected the National Fruit Association as its agents in the East. This company has its agencies in all the principal cities east of the Rocky Mountains. The fruit-growers here, says the *Solano Republican*, by organizing, hope to reduce expenses by buying their boxes in large quantities, making large contracts for delivery of fruit, and by loading the cars themselves at the expense of actual cost only. The fruit, when on the cars, will be shipped to any desired point in the East where the National Association has an agency. The new warehouse is progressing rapidly and is soon ready for use.

THE editor of the *Siscons Mascot* has been appointed fish and game patrolman, and he has already found that the way of the office-holder is hard. He has been made the target of numerous vile slanders, and he is obliged to print editorial denial of statements that he arrested a tramp for eating a can of sardines on the railroad track; and that he kept a ten-year-old boy in the cooler over night for digging angle-worms in a back alley. He admits that he confiscated a box of codfish bricks from a store, but that he turned them loose in the creek is a gratuitous reflection on his official integrity. The editor may not know much about the finny tribes, but no sucker be.

WHISKY AND SNAKE-BITE are supposed to be inseparable companions, but a Riverside doctor has successfully treated a rattlesnake bite without the aid of the intoxicant. The treatment was: The hand and arm were first thoroughly cleansed in a hot medicated wash, and the places where the fangs entered were lanced, so that the poisoned blood might escape. It was again washed clean, and a 33 per cent oily solution of camphorated phenic acid was injected into some twenty-five places in the hand and arm. The only remaining treatment was to keep the parts perfectly clean. The doctor says anyone bitten by a rattler should immediately suck the wound and spit out the blood, then tie a handkerchief tightly above the wound, and open it with a clean penknife to let it bleed. While this is being done not a moment should be lost in getting to a surgeon. The snake may also be killed while you wait.

Oregon on Adulteration.

Section 7 of the new Oregon Dairy and Food law reads as follows:

SECTION 7. An article of food or drink or medicine is deemed to be adulterated within the meaning of this Act, when

1. Any substance or substances have been mixed with it so as to reduce or lower or injuriously affect its quality or strength.
2. If any inferior or cheaper substance or substances have been substituted wholly or in part for it.
3. If any valuable constituent has been wholly or in part abstracted from it.
4. If it is an imitation of or is sold under the name of another article.
5. If it is colored, coated, polished or powdered, whereby damage is concealed, or if it is made to appear better or of greater value than it really is; provided, however, that salt and anatto or butter color in which anatto is the principal ingredient shall not be considered an adulteration when used in dairy products.
6. Butter that contains more than 14 per cent water.
7. Milk that contains more than 88 per cent water.
8. Milk that contains less than three per cent butter fat.
9. Milk that contains less than 12 per cent volume of cream, or less than 1.035 specific gravity after the cream has been removed.

Experience will doubtless prove that it is not practicable to furnish butter containing not more than 14 per cent of water, and that the cream test is as unnecessary as it is unreliable.

AGRICULTURAL SCIENCE.

The So-called "Sap" of Trees and Its Movements.

An address by CHARLES R. BARNES, Professor of Botany, University of Wisconsin, delivered before the State Horticultural Society of Wisconsin.

The subject which I have chosen to present to you this evening is not chosen so much on account of the information which I am able to impart as for the purpose of correcting a great deal of misinformation which is widely prevalent. Many false ideas as to the nature and movements of what is popularly known as the sap of trees are extant, and in a large number of cases these ideas are founded upon mistaken notions of the physiology of plants. Our own knowledge about many of these matters is yet exceedingly imperfect, and it is for that reason that many of my statements will of necessity be negative. The subject also is one which must have considerable interest for those who are so intimately engaged in cultivating fruit and shade trees as are the members of this society; and I take it that no fact in regard to the life and mode of working of the plants with which we are so constantly dealing will be entirely without interest.

WHAT IS MEANT BY "SAP?"

It will be necessary for us at the outset to gain some accurate idea, if possible, of what is meant by the word "sap." If we think for a moment of its various uses, we shall see that it is a word which designates not a fluid of definite composition, but one under which is included a great variety of watery solutions. The sugar-maker begins even before the snows have left the ground to collect from wounds in the trunk of the maple trees a sweetish liquid which he calls "sap." After a considerable time the proportion of sugar which this liquid contains diminishes very greatly, and he then abandons his work because, as he says, the "sap" has become too poor. The man who has postponed pruning his grape-vines or trees to too late in the season finds that from the cut surfaces a watery substance is trickling which he calls "sap." But the sugar-maker will be unable to obtain either sugar or syrup from this fluid, which is, however, called by the same name as that from which he manufactures his sweets. When a boy who is making a whistle hammers the bark of the twig in the spring, he finds it easy to separate the bark, because, as he says, the surface of the wood is then slippery with "sap." The sap of the boy is widely different from the sap of the pruner and the sap of the sugar-maker.

Again, what we do not call sap may furnish us with some illustrations of the diversity of meanings of this term. We do not ordinarily speak of the "sap" of the apple, or of the "sap" of the grape, or of the "sap" of the orange, but call the fluids which these fruits contain "juice." And yet they are not more different in their composition from those fluids which we do call sap than the three examples already mentioned are different from each other. We might, therefore, in all reason, apply this word sap to the juices of fruits.

We popularly distinguish the older hard internal wood of the tree under the name of "heart wood" from the younger, softer and lighter-colored external wood, which we call the "sap wood." To the fluids which saturate the sap wood we are constantly in the habit of applying the word "sap," but I have never heard it applied to the exactly similar fluids which saturate the heart wood. As far as the composition of these fluids is concerned, there is no reason why that in the heart wood should not equally well be designated as sap.

What then are we to understand by the word "sap?" Evidently not a substance of any definite composition; but the word signifies only in the most general way the various watery fluids which are found in the plant. There is no reason indeed why these solutions should not be called *water*, for in many cases they are almost as pure as the water which we drink. In the chemist's sense, the water which we draw from our wells is a watery solution of various substances, and yet we do not designate it commonly by any other term than simply "water." In a similar manner, it is quite proper for us, and perhaps it would conduce to clearness of ideas, to designate the watery solutions in plants simply by the term "water," understanding it in its popular and not in its strictly chemical sense.

MOVEMENTS OF WATER IN TREES.

Let us turn now to the consideration of the movements which the water in trees exhibits. I shall confine my remarks to trees simply for the reason that they present the greatest variety of water movement and at the same time furnish the greatest difficulties in the explanation of these movements. If, therefore, we understand the movement of water in trees, we shall be able readily to transfer these ideas to the movement of water in the smaller plants, although the statements applicable to the trees are not always applicable to the smaller plants, because of their greater simplicity; however, the greater includes the less.

THE EVAPORATION STREAM.

In the first place, there is need of a very considerable amount of water to supply the constant evaporation which is going on from the leaves of trees. Immense areas of delicate tissue are exposed to the dry air, and oftentimes to the hot sun, in the form of foliage, and from this foliage there is going off at such times large quantities of water in the form of vapor. The water needed to supply this evaporation must come from the soil, because it is not possible for the leaves to take in any water, not even when they are wet by the rains or by the dews. The water enters, not at the base of the trunk where the large roots are found, but only at the extremities of the finest rootlets. At these points the rootlets are clothed with a "nap" or "pile" of fine hairs. These root-hairs must not be confounded with the fine branches of the root, for it is only the finest branches which are covered with the close-set hairs. Consequently, it is only the youngest and most delicate parts

of the root which allow the entrance of the water. But the water escapes from the leaves, and from the point of entrance to the point of exit is a far cry for the coursing droplets. How does it pass through this long space?

It is just here that our knowledge is most defective. We know a number of things that are true in regard to it, and we know a number of things which are not true in regard to it.

We know that it moves in the sap wood of the tree, and neither in the bark nor in the heart wood. Many of you must have made observations which are sufficient to establish this point. You have, for instance, observed that the bark of trees might be peeled off for a considerable distance, and that the leaves would still retain their green color and their freshness. In many cases, indeed, the mere removal of the bark from the tree is not sufficient to bring about its death until several months, and in some trees not until several years after the injury. Death, however, is inevitable sooner or later; but the fact that the leaves remain fresh for so long a time is evidence that the supply of water is not interfered with. Death ensues from a totally different cause, namely, from the starvation of the roots in a way which will be explained later.

Again, you must have observed that it is quite possible to have the entire heart wood of the tree removed, as is often done by decay, and yet to have the leaves remain fresh and green for an indefinite time. In fact, the rotting-out of the heart wood scarcely interferes with the vitality of the tree, except as it renders it mechanically weaker, and consequently more liable to be overthrown by storms. If any further proof were needed, it is perfectly possible to show experimentally that the sap wood alone is engaged in the transfer of the water required for evaporation by cutting into it. A saw-cut which passes through the sap wood, but leaves the heart wood intact, brings about within a very short time the withering of the leaves. In some trees, indeed, a cut which severs only the outer youngest layers of the sap wood will produce the same effect, since in such trees only the youngest layers of the wood carry the water. By experiments on twigs it can be demonstrated that withering will occur even if the bark is almost completely uninjured.

We know the water to supply evaporation moves chiefly in the cavities of the elements of the wood. The wood of the tree is composed of a large number of *fibers*—that is, elongated cells pointed at both ends, and of *ducts*—that is, tubes of great length formed by the breaking together of rows of cells placed end to end. You can get an idea of the manner in which these ducts are formed by imagining a series of round pasteboard boxes piled one on top of another, after which the top and bottom of each is removed, so that, instead of a series of separate chambers, we have now a long tube. The fibers may be likened to a series of lead pencils, sharpened at each end, and placed in contact with each other, the points of the lower ones overlapping the next ones above and fitting in between them. In my illustration the cavity of the fiber would be represented by the lead, and it would be more accurate if we could conceive of the cavity as not extending entirely through the pencil, but stopping short of the point. Minute pits extend from the cavity of one of these fibers to the other, and the walls also of the long ducts are also marked by larger thin spots. It is in the cavities of these ducts and fibers that the water chiefly travels.

We do not know what part is taken in this ascent of the water by those peculiar elements of the wood which you know by the name of silver grain or the pith rays. You will remember these as the shining plates of tissue which extend from the center of the wood toward the circumference. They are particularly prominent in the oak and show most when it is split "with the grain." It is probable that these cells have a great deal to do with the movement of water, but their exact *role* is not fully agreed upon.

We are in almost total ignorance at the present time as to the force by which the water is elevated through so many feet. There are trees in the gullies of Victoria, Australia, whose height exceeds 470 feet, and we must invoke some force which is able to raise water from the level of the soil to the level of the highest leaf. A year ago we thought we had a hypothesis which would account for this movement, but later researches have brought to light some facts which are at present totally irreconcilable with what was a most charming and, at that time, a most satisfactory explanation, and we shall be obliged to abandon it unless the wine of the new knowledge can be held by the old bottles of theory.

At the time when our knowledge of capillarity was greatly extended by the celebrated researches of Jamin, it was thought that we had knowledge of a force adequate to account for the raising of water to these great heights. The fibers and ducts which I have described to you seemed to answer very perfectly the requirements of capillary attraction, and it was thought that this force, by reason of which water rises through narrow spaces, was the one sought. But the rise of water in capillary spaces is proportioned to the size of the opening—the smaller the opening, the higher will it rise. With the decrease of the caliber of the tubes, however, the friction increases enormously, and only small quantities will be able to be moved on account of the diminished size of the tubes. It was quickly seen that, in order to account for a rise of even a hundred feet, the tubes of the wood must be vastly smaller than they really are.

When it was found that the air in a plant is under a less pressure than that outside the plant, it was thought that the force had been discovered, and that atmospheric pressure furnished the explanation. Negative pressure, however, on the interior never reaches zero, and consequently cannot account for a rise of more than 33 feet.

Again, what was called root pressure was invoked to explain the phenomena. It is found that water is absorbed at certain times so rapidly by the roots that it exists in the plant under considerable pressure, and it has been claimed that root pressure, combined with the other forces already known, was adequate to account for the rise of water; but this, too, has failed us.

It is perhaps the greatest weakness of the last theory (that of Godlewski), which we have just had to abandon

temporarily at least, that it depended for its explanation upon the indefinite and illusive "vitality" of certain portions of the plant. Godlewski's brilliant hypothesis, which ascribes to the activity of the living cells of the medullary rays the function of receiving from lower levels the water and passing it on to higher tissues through rhythmic variations in their osmotic power, due possibly to respiratory changes, may yet hold the clue which we are seeking. But when Strasburger jacketed a young tree for a distance of 35 feet, and kept it surrounded by hot water until all of the living cells in the tree trunk were unquestionably killed, and when under these circumstances the water supply to the leaves was not interfered with, so that they remained green and fresh, we were obliged to conclude that the lifting of the water is not dependent upon the life of the tissues directly, but that it is evidently carried on by a physical process yet to be explained.

Before passing from this topic of the movement of water which supplies evaporation, I must allude to a very common and widespread idea—at least I judge it to be widespread, because it is so frequently propounded by my students—that "the sap goes down in winter and up in the spring." Just where the sap is supposed to go in winter is not exactly clear, since, if the roots are absorbing water in the fall when the evaporation is diminished, they are likely to have quite as much water as they can hold already. The conception, apparently, is that all of the water lodged in the trunk and spreading branches goes downward into these roots. It needs, however, only the most casual examination of trees in winter to discover that at this time they are almost saturated with water. The twigs of the hickory tree, for example, will be frozen on a cold day in winter, so that they are as brittle almost as glass, and one can snap off a twig half an inch in diameter as though it were an icicle. The same twig, when not frozen, on a mild day will be so tough that there will be no possibility of breaking it.

Again, if one cuts off a branch from a tree in winter and brings it into a warm room, he will quickly discover that water is oozing from the cut end, showing that the twigs are almost saturated with it. As a matter of fact, the water in trees increases from midsummer or early fall to the beginning of growth in early spring. There is thus no necessity for any "going up" of the sap in spring until the leaves are expanded and the water with which the tree is already saturated begins to be evaporated from the foliage.

BLEEDING.

A second movement of water in trees is that which occurs in the so-called "bleeding." The bleeding of trees occurs at different times of the year, either before growth has begun at all or just as it is beginning. In the two cases the cause is quite different. We find a good example of both sorts of bleeding in the gathering of the sap by the sugar-maker. This gathering begins at the time when the ground is still frozen and the roots are almost or quite unable to absorb any water, but at a time when the air is warmed through the middle of the day by the increased heat of the sun. At first the expulsion of water from wounds made in the trunk is due to the expansion by heat of the air inside the smaller branches and twigs of the tree. This sets up at once a pressure upon the water, and this pressure is transmitted to all parts of the tree. The water with which the tree is filled is thereby forced out as soon as an opening is made for its escape. Later in the season, however, the roots begin their work of absorption, and there is then set up the so-called *root pressure*, by reason of which the water is forced out at the same openings. The latter sort of bleeding is necessarily delayed until growth is about to begin, and is checked as soon as the foliage is sufficiently expanded to begin evaporation.

A bleeding similar to the last takes place at the hood-like tips of grass leaves, where the skin is nearly always ruptured. The little drops of water which accumulate here are commonly mistaken for dew, but are merely droplets exuded from the interior of the leaf, because the falling temperature of the air toward evening has diminished the evaporation from the leaves, while the roots in the warm soil are still absorbing water, and consequently producing an internal pressure. The movement of water in these cases of bleeding, it will be seen, is necessarily toward the point of exit, which may be above or below the point at which the pressure arises.

SECRETION OF NECTAR.

A third sort of movement of water is that which takes place in the nectaries of flowers and leaves. The flowers of our common linden, for example, secrete a considerable quantity of sweet fluid, which is sometimes miscalled "honey," but is properly known as nectar. Honey, by the way, is nectar after it has been digested by the bees. At certain points in the flower there are groups of cells whose special business it is to withdraw water from the parts below, and filter it through their outer walls, after having added to it the materials which make it sweet. The movement of water in this case is extremely limited.

THE TRANSFER OF FOOD.

The last movement of water of which I shall speak is of those solutions which contain the food of the plant. These materials are not those absorbed from the soil, or gathered directly from the air, but they are the substances which have been manufactured by the leaves out of the materials obtained from the soil and from the air. Since these foods are put together in the leaves, necessarily the movement of water containing them in solution must be in a different direction from that which supplies the evaporation. The materials thus manufactured in the leaves must be carried either to those parts which are growing or to those places in which they are to be stored for future use. It is manifest at the first glance, therefore, that the direction of the movement must be in general *inwards* from the leaves, and, since the roots require for their nutrition a considerable amount of these substances, there must be a very decided *downward* movement to supply them.

Now it is plain that these solutions of food must keep out of the way of those portions of the water which are chiefly to supply the evaporation from the leaves. We have seen

that the latter travel in the sap wood. The food currents, however, travel almost exclusively in the inner parts of the bark. You will therefore understand why stripping off the bark, or even cutting it, ensures the death of the tree eventually, even though the leaves remain long unwithered, since the roots depend upon the food formed by the leaves, they perish when severed from their base of supplies.

The movement of the evaporation stream is relatively rapid. The movement of this food current is relatively slow. We do know something of the mode of movement of these food currents. They are apparently brought about through the process known as diffusion, or osmosis, and are therefore necessarily slow. The cause of the movement is practically the same as that for the movement of oil in the lamp-wick, although it is by no means by the same method. The oil in the lamp-wick travels upward because at the top it is being destroyed as oil by reason of the heat of the flame. So the direction and existence of the current of water carrying food is because the various substances dissolved in the water are being altered at the place of growth or storage into new materials. The commonest of these food substances is sugar, and at the growing point of the stem, for example, the sugar is being constantly destroyed as sugar and is being converted into cellulose or protoplasm or some other material. So long as that alteration is going on, just so long will the sugar particles move toward that point.

But I must not impose further upon your patience. I have tried to sketch very briefly, and only in outline, the different movements which the water in the plant is undergoing. I have said nothing of the extreme variety of materials which may be found in this water in different plants, or even the variety found in the same plant at different times, but have endeavored merely to show you that there is going on constantly in the living tree a series of molecular and mass movements, of which too few people have any conception. To our imperfect knowledge let me hope that some of you may contribute facts which shall enable us some day to explain the many things which are now obscure.

HORTICULTURE.

Apricot Growing and Curing.

At the last meeting of the Southern California Horticultural Society S. R. Thorpe, of Los Angeles, had an essay on growing and curing apricots, as follows:

Planting an orchard and bringing it to maturity is a serious undertaking, involving no inconsiderable expenditure of time and money and labor. One contemplating an investment of this gravity should see to it that his soil and climate are adapted to the fruit he proposes to grow, and inform himself in regard to the probable demand and the supply at such future time as his trees shall come into bearing. If he has chosen apricots as his venture, then let him adopt as his motto "thorough."

In preparing the land for planting one cannot break and pulverize it too deeply, say 10 or 12 inches. The trees should be of the very best, selected with rigid care. Afterward shallower cultivation will suffice, but the soil should frequently be stirred to a depth of six or eight inches and kept loose around the trunk of the tree. The apricot is a lusty grower, and its hungry roots go far and deep in quest of food and drink.

In the moist and fertile soil of the great Ventura valley an orchard should be set in sextuple form and not less than 30 feet from tree to tree (35 feet would be better still), although nearly every orchard in this county is set 25 feet or less. At 25 feet, the usual distance, in ten years root and branch of adjacent trees are intertwined, all available space is occupied, and as a consequence the tree makes but little progress in growth and yield, and presents a clear case of arrested development. Given all the space and food it needs, the apricot tree will almost rival the walnut tree in size and far surpass it in productiveness.

The cultivation of an apricot orchard must be such as to kill every weed and always leave a bed of loose earth of five or more inches to serve as a mulch and the circulation of air. Pruning should begin early to give the desired shape to the tree and should be repeated every year. The tree should be headed low to shade its trunk and roots and to enable most of the fruit to be picked by hand. The head should be kept open to admit the sunshine and air—a very important matter along the coast. Cut out all dead wood and interfering limbs and water sprouts. You will find your labor amply compensated, for of all the trees that grow and yield delicious fruit there is not one more grateful for kind treatment and loving care than the generous apricot, whose perfect beauty once tempted a Roman emperor to lay aside the purple for the delights of his orchard. The fruit that wrought this miracle is far surpassed by the same splendid fruit which, in our day, is a surprise, a charm and an element of wealth to our own beloved California.

The favorite variety in Ventura is the Royal, a heavy and regular bearer. The Blenheim, wherever tried, is its equal, and for the past three years the Moorpark, under various aliases, has yielded quite as well as any, and in some cases surpassed others.

Such of the crop as is not sold to the canneries is dried, and here, too, the same word "thorough" must be the watchword and the motto. Care must be taken to gather the fruit when full ripe—not over-ripe—and above all, not green. Green fruit dries too wretched, dark little chips without appreciable weight, yet vile enough in appearance to lower the grade and lessen the value of the pack. Over-ripe fruit spreads out and presents an untidy look, and while not unwholesome like the under-ripe specimen, yet like it, it detracts from the selling quality of the whole.

The perfect machine pitter has not been introduced, and recourse must still be had to hand-pitting. The fruit should be cut entirely around and the pit lifted out, not squeezed out nor pushed out through the end. Careless

pitters adopt this vicious trick and injure every apricot so treated.

The tray now giving the best satisfaction is the one 3x8 feet, made of sawed redwood shakes. If the shakes were one-quarter or three-eighths of an inch thick they would make the trays stiffer and more durable and leave little in that line to be desired. Drying grounds should be kept clean and free from dust and straw.

Probably the most important of the drying is the bleaching. For this the very best sublimed sulphur—Freach or the Brooklyn brand—should be used. Less quantity than of any other kind answers the purpose, and not only bleaches well, but repels insects, so that moths and flies are not so apt to deposit their eggs upon the fruit while drying in the sun. Superb results have been obtained from starting the drying in the sun, say two-thirds of the curing, and then finishing the evaporation in the machine.

It has been demonstrated that excellent jams, marmalades and other preserves can be made with the dried apricot, and when properly prepared for the table this fruit is certainly among the most toothsome. Some producers have adopted the commendable practice of enclosing in each sack a card of printed directions for preparing the fruit for the table. A pleased customer buys again, and so the consumption of the product is extended.

Last season very successful shipments of fresh fruit were made from Los Angeles county. The fruit reached market in perfect condition after all the northern shipments had ceased. It commanded fair prices and gave general satisfaction. This has inaugurated a movement that is destined to assume considerable proportions and will prove a great benefit to Ventura orchardists. But such shipments require the best of fruit and the most careful handling. And this applies also to the proposition with which this little essay began, that "there is no excellence without labor," and to succeed in growing apricots and curing and marketing them every step and process must be "thorough."

Almond Growing in Ojai Valley.

Joseph Hobart, of Nordhoff, read a most entertaining and instructive essay, entitled "Almond Culture," at the last meeting of the Southern California Horticultural Society, as follows:

In looking about I find so much has been said or written concerning the almond, that it seems almost a waste of time for me to attempt to add to what has already been said. I can only give my own experience with my small orchard of 300 trees, now 18 years old.

What induced me to plant out almonds is more than I can now answer. I remember seeing, while riding from Santa Barbara to Ventura in 1871, over 20 years ago, an almond orchard quite near the coast at Carpinteria. From near-by residents I was informed it had been a paying orchard; subsequently it was grubbed out. However, this did not deter me from buying from D. B. Clark, at Montecito, 300 almond trees of the so-called Languedoc variety, on peach root. Why not on their own root I cannot say, other than at that time peach root was thought good enough for anything, and was a profitable root for the nurseryman to handle. Buying to-day, I would not touch an almond other than on its own root, for the reason that it is a deep and strong-growing root, and will go to moisture if not too far away, whereas the peach root looks to heaven and prays for it. Those planting out almond orchards are now, or should be, quite well informed as to varieties, locations, soil and other facts connected with the industry. Still, I find the question of location and soil not so much considered as it should be. Some have an idea that the almond does not need much moisture, and will do well on rather a dry soil. That the almond requires a plentiful supply of water to maintain its crop, is apparent to all who have studied the situation. My largest crops have been when we had early rains; in fact, the best crop I ever had was five years ago, when we had five inches of rain in October and a good rainfall up to April.

I presume all present know that if they take, in early spring, a branch of the willow, alder, peach or other early-blooming shrub and place it in water, we will, in a short time, see the flower buds expand. Now, it is quite evident that the necessary food for the development of what we see has been stored in the branch or twig, and that food is starch. Under right conditions of heat and moisture, starch is converted into sugar and so conveyed in solution to growing parts. If the moisture is wanting, can we expect more than a blooming and then a falling off, which so often occurs with the almond? If the rain comes late in the season and only a few inches, we invariably find the buds dropping and only as many as can be nourished remaining, and before the season of growth is over, many, apparently well-to-do, will shrivel, dry up and fall off. I think irrigation will help in almond growing.

I have, since planting out my first orchard, increased my acreage of almonds, planting the I. X. L., Ne Plus Ultra, Nonpareil and a seedling which came with my first lot of trees, which I have named Hobart's Seedling; also, a few of the Commercial. Of those named, I find quite a difference in the time of blossoming. The Commercial comes out about February 1st, the I. X. L. and others about three weeks later; my seedling still later. I have all the different varieties engrafted on trees, which enables me to see at a glance the characteristics of each kind and what effect cross-fertilization will have on them. In regard to cross-fertilization there is quite a difference of opinion.

Without quoting from any one, I will give my own observations, as seen on my ranch. With the first lot of 300 trees set out, there were at least six bitter and as many paper-shell almonds. When the trees came into bearing I noticed that those in certain locations were better bearers than others farther away, and I noticed that the bearing locations were near the bitter paper-shell almond trees. I did not know then much about crop fertilization and such like, and attributed it to some dispensation of Providence, the like of which is happening at all times and understood by few. My attention was called to an article in the RURAL

PRESS, written by some one owning an almond orchard, the pith of which was, that the bitter almond planted with other kinds would increase the crop of the desired kinds, the effect of cross-fertilization. I could say amen to it, for I at once understood and saw what had been going on in my orchard, where before I had been misty.

All may not agree with what I have said in regard to cross-fertilization, still the fact remains that quite all the almond orchards being planted out are mixed, that is, different varieties are being set out in the same orchard, showing that the possibility of cross-fertilization is being provided for whether it takes place or not.

Only once have I been troubled with any insect, and that was the red spider. It was spreading quite rapidly and I tried a wash recommended by the late Matthew Cook; one pound of lye to one and a half gallons of water. The spider seemed to thrive on it and the tree to suffer. Fortunately (this was in 1884) we had a rainfall of 65 inches. When it did clear up no spiders were to be seen; I presume they moved to the ocean, as I have not seen any since. The heavy rainfall of this season (34 inches) gives assurance of their not returning.

I have lost my crops three times in 15 years by frost; an unpleasant visitant, if it comes with a mischievous temperature, low enough to chill the nut just forming.

In conclusion, I would not advise planting the almond in locations subject to late spring frosts, which come with understood regularity, or on land unfit for trees of any kind, or where the rainfall is light and no irrigation ditch near by. I think Mr. Crockett's advice, David was his first name, "Be sure you are right then go ahead," is a good doctrine.

Thinning Prunes.

It is very truly said that the question of thinning prune trees depends upon the cost. Many large growers claim that the cost is too great, though they admit that the somewhat crude but speedy method of knocking the budding fruit off the tree with a stick may be profitable. Thinning results in finer and larger fruit, all admit. The tree expends its energies in perfecting the remaining fruit. A writer in the *Healdsburg Enterprise* cites a specific case of a small prune orchard and says:

"Now, right here, the question suggests itself—does or does it not pay to thin prunes? Let us figure a little on this proposition. We will take, for example, a little prune orchard of about 143 trees, about a mile from Healdsburg. These 143 trees bore last year fifteen tons of green prunes, or a fraction less than 210 pounds to the tree, equal to about 75 pounds of the dried article. With a heavy crop in sight all over the State, of course the prices will be much lower than last year, probably about the same as in 1891. Dried prunes sold that year at about 3½ cents for 110-140's, and about 4½ cents for 60-70's making a difference of one cent per pound between the two grades, or a matter of 75 cents per tree.

"I think it is admitted that just as much weight can be obtained by proper thinning as by letting the fruit mature at its own sweet will. If that be so, then the only question remains—'will the extra cent per pound pay the labor of thinning?' But even if thinning should cost the entire difference in the price, there is still in its favor the fact that the larger product will sell readily when the smaller is a drug in the market. This proposition is certainly suggestive, and should be worth the while of our prune growers to think about."

THE IRRIGATIONIST.

The Value of Irrigation.

Maj. J. W. Powell, Director of the United States Geological Survey, contributes to the *New York Independent* of May 7th, an article on irrigation, which is destined to attract wide attention. There may be little in the historical part of the discussion which is new to those who have read standard works on the subject, and little of a practical nature which will be new to the irrigator, but the publication of such an article by such an authority still has a great educational value. Maj. Powell says:

"The earliest agriculture of Europe, Asia and Africa began in arid lands. Turning to America it is discovered that this fundamental art began everywhere under like conditions of great aridity, on sandy plains and hot deserts. In the southwestern portion of the United States, the very last district of the country to be settled by white men, in some portions of Utah, Colorado, Arizona, New Mexico, Nevada and California, where natural vegetation is so rare that it scarcely gives character to the landscape, where sandstorms drive over the country, where naked plains spread under a lurid sky, and where the landscape is often one of naked rock, and where adamantine forms stand in groves and the trees are fossils buried in the rocks, the most ancient agriculture is found. For in the country thus described, the Indian tribes in centuries lost to history, cultivated the soil by artificial irrigation, and developed corn, cotton, potatoes, and other vegetables useful to man, while the rich valleys to the north and east were yet untouched by agricultural labor. Later, and before the discovery of Columbus, open glades here and there were cultivated, but such little patches were far apart, scores or hundreds of miles, and the art was borrowed from the arid lands of the pueblo region. In like manner the desert regions of Mexico and of Peru developed an ancient agriculture; so that everywhere throughout the habitable globe the first agriculture began in arid lands, and the first comparatively dense population was found everywhere in regions where the heavens refused sufficient moisture for crops to grow. This is the greatest paradox of history.

"Civilization sprang from agriculture. Two arts transformed early savage society: Agriculture and the domestication of animals, and the latter grew out of the former. The first fields were cultivated in arid lands, the first flocks were distributed on arid lands, the first cities were built in

arid lands and the first civilized governments were organized in arid lands. Under torrid skies, on rainless, treeless plains, agriculture, the domestication of animals, art in metals, temple-building, cities and civilization had their beginning."

After reviewing the ancient record of irrigation and its effects on civilization in the old world, Major Powell approaches the subject of irrigation in the new world as follows:

"On the discovery of this continent the Latin invaders first found arid lands in Mexico, Peru and the southwestern portion of the United States; on a larger scale Germanic peoples found humid lands farther to the north. The Latin peoples from arid lands settled again on arid lands and discovered native people engaged in irrigation, as they themselves had done in the countries from which they came. The Germanic peoples found much less agriculture, only a few petty patches here and there, the art itself borrowed from the arid lands; but they found vast stretches of forest and prairie that could be cultivated without artificial irrigation, and they brought with them the industries of the humid lands from which they came. In the United States no arid lands and no irrigation were known to our people by practical observation until we acquired the deserts of the Southwest from Mexico, where we found the Indian engaged in tilling the soil by irrigation."

He traces the development of irrigation in the United States as a sort of second thought after the tide of settlement had pushed beyond the limits of possible dependence on rainfall. He traces the introduction of the system into the various western States and Territories, and its stage of development in each. This part of the review he concludes as follows:

"The mention of California has been left till the last. When the great valleys, mountains and plains of California were brought under the dominion of the United States by Fremont and his coadjutors, they found a few Indians, a few Mexicans and a few Spanish grandees cultivating the soil by irrigation. Then gold was discovered, and an unparalleled exodus from the East poured an army of gold-hunters into the beautiful land. Towns and cities came into existence like magic. Mining was conducted on an extensive scale, and manufactories sprang up here and there. Gradually the newcomers engaged in the cultivation of the soil, often by artificial irrigation, and the art has made marvelous progress. Extensive and superior hydraulic works are now constructed, and many new devices have been developed by which to distribute water to the growing plants with the greatest economy and to secure the largest amount of agricultural development. Often the waters are carried over the lands in iron pipes, ramifying to the roofs of the trees and the shrubs, and the people of California have fields, vineyards, orchards, gardens and lawns fructified from the springs, brooks, creeks and rivers that are born in the cloud-capped mountains. *The most highly developed agriculture of the world is now found in some portions of California.*"

Maj. Powell's admonitions to the people of the country, in commending this subject to their more careful consideration, are worthy of reproduction for the large and comprehensive views taken and the fundamental principles outlined. He says:

"This industry is new to our people, and they have yet to learn important lessons which the inhabitants of oriental lands have learned by centuries of experience. Some of these lessons are as follows:

"First—The waters of perennial streams that are gathered on mountains, hills and plains, distant from the fields irrigated thereby, have to be divided among the irrigators. While the waters are abundant and the lands redeemed are but small areas, the distribution of water rights to farmers is apt to be neglected; but the time is at hand when, in many regions of the United States, water rights must be relegated to irrigators by some just method to secure equity and prevent litigation, and even to prevent social convulsions, which are already breaking out here and there.

"Second—The people must learn that the supply of water is insufficient to irrigate all land, and that only a small per cent of the total area of arable land can be converted into irrigable land.

"Third—The people must learn that the seasons of drought fix the limit of agricultural development; that seasons of great rainfall and plenty of water lead to excessive development of irrigation, so that when seasons of drought come, disaster and great suffering result.

"Fourth—The people must learn to construct irrigating works in such a manner that they will resist the forces of extraordinary seasons of flood. In every region a great flood comes sometimes; the maximum supply of water may be reached one year in a decade; when it comes, if the hydraulic works are destroyed, prosperity is transmuted into adversity.

"Fifth—The people must learn the importance of gauging the streams from day to day and year to year for a series of years sufficient to discover the maximum and minimum flow, in order that they may construct their works intelligently, and have definite knowledge of the amount of land that can be irrigated. The maximum must control the strength of the works, the minimum must control the area which can be permanently redeemed by irrigation, and the average flow will give the amount of land which can be cultivated from time to time in excess of the area of permanent cultivation."

THE APIARY.

Don't Starve Your Bees.

Mr. A. A. Vancuren, a well-known apiarist, has the following to say to the Nordhoff *Ojai*:

"If properly handled bees can be made to do more work, just as can horses. Their natures must be understood, of course. An apiary situated so their is no danger of encroachment by other bees, and where buckwheat and alfalfa

can be grown, can be made to produce very heavily every year—and then it would be a profitable business. A serious mistake often made is in bringing bees through the winter in a poor, weakened condition. It is quite as unprofitable to starve bees as it is to starve horses, or any other stock.

"How are bees starved? Well, in the greed to get as much honey as possible to sell, the hives are robbed too late in the season, when the flowers—the bee food—are all gone, and the little workers have no chance to store up a sufficient supply for their winter's food. They get through the winter season with empty stomachs, and much debilitated. When the flowers do come, the bees spend much time feeding themselves and regaining their strength. They won't work for their owner till they are able. The result is, it is late in the season before they commence storing honey, and the crop in that particular apiary is light.

"There is no trouble in handling bees, if you know how. Some people suppose a cloudy day the best time to take honey from the hives. That is a mistake; sunny days are best. On cloudy days the bees are all in the hives, impatient and cross because they cannot get at work; like people, they are more quarrelsome, and make more trouble, when in a bad mood."

How to Prevent Bees Swarming.

Paper read before the recent Indiana Bee-Keepers' Convention by CHAS. F. MUTH.

It appears to me that a full crop of honey cannot be harvested except when we prevent our bees from swarming, because we know that it is the old bees that are the honey-gatherers and not the young ones. We know also that a swarm is usually the old bees, and, when they leave the hive for nearly a week, or perhaps ten days, no honey-gathering is done at all. We know that when the queen has plenty of chances to deposit her eggs, and plenty of room, she does not get the swarming fever, and she is always the very last one to leave the hive.

For many years I have prevented my bees from swarming, and have been producing principally extracted honey. How to prevent swarming at the honey season is taught us by our friend G. W. Demaree of Kentucky. I heard his method at the last bee-keepers' convention, and it struck me as a good thing, and I gave it a thorough trial.

Our honey season here begins about the first of June, because then the white clover commences to yield. I at this time take all the combs from the brood-chamber containing brood and honey, and put them into another box and fill the brood-chamber with empty combs; thus the brood-chamber contains a comb, with a queen, some of the bees and the empty combs. After this is done, the queen excluder is put on. Put the upper story on, and then cover the hive. If you are in favor of producing comb-honey, you can put sections on that queen excluder.

In the course of a few hours you will see that most of the old bees are down with the queen. You will let them go that way, as the bees hatch and the queen has plenty of bees to assist her in rearing brood, and, as the young bees hatch, they go down.

Last year was a very poor one for honey, as I suppose we all know, still I produced some nice comb-honey, besides 600 to 700 pounds of extracted honey. I think the queen excluder is the most applicable thing to prevent swarming. One objection I find, however, and that is that I found a lot of drones upon raising the honey-boxes that could not get out of the queen excluder; but you can brush these off, and it makes no difference whatever. After awhile, when you are ready, you take the hive off, and you have no idea of the benefit to the bees. You can put the bee-escape on and the honey-boxes on top. I have had about 20, and put in 10 bee-escapes in this manner (illustrating), set the honey-boxes on top, and the next day I commenced to extract. It is a very easy way, and scarcely any trouble at all.

THE STOCK YARD.

Keeping Horses Sound.

It is surprising to find how large a proportion of the horses one sees on the road, the street or the farm, are more or less affected with unsoundness.

One of those most commonly met with in road horses and farm horses is what is known as the sprung knees. In many cases the trouble is but slight and little noticed, and owners are loath to acknowledge that the horse is not all right. But a keen-eyed buyer readily detects the trifling defect at the start. What causes such a tendency to sprung knees in horses it is hard to tell. One of them, we fancy, among driving horses of the trotting class, is the tendency to have them shod with heavy toe-weight shoes. This seems to tire the muscles of the front part of the fore legs and in time weakens them so they do not keep the legs in place.

Another cause of sprung knees is allowing the feet to become tender or out of shape from bad shoeing, so that the horse flexes his knees to relieve the strain on the lower tendons and on the heels. Standing still too long on a hard floor stall is said to cause sprung knees. After all these things have done their work and the knees become springy or are weak and trembling, it is a difficult matter to effect a cure.

PREVENTION BETTER THAN CURE.

A season's run at grass often results in comparative cure. And the best way is to keep the animal sound from the first by avoiding whatever causes a tendency to the disease, and only needs the exercise of some common sense and good care. Avoid keeping the horses idle on a hard floor. Shoe with even weight shoes, keep the feet cool and free from filth and there is little risk from sprung knees.

Another common unsoundness which spoils the appearance and sale of many good horses, especially those on

the farm, are curbs and puffy joints. Both of these, like sprung knees, are at first very slight and it is difficult to decide what is wrong. Curbs can generally be removed by sweating, blisters and compressors. But puffs and thoroughpins are difficult to cure, and even if kept down a long time are apt to reappear. To prevent the appearance of curbs and puffs avoid subjecting the animal to violent strains, such as jerking suddenly back on the haunches, backing heavy loads on soft ground, getting into deep snow, or giving too heavy a load to draw. Making the working horses on the farm back heavy loads of manure on soft ground does a great deal of injury to them.—Horse World.

Breeding Draught Horses.

English draught horse breeders have given more attention to size, power and strength than any other breeders and have the heaviest draught horses in the world. The Clydesdale breeders in Scotland were the first to start a draught horse stud-book and they have made pedigree their chief corner stone. French breeders have made action and beauty of form their aim. They care not so much for size and still less for pedigree. The Belgian breeders believe they have the model draught horse and have carefully maintained their type for generations.

The American draught horse is being evolved from these breeds with good, heavy draught sized with style and action to suit our markets. European breeders have been developing their model draught horse for a hundred years and have made the draught horse their national breed and the agricultural horse of all Europe. American farmers, too eager for experiment and impatient for success, have tried all the breeds, have crossed and mixed them to their heart's content, and then diluted with trotters and coaches and find we lack the chief element—size.

Let us now adhere to line breeding, to sires in the same stud book, and grade up for a large draught horse with size and weight in the collar, with all the beauty of form, style and action we can get, but we must first get size to make draught horses; thousands of our little grade have beautiful forms, but with 500 pounds more weight would make them double the price. Start now for that extra 500 pounds; try for the 1800 and 2000 pounds, and you will better appreciate the mistake of stopping with one or two crosses. Breed to the best pure bred sires and grade up to the top. Never sell good mares, however tempting the offer. Keep them to do the farm work and raise fine draught colts.—Western Agriculturist and Live Stock Journal.

POULTRY YARD.

The Way to Route Lice.

We have before called attention to bi-sulphide of carbon as a lice-destroyer, which is accomplished with but little difficulty. To show how beneficial it is, we give the words of Dr. Schneider, of Paris, who says:

"The very next day after using it I was agreeably surprised to find that the enemy had left, leaving none but dead and dying behind, and on the following day not a single living insect was to be found, while the birds were sitting quietly on the roosts enjoying an unwonted peaceful repose. This lasted for 12 days, till the sulphide had evaporated. Twenty-four hours after a fresh invasion of lice had put in an appearance under the wings of the birds in the warmest portions of the house, where there were no currents of air. I replenished the supply of sulphide, and the next morning only a few of these were remaining. The next morning every trace of vermin had disappeared. Since that time I have personally made a great number of further trials with the sulphide, with immediate and absolute success. I should recommend the sulphide of carbon to be put in small medicine vials hung about the pigeon-house or poultry roost. When it has about three parts evaporated the remainder will have acquired a yellowish tinge and no longer acts so completely as before, but if it be shaken up afresh it will still suffice to keep the enemy at a distance."

Bi-sulphide of carbon is a liquid with a most intolerable odor, adds the *Poultry Keeper*. It is very inflammable, like gasoline, hence at no time must a flame come in contact with it, but otherwise it is safe and harmless. It is sure death to all living vermin (and to human beings, too, if confined in a room with it). The plan is simply to hang it up in the poultry-house, using wide-mouth bottles. It is cheap and can be had of any druggist. Poured into rat-holes, and the holes stopped, it kills rats instantly.

Raising Broilers for Market.

In course of an excellent article on this subject, Mr. F. M. Reed says in the *Fancier's Monthly*:

In the first place the beginner will ask, "what kind of land and how much is needed to embark in the broiler business?" As to quality, most land is suitable, although a mixed sand and gravelly soil is preferable where running water can be had if possible. As to quantity, a building lot will hold a fair-sized brooder house, but a building lot will not make a successful broiler farm. Five acres would be a nice size (although larger is not objectionable), this would give one acre for residence, barn, incubator house, etc.; two acres for fowls, brooder houses, runs, etc., and two acres for small fruits, potatoes, cabbage, turnips and other necessary vegetables for winter food for both old and young stock. A place of this size would keep one man and his family busy. And now just a word here as to personal attention and supervision of one's own business. There is no business that suffers more through inattention or the neglect of hired help, than the poultry business. The owner should have under his personal attention the care of the incubators. One person only should likewise have in charge the feeding and care of the brooders, watching

closely the results of any particular food, or experiments in feeding, and profiting thereby. If several persons, or children have the feeding of the flocks, they will not begin to get the care they would if one man attended them, and they may actually be in a dying condition through bowel trouble or disease, before the owner discovers it. So I say the work must all be closely inspected or done by the owner, and the more experience he has the better.

"What is the best breed to start with?" is another question often asked. That depends on your own fancy. The breed that one fancies is the breed that one will succeed with. Plymouth Rocks, Wyandottes, Light Brahmas and Partridge Cochins are much used on the broiler farms of the East. But some object to the feathered legs of the Brahmas and Cochins and to overcome this they are crossed with a Leghorn cockerel. These combine the hardiness of the Leghorn with the size of the Brahma, making a good broiler. The Wyandotte is a great favorite with broiler men, especially the Silver and White varieties, because of the combined qualities of neat, trim-built bodies, extra full-breasted, yellow legs, early maturity and hardiness. They are also great layers. But to return to the breed. Having made a choice select good stock or eggs from a reliable breeder, and raise a nice flock of pullets. These are to be your starter from which the eggs are to come for hatching your broilers, for every broiler raiser should raise his own eggs. I do not believe a broiler farm can be made much of a success if the owner depends on buying his eggs promiscuously here and there, especially store eggs. Or should he be fortunate enough to have a friend raise good eggs for him, the amount paid out for them will draw from the profits of the broilers. For at the season of the year when it is most profitable to hatch broilers, eggs are usually high. It is estimated that a poultryman can raise eggs for from ten to twelve cents per dozen. Therefore if 30 or 40 cents per dozen is paid for them, and should 40 or 50 per cent of them prove infertile, as is sometimes the case, the man who sells the eggs makes more profit than the broiler raiser.

Judicious Crossing for Poultry Meat.

In recent years I have not been much of a believer in crossing pure breeds of fowls for either meat or eggs, and I am certainly not now a believer in the indiscriminate crossing to which some people are addicted, but I have recently seen a very practical and judicious cross. A neighbor, last season, bought some culls from yards of pure-bred Light Brahmas and Barred Plymouth Rocks, and last spring he mated a few of them to secure eggs for hatching, using a thoroughbred male Plymouth Rock and both pure Plymouth Rock hens and pure Light Brahma hens. The result, of course, was pure Plymouth Rock chicks, and also chicks half Plymouth Rock and half Light Brahma.

The remarkable excellence, from a market point of view, of the cross-bred chickens is apparent. They were larger than the pure Plymouth Rocks and exceedingly plump in appearance. Their owner told me that he had been dressing some of them and found them in every way superior to the pure-bred chickens, both in size and plumpness. The same cross was made by another neighbor and with a result even more pronounced than that first mentioned. The chickens grew with astonishing rapidity, and were apparently ready to dress at any stage of their growth, so plump were they. Here there appears to be a case where the blood of two pure breeds can be united to a marked advantage, if one wishes to secure meat alone.

Such a cross does not produce pullets of superior laying qualities. They do not have the form accompanying good laying qualities that is as typical among poultry as is the dairy form among cows. One does not expect large butter yields from a breed of beef cattle, and he should not expect large egg production from breeds or half breeds inclined to the large production of flesh.—Webb Donnell in American Agriculturist.

Signs of Health.

A red comb and an active, restless disposition indicate a fowl that is in perfect health and that will give a good account of itself. The slow, fat, sleepy-looking hens, if not in poor health, are at least not in good condition. A hen that lays a large number of eggs cannot afford to be sleepy or droopy. Nature prompts her to seek for a variety of food. Her needs are urgent and she has no time to fool away sitting on the roost or lazily lounging in a corner. The activity not only promotes her health, but keeps her in possession of a good appetite. She works off the surplus fat and converts the nitrogen and phosphates into eggs, where she stores up all the elements necessary to bring forth chicks.—Poultry Keeper.

Fight the Lice.

You cannot become entirely free from the pest of lice in your poultry-house. You can get rid of the pests, but the work of keeping them out must go on. When you cease operations they return. It is not necessary to go to extremes except to get them out, but care must be taken when once lice are driven out that the quarters will not be very inviting for their return. Once a week saturate the roosts with kerosene, on both under and upper side, and sprinkle the premises with soap emulsion and kerosene. If the droppings are removed, and the nests kept clean after so doing, there will be but little danger from them.—Poultry Keeper.

Advantages of Small Breeds.

The general preference is for large fowls, but the small breeds have advantages which are also desirable. As a rule, nearly all the small breeds are non-sitters and lay well. Being naturally active they do not become fat very readily and are free from many ailments peculiar to the large, heavy breeds. If they are given the privilege of a grass run or a field, they will pick up a large share of their food and lay nearly every day. Although the small breeds do not possess as large carcasses when dressed for market

as larger breeds, yet they excel in breast meat and a smaller proportion of offal, as the greater activity of a fowl, and especially if it can fly over a high fence, the larger the development of the muscles of the breast, which is really the choice portion of a fowl. Crossed on large, heavy breeds, the union is usually successful, as there is less disposition to roam, and the heavy feathering of the large breed is secured as a winter protection. A larger number of hens of the smaller breeds can also be kept together, which is quite an advantage.

FRUIT MARKETING.

Raisin-Growers and Co-operation.

A very important meeting of raisin-growers was held at Fresno last Saturday. After a lively discussion it was decided to fix the minimum price of raisins at 4½ cents per pound in the sweat-box, and to take the matter of sales in their own hands.

D. W. Parkhurst called the mass meeting of raisin-growers to order. J. H. Kelly was elected president, and F. H. Lowell, secretary.

Mr. Parkhurst announced that the meeting had been called for the purpose of devising means for the protection of the grower in packing and marketing raisins. He spoke of the benefit to be derived from co-operation. He believed it was better for 10,000 men owning ten acres each to form into a co-operation than for ten men owning 10,000 acres each to do so.

After some discussion M. J. Lindrose introduced the following resolution, which was adopted:

Resolved, That it is for the best interest of the raisin-grower to pack and ship his own goods by means of co-operation.

A. H. Powers, of Centerville, offered the following:

Resolved, That it is the sense of this meeting that the California State Raisin-Growers' Association being dominated by the commission packer, it is essential that the grower of raisins and tree fruit should form his own protective union.

This resolution called for the same caustic remarks, the proofs that the Association was dominated by the commission packer being demanded. None were attempted to be given, but the resolution was adopted.

T. R. Foster spoke of the manner in which the commission packers had treated the growers. There is assuredly something wrong when the commission man gets more out of the raisins than does the grower.

The following resolution was adopted:

Resolved, That it is the sense of this meeting of raisin-growers that the only way to eliminate the ruinous competition now practiced by the commission packer, whereby raisins are sold at prices that net the grower from one to two and a half cents per pound, is to require that the agreement that is signed between the commission packer and the grower shall contain a clause providing that the packer shall not sell the grower's raisins for less than a given price without the consent of the grower.

E. G. Chaddock was opposed to the proposed mode of action.

Mr. Gordon asked through what medium the growers would regulate the prices—whether by mass meeting or committee.

Mr. Foster replied that the means would be determined upon later on.

Mr. Dore did not think that the resolution was a practical one. The question of price didn't seem to work well last year, because the established prices were not obtained by the packers—co-operative as well as the others. It seemed to him that Mr. Gordon's suggestion of a uniform grade was a practical one. It was not the fault of the growers that the agreed price was not received. The grower did not succeed in holding the commission packers and the co-operative packers. He would like to know how prices are to be sustained this year.

W. M. Applegarth said that the way to secure prices was to place the product in the hands of a company, either independent or co-operative. The growers must force the packers into a combination of some kind or another.

William Harvey called attention to the agreement made last year, whereby the packer should sell the raisins at a price which would yield to the grower at least 4½ cents per pound for his raisins, and asked why it was not carried out, the grower in many instances receiving not more than two cents per pound. This was because the agreement was only a verbal one, and by the simple word of honor of the packer. The remedy should be a written contract prohibiting the commission packer from selling the raisins at a less figure. In that case the commission merchants could not compete against one another, because they would be compelled to pay 4½ cents a pound to the grower. Mr. Harvey moved to amend the resolution by fixing the price at 4½ cents per pound in the sweat-box, the raisins not to be sold for less without the consent of the grower.

Stanton L. Carter was called upon by the chair to make a few remarks on the subject. He thought that the raisin-growers had sufficient intelligence to sell their produce at a fair and remunerative price. The trouble with the farmer is that he won't co-operate. He has been used to working independently. This is an age of co-operation and the producer should heed the signs of the times. The big corporations get the biggest price for what they sell and they buy at the lowest price. They are in such a commanding position that they can control these things. The great drawback among co-operations is that every man is anxious to have his finger in the pie. Every stockholder thinks that he should run the company.

J. Baker said that the alleged settlement on his last year's crop had been rankling in his mind for several days. There is no doubt a difference in interest between the grower and the commission man. The latter gets paid for everything he does up to the time the goods are placed on the market. If he drops ten cents a box on a carload it will make a difference of \$100 to the grower and only \$5 to the commission man. He, Mr. Baker, was tired of that sort of work and he proposed to do a little of that five-per-cent business himself.

On motion of D. W. Parkhurst the chair appointed a

committee of three to confer with the different packing-houses. The committee is D. W. Parkhurst, William Applegarth and A. H. Powers.

The meeting adjourned until 2 o'clock Saturday, May 20th.

Address of Riverside Fruit Exchange.

The following is an address of the Board of Directors of the Riverside Fruit Exchange delivered at a mass meeting of growers at Riverside May 13th:

To the Orange Growers of Riverside: In pursuance of the instructions of the public meeting held on the 22d ult., we have perfected the organization of the Riverside Fruit Exchange, and with the formal announcement of the fact we beg to submit some suggestions with which we think growers should be familiar.

First, let it be noted that this corporation is not a trust having for its object the fixing and maintenance of high prices, but rather to introduce and promote such systematic and orderly methods of handling and marketing our products as will give stability and permanence to the fruit industry of southern California.

Nor do we seek to make war on brokers and packers. But it must be evident to thoughtful men that if our industry is to endure, the legitimate profit of the grower must be relieved as far as possible from the danger of being dissipated by haphazard marketing or by the caprices of middlemen.

The one great evil that confronts and threatens us is that of consigning fruit to parties whose only interest is their brokerage.

This evil must be cut up by the roots; totally and unflinchingly eradicated. Growers must stop their ears to the blandishments of shrewd manipulators.

In this undertaking to protect ourselves we shall expect to be threatened; every plausible argument and cunning device will be employed to break us into fragments.

Happily there are cheering indications of organizations similar to our own, rapidly taking shape all over southern California. With these we shall expect to act in accord. Does any sane man doubt the ability of the fruit interest of southern California, by combined action, to withstand any assault from whatever source?

Once again let it be noted that we are not combining for war, but for defense. We do insist that the men who invest money and toil and take the risks are entitled to a fair and ordinarily certain share of the profits.

We seek no more than this; if we be intelligent men we shall accept no less.

It will be readily seen that our plan of co-operation will not only promote uniform and better methods of packing and handling, but will secure the economic advantages of a large pack, with the possibilities of cheaper materials and lower freights.

We are to seek not only to offer our goods in such attractive condition as to increase the demand and open new markets, but to so distribute that every market shall be supplied and none glutted.

In the production of good fruit, southern California has passed the experimental stage. We have the goods and the world wants them. It is to be hoped that we are able to bring to the business such intelligence and capacity that from the point of production through to the point of consumption every detail shall show care, method and economy, that producer and consumer shall be mutually contented. Incidentally our plan of operation will afford protection to the honest dealer, who, under the present system of consignment, is not safe in buying at any price.

One other matter of considerable importance requires notice.

Heretofore some growers have deemed it necessary to consign their fruit in order to get a small advance for immediate use. If this organization shall be approved, arrangements will be made with the local banks to make such necessary advances at current rates of interest, the crop in the hands of the local association to become security precisely as it does in the hands of the consignee.

We deem it unnecessary to refer in detail to the plan of organization which has already been quite generally signed by the growers of Riverside. It shall be our aim so far as possible to make effective the methods therein suggested, with such modifications and additions as the exigencies of the business may require.

We do not flatter ourselves that the plan is perfect, but we dare believe the combined wisdom of all parties at interest will be sufficient to rescue our splendid industry from its present depression.

We have accepted the trust you have conferred, and the undertaking shall have our best thought and attention; but if we are to succeed we must have the hearty support of the growers.

We are to serve without compensation. All we ask is that the growers be willing to allow the actual expenses of transacting the business under such methods as we may find necessary to adopt.

We shall expect opposition. We must be ready to meet it. The men who have grown rich from commissions and percentages will not abandon the field without a struggle. The evils that beset us have been growing through the years. We cannot uproot them in a day. Let us patiently and courageously meet the problem and find a solution, or make one.

It is needless to say that this board cannot succeed alone. Give us freely and frankly any suggestions or information, and when out of the mass of facts we are able to formulate plans, let every man respond with prompt support.

We cannot succeed with a fragment of the crop; we need the aid of every grower. Since our service is to be gratuitous, we should have general response with as little delay and inconvenience as possible.

A. H. Nafziger, M. J. Daniels, S. C. Evans, Jr., A. Keith, George Frost, D. W. McLeod, T. H. B. Chamblin, J. B. Crawford, J. Harrison Wright, R. W. Meacham, H. A. Westbrook.

Riverside, May 13, 1893.

Applications of Electricity to Agricultural Work.*

NUMBER 5—Concluded.



UITABLE sources of supply remain yet to be considered in the discussion of the applications of electricity to use in country districts, whether these be isolated central stations or systems of distribution covering a large section of the country, the lines radiating from a central station and supplying a district of three to five miles in radius.

The isolated central station can be employed, of course, only in connection with very large farms where considerable power is required for various uses, and where electric lighting can be utilized both about the residence and barns, as well as about the lawn and barnyard. Of course, however, there are situations in which a small isolated plant could be installed and operated economically where only a limited amount of power is needed. Such might be the case, for instance, where a waterfall within reasonable distance from the farm buildings could be utilized for the generation of current. There are, doubtless, thousands of such places scattered all over the country, where water power could be utilized in connection with the applications of electricity in farm work. The installation of a small water-wheel capable of driving a dynamo of sufficient capacity could be used either for the direct supply to motors and lights or for the charging of a battery of storage cells, which could afterward be switched into circuit on the lighting or power mains. As every one knows, there are now very few instances where waterfalls that are to be found upon small streams running through



EXPENSIVE, BUT EFFECTIVE.

the farming districts are or can be economically utilized, except by the installation of an electrical plant. No system of distribution could be simpler than that which would be needed where a small but steady supply of water could be applied for this purpose. The mains could be carried from the waterfall, provided that it was situated at some distance from the barns, to some central distributing point in the vicinity of the residence or farm buildings, and from this point the lines could be carried to motors placed about the barns, for pumping, grinding and various other purposes; to the shop for application to machine tools; for

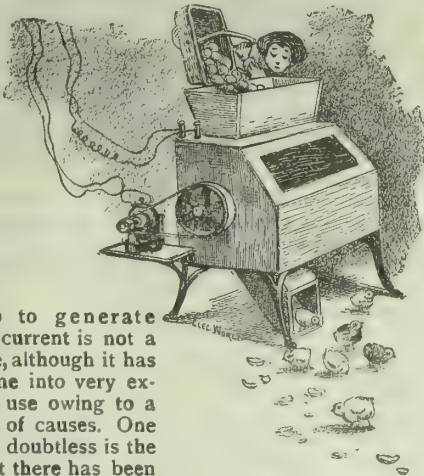


HATCHING CHICKENS BY ELECTRICITY.

lighting purposes; to the lawn for the operation of an electric fountain; to the house for pumping, and various other uses which have already been described in this series of articles.

There is another source of power which, of course, is always at the disposal of the farmer, namely the wind. This is, of course, as everybody knows who has traveled

over our Western States, already very extensively used for the pumping of water, and on large farms for grinding, feed-cutting and similar purposes. In the far Western States, Kansas and Nebraska, for example, there are sections where one may count from a single location over 100 windmills, but this is an exceptional region where to secure good water it is necessary to go to the depth of 200 or 250 feet. The application of the windmill for driving the



RAPID TRANSIT.

dynamo to generate electric current is not a new one, although it has not come into very extensive use owing to a number of causes. One of these doubtless is the fact that there has been no real demand on the part of the farmer for a windmill and accessory apparatus designed for the special purpose of generating electric current. That such plants can be made a success is proved by the fact that a number of them have been built and made to work satisfactorily. The most objectionable feature, of course, is the unsteadiness of the power. In some sections of the country, however, the winds during

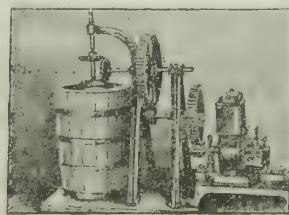


DUMB WAITER OPERATED BY AN ELECTRIC MOTOR.

age batteries which assist in utilizing all the current which can be generated by the windmill with its dynamo, whether the wind is blowing at the time the current is wanted for lights and motors, or whether it is impossible to secure power direct from the dynamo when it is wanted. With a plant of this kind, provision will be made for deriving power either direct from the storage batteries or direct from the dynamo, just as would be the case with a water-power plant.

The installation of an isolated plant using steam power would be more expensive, both as regards first cost and subsequent operation and maintenance. The cost of maintenance would be especially important to be considered in sections of the country where fuel is costly. There are sections, however, where, fuel being an unimportant item, the steam plant might be found the most inexpensive one.

The general distribution of electricity through a country district from a central station supplying a large territory would be a novelty only as regards the use which is made of the current. Such plants are already in use in many parts of the country for the distribution of current to be used in different parts of the city, or for that matter in different towns and cities both for lighting and power purposes. In this respect the plant would differ in no essential particular from a system

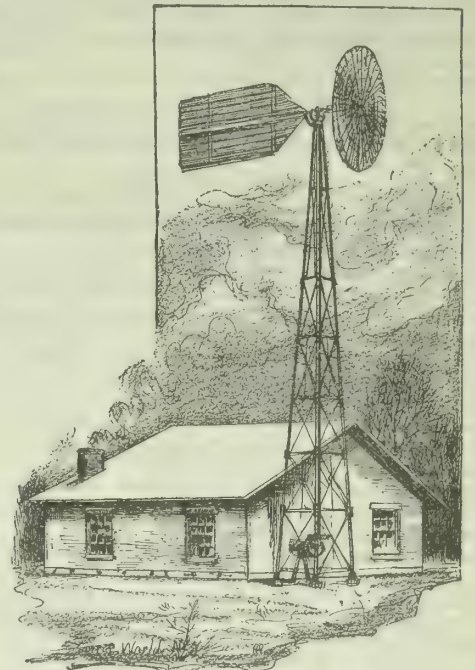


MAKING ICE CREAM BY ELECTRICITY.

of distribution where the current was used for farming purposes. A central station could be located where power was found to be the cheapest and where other conditions that always require consideration in the location of the central station indicated that the best results could be obtained. From this central station an electric road for rural service could be operated, such a line, for instance, as was described in the fourth article on this subject in the *RURAL* of last week. The pole line, which would carry the motors for such a road, could be utilized for tele-

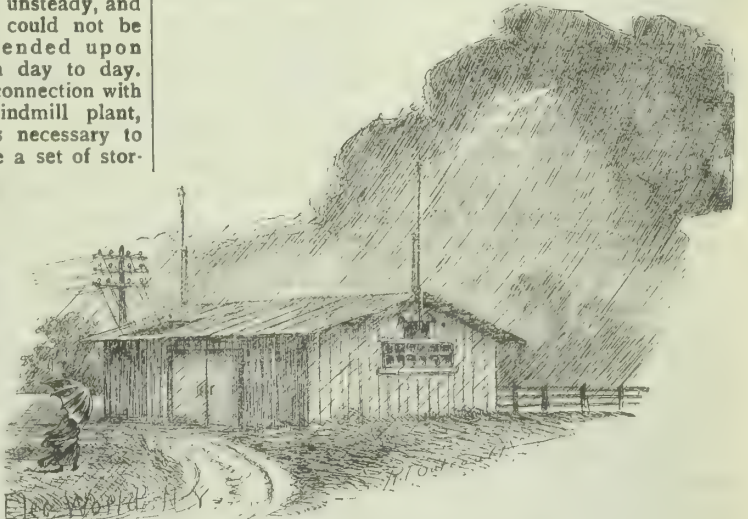
graph and telephone lines and the mains from which power would be distributed to the different farms along the route of the electric railway.

In this series of articles we have been compelled to deal as a matter of necessity with ideal conditions. No system of distribution is yet in actual operation, but the problems involved do not differ from those found in systems of distribution that have already been found a profitable invest-



AN ISOLATED PLANT IN THE COUNTRY.

ment. What is needed to give an impetus to the applications of electricity for this class of work is a plant on quite an extensive scale in some good locality where all sorts of farming operations are actually carried on by means of electric power. An example of this kind would be of the highest value in introducing the electric motor for farm work, and any electrical concern that cares to make an in-



SUGGESTION FOR A CENTRAL STATION.

A New Field for the Storage Battery.

stallation for this kind of service would doubtless find that the field was an almost unlimited one, and that the demand once created would increase with surprising rapidity.

Is Electricity in Agriculture Practicable?

TO THE EDITOR:—Your current reprints from the *Electrical World* are interesting and are not likely to be deceptive for the reason that the allowance due to the exaggerations of a specialist is at once awakened. But when the *RURAL PRESS* holds out hopes of great things in agriculture due to electricity one would like the ground of the statement.

As far as can be learned from matter attainable on a ranch, the cost of producing commercial electricity is no cheaper now than it was six years ago when the writer was practically interested and busy in the matter, and at that time it was a conservative figuring to allow for a waste of about 20 per cent in power between your engine and your motor. Although I have not investigated the matter with thoroughness, it is my belief that every case of successful use of electricity on a farm is in connection with unlimited water power, where waste need not be considered, and that machinery can be run by shafting and belt direct from an engine or a windmill at fully 15 per cent less cost.

The glare of electric lights, the rattle of experimental storage battery cars, the sputtering of telephones and the shining, bright work of the thousand and one electric fiddle-faddles made every day may have closed your eyes to this fundamental defect in electrical work. The effort is all in the line of its application—no progress has been made in cheapening the cost of production. The dynamos of to-day are essentially the old Gramme machine. If I remember rightly, a patent was refused for want of originality, and from all I can learn it is as true to-day as it was ten years ago that electricity is the most expensive motive force one can employ, being available only in cases of ex-

* In a series of five articles reprinted from the *Electrical World*, New York.

cessive water power or where the transference by belting is impossible.

When, therefore, the RURAL PRESS holds out such large hopes from a system which wastes 20 per cent of the original power, and that, too, in a State whose great deficiency is the cost of power, wherein water powers can be counted on one's fingers and toes and good engine coal costs from \$18 to \$20 a ton, it is reasonable to ask for the basis of such hopes. Why do you believe that electricity will supplant steam and wind engines in California as sources of agricultural power? A. G.

Hueneme, April 24, 1893.

The foregoing letter was referred to Prof. N. S. Keith, the well-known electrical engineer, who makes response as follows:

TO THE EDITOR:—Your correspondent, "A. G.," it would seem, has been too long absent from the glitter and glare of "electric fiddle-faddles," and in his reading has not kept up with the progress of the art.

While in electric-power transmission there may be a loss of 20 per cent between initial and delivered power, the differences in efficiencies of portable and stationary steam engines and in the cost of their operation per unit of power are a much greater loss. Large stationary engines at central points, running electric generators connected by wires to electric motors in all radial directions, can furnish cheaper and better power, always ready for use, than can possibly be done by steam engines of small capacity located where the motors should be.

The consumption of fuel and the cost of attendance, per unit of power, are much greater in the case of small engines than in that of large engines.

Where sufficient water power is available at any point, say 5, 10, 20, or even 50 miles from an agricultural region, it is practically possible to transmit and distribute that power to electric motors in all places within that region for all classes of agricultural work far cheaper than can be done by steam or animal power directly applied. Whether this will be done depends upon the doing. There is nothing to prevent but present absence of demand for such apparatus in such places. It is not a question of whether electricity can be produced cheaper than it could six years ago, because small electric powers are cheaper than small steam powers. "A. G." should know that, owing to improvements which have been made in engines, water-wheels, dynamos, etc., electricity is now produced much cheaper—perhaps one-half—than it could have been six years ago. The dynamo of to-day is no more the old Gramme machine than the present steam engine is the old Watt's engine. In spite of "A. G.'s" recollection, the Gramme machine was patented in the United States in 1871, and was the original of the present dynamos whose efficiencies exceed 90 per cent, though the Gramme dynamos of only a few years ago had scarcely 60 per cent. If he thinks that electricity as a motive force is so much more expensive than steam, he should come to San Francisco and do missionary labor with the users of several hundreds of horse power of electric motors who have adopted them in place of steam, water, gas and other motors, even though the electricity for them is generated by steam power.

"A. G." is also in error about the amount of water power available in California. By means of electrical transmission hundreds of thousands of horse power of waterfalls are placed at the service of the farmers, miners and manufacturers of the State. Every stream from the Siskiyou, Sierra Nevada, Sierra Madre and San Bernardino mountains can contribute its quantum of power for the benefit of mankind.

To be sure, the articles published in the RURAL PRESS, and about which "A. G." is complaining, deal more with anticipations than realizations, but the practicabilities and possibilities of the use of electric power in agriculture are now fully as great as they were in the cases of electric railroads and stationary electric motors.

As the conception of an idea precedes its reduction to plan and execution, so the able articles on "Electricity in Agriculture" precede the realization of its possibilities and probabilities. N. S. KEITH.

THE DAIRY.

Breeding, Rearing and Management of a Dairy Herd.

There is vastly more real good thinking and earnest purpose concerning the above question, among our dairy farmers, than ever before. Ten years ago there were but few farmers in the West who were really ambitious to possess a fine herd of dairy cows. Ward C. White of Kenosha, Hiram Smith of Sheboygan, Wis., and Israel Beno of Marengo, Ill., and maybe a half-dozen more, were about all who manifested any particular ambition to produce fine herds of cows, that one could hear of. In the East it was somewhat better. But a great advance has been had and a wonderful quickening of farm intellect has come in this direction. The question of breeding and rearing a fine dairy herd is a very important one. We can find thousands upon thousands of farmers who keep cows, but there are very few real dairy farmers. A knowledge of what to do and how to do it, in this particular, is the very foundation of dairy success. A man who is not a good handler of cows cannot be a success in the dairy. If he secures the most profitable cows he must raise them, and to do this successfully he must study the principles of dairy breeding. Without going into long and tiresome details, we will enumerate some of the leading principles that must be obeyed in the breeding and handling of a dairy herd:

1. The farmer must understand something of the force and influence of specific dairy blood. He must appreciate, in a measure at least, the value of the work of those men who have established dairy breeds and desirable families in

these breeds, for him to select from. If he has no knowledge of breeds, and how they are bred, and what they are bred to do, he is simply a blind man, dealing with forces he knows nothing about.

2. Dairy breeding means the enlargement of dairy performance; so uniting sire and dam as to produce a heifer which shall be an improvement on her mother, that is the prime and constant object. The farmer must understand this and be keenly sympathetic with these truths.

3. Dairy heredity and power to transmit in the sire is the great consideration. He must breed for cows very strongly. The bull must show by outward signs and by pedigree record that he has the blood of performing mothers several generations back running in his veins. While dairy form in a bull is of great value, yet the record of his mother, grandmother, great-grandmother on the side of his dam and also his sire is of greater value. His appearance must indicate nervous force and quick mental activity. It is his office to impress his own being and all it contains on the progeny of the cows he is bred to, hence he must not be cold-blooded. High, strong temper is a good sign of dairy potency. He should not be ugly, if it can be helped, but if he is ugly it is no drawback to his potency. He should be used until his heifers come to milk, so that some indication of his value as a breeder can be had. A bad practice exists among dairymen of turning off a bull before any knowledge of his breeding power can be gained. His daughters should be bred to him, but not his granddaughters. It will pay often to keep two bulls, particularly where the first proves to be a valuable getter of cows. The bull should be fed largely on nitrogenous foods and given plenty of exercise.

4. The first thing to observe with regard to the cows is thorough record of performance and rigid selection; keep weeding out the herd. Don't hesitate to sell a poor cow; buy a good one to take her place. Don't hesitate to pay a good round price for a good cow. Remember that a cow that will make 300 pounds of butter a year is worth three times as much in cash to put in the dairy as one that will make only 150 pounds a year. Set a high standard of excellence for your cows. Reject all that have badly shaped udders, no matter how good milkers they are. You want heifers that shall have well-shaped udders; hence reject a badly shaped udder in heifer or cow. To produce square udders, look well to the placing of the rudimentary teats in the sire. This has a marked influence on his heifers. The teats on the sire should be widely placed. The young heifer should be daily handled, for she breaks to milk-handling so much better for it. Be very careful to guard the heifer against bad or disagreeable habits. To this end, the utmost gentleness and kindness from calfhood up should be practiced. One rarely ever sees a cow with disagreeable habits that has been gently reared and educated to be a good cow. Breed the heifer, if possible, in November or December, so she will cast her first calf in the autumn. This will help establish the habit of fall breeding. Habit in a cow is everything but capacity. In her first form milk her round to her next calving, so as to establish a long milking habit. This trait, so valuable in a cow, is largely established by early education. Get rid of all heifers as early as possible that are not good feeders, and pay especial attention to physical signs of constitution and vitality, which are large nostrils, good lung capacity and a well-developed navel. Let the stables be roomy; room costs less than loss in the performance of a cow. The cow must remain in the barn in northern latitudes more than half the year. Construct the cow-stall for the comfort of the cow, not your comfort. Your profit traces direct to the comfort of the cow. Abolish the stanchion and tie up this mother in a motherly way if you expect the best profit from her motherhood. Give the stable an abundance of sunlight. Give it if possible a southern exposure for two reasons. (1) Because of sunlight in winter. (2) Because the prevailing winds in summer are from the south and southwest, and by opening the windows a much better circulation of air can be secured for the evening milking in hot weather. Make a special study of each cow and all her individualities of character and temperament. Strive by wise breeding, wise handling and wise feeding to enlarge the dairy talent in each generation. By traveling this road and acting in obedience to the principles we have spoken of, we have seen hundreds of men in the last ten years swing out into the possession of splendid herds of profitable cows, and that, too, where the original herd did not produce more than 150 pounds to the cow. The coming of the Babcock test has enabled every man who will, to test his cows cheaply, quickly and accurately. He has no excuse now for the carrying along of a lot of unprofitable cows. He can get dairy knowledge based on the practical experience of others for less than two cents a week. There is no excuse for any man remaining in ignorance and doing an unprofitable business with cows, who can read the English language. The American cow farmer must come up to the idea that good cows and good profits call for study and intelligence along a variety of lines. He ought to see that he cannot afford any longer to be ignorant and indifferent where it means loss to him. Better breeding, better handling and better feeding are the only safe roads to better profits in dairy farming. These three things can only come to the man who "seeks after a knowledge of the truth." The man who will not seek shall not find.—Hoard's Dairyman.

Mr. Hunt's Dairy Record.

Mr. A. N. Hunt, of Arcata bottom, addresses the following communication to the Arcata Union:

"There has been an article going the rounds for the past month in the dairy papers, signed A. McDonald, which has caused considerable comment. It stated his cows had averaged about \$80 per head; that he had helped do the testing at the Arcata creamery the past year, and had watched results of changes of different kinds of green feed, what effect it had on butter fat, and said that in every case where green peas, well podded, were fed the test raised. No patron that fed all the cows could eat had a

smaller raise than three-tenths, and some as high as nine-tenths.

"Said article was first copied from *Hoard's Dairyman*, then the RURAL PRESS, and finally reached the local papers, and came out in the *Western Watchman* so misconstrued that it had no resemblance to the original. *Hoard's Dairyman* made a misprint and put A. McDonald instead of my name to the article. I wrote a letter to the *Dairymen*, telling in part what I had been doing the past year on my 40 acres, at the same time renewing my subscription and subscribed for Mr. McDonald, so I suppose they got the names mixed. I said my cows would average me about \$80, but since then I have made out my account and know exactly what has been done and will give an itemized account of the sales from my 40 acres for the benefit of those who have been misled, commencing April 1, 1892, and ending April 1, 1893. First, I will give the number of cows milked each month, heifers with their first calf counted as cows. I do not believe in counting two heifers for one cow. I have seen too much of that. In April, 1892, I milked 20 cows; May, 22; June, 23; July, 24; August, 26; September, 25; October, 23; November, 22; December, 20; January, 19; February, 19; March, 21; average, 22. Milk all sold to creamery except the first week in April, 1892, which was worked at home. Total amount of milk, 178,386 pounds; average per cow, 8108 pounds; total money received for milk, \$1,813.87; average price per 100 pounds of milk, \$1.014; average amount of money per cow, \$82.44; lowest average, monthly test, 3.6; highest average monthly test, 4.6; average for 12 months, 4.02. The last four years I have had no less than 40 head of stock, big and little, all kept on 40 acres. All feed raised on the same 40 acres except \$150 worth of grain. Besides milk, I have sold \$358 worth of beef; veal and calves, \$60; pork, \$12; eggs and chickens, \$145; horse pasture, \$17; vegetables, \$10; one colt, \$127; total sale, \$2,542.87. My cows are graded stock—four parts Jersey, the balance Durham and Holstein. Holsteins are my choice. I have two thoroughbred bulls and intend to grade up as fast as I can."

[The only serious error made in the original article, so far as we can discover, was the substitution by *Hoard's Dairyman* of the name of Mr. McDonald for that of Mr. Hunt. The accompanying statement of Mr. Hunt is more ample and complete than the preceding and is therefore given in full.—EDITOR.]

The Arcata Union makes the following comment upon Mr. Hunt's statement:

"Elsewhere in our paper will be found a communication from A. N. Hunt, an Arcata bottom dairyman, and president of the Arcata Creamery Company. Ostensibly the note from Mr. Hunt was written to correct an error that occurred in the signature to a letter written by him to a dairy paper to which he is a subscriber, but the facts contained in the article are important as showing just what can be done on 40 acres of Arcata bottom land. Mr. Hunt is a practical, intelligent and hard-working man, of middle age, and, with the aid of a ten-year-old son, does all his work, with the exception of a little hired help in harvest time. The system pursued by Mr. Hunt in keeping a debit and credit account with each branch of his farm is a good one, and should be adopted by his neighbors if they have not already done so. It is a pleasant pastime for a man to foot up the result of his labors, it affords profitable and entertaining study for the housewife and children, and is valuable for just such purposes as called out the communication from Mr. Hunt published in another column. We commend the showing of Mr. Hunt's dairy operations to those who have doubts about the success of dairying on Arcata bottom."

Effect of Salt on Milk.

Salt given to cows has some effect on the quality of the milk. This is necessarily so, as the salt aids very much in the digestion of the food, and it is the quantity of the food digested that regulates the quantity and quality of the milk. Salt is indispensable to the health of any animal that feeds on vegetable matter, and the milk is affected greatly by the health or opposite condition of a cow.

When salt is given to excess it is injurious and causes an intense thirst, but this does not necessarily make the milk more watery than usual. If the cow drinks more water than is usual, there is no reason to believe that this excess of water dilutes the milk. The milk is not made in any such way as would make this possible. It is produced by the breaking down of the glandular tissue of the udder, and this never contains more than a normal quantity of water. The kidneys are charged with the removal of any excess of water from the blood, and this drain or outlet, if in good working condition, will always attend to its own business, and if it does not or cannot for any reason, the milk glands cannot perform this function, but the cow becomes diseased at once. This is a question that the careful farmer will never have to consider, because he will always take care that such a supposed mistake will never happen. It is only the careless farmer who runs risks of giving his cows or permitting them to get too much salt.—Colman's Rural World.

In traveling over the coast division Railroad Commissioner Beckman found about 900 men at work on the railroad extension between Santa Margarita and San Luis Obispo. There was also a large number of men working on the bridge crossing the Merced river in the San Joaquin valley. Creosoted piling was being used for a foundation.

In the year 1892 the Southern Pacific Railroad Company used 6,000,000 feet board measure of timber in repairs of track. Very few iron bridges have been built, as they are too costly.

THE exports of flour from San Francisco in April were 76,980 bbls of wheat, 536,561 ctls.

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STEEL FRAME.

It is built especially for your use.

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Dear Sirs:—I consider your Tiger Steel-Frame Header the best that I have ever sold, or seen, for cutting lodged grain. It has a strong frame, and is the lightest draft of any in this section, requiring but four horses on the 12-foot cut on rolling hills where they have always used six horses on the same size headers of other makes. I would recommend the TIGER as the best for any kind of cutting on hilly or on level land.

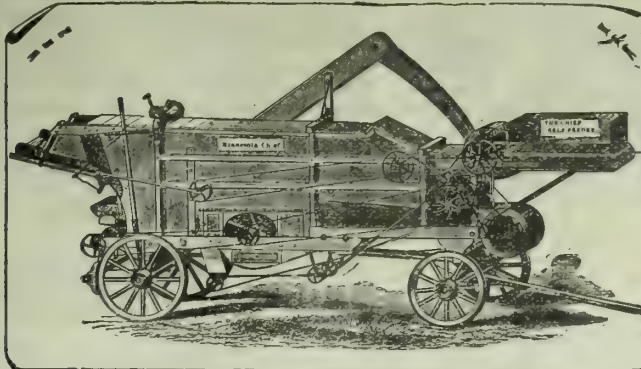
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That's what it is. All you have to do to be Convinced is to Look at it.

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TWENTY ACRES A DAY instead of ten.

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Has no nuts or obstructions on top; the obliquely RECESSED GUARDS

Bolt to finger bar with nuts on under side, leaving upper side of cutter bar perfectly smooth surface.

NO SIDE DRAFT
as CUTTER BAR is carried entirely on Main Wheels.

7-FOOT mower will do as much with one team as two 4-foot machines, SAVING half the corners.

MAIN WHEELS made interchangeable—one wheel fits either side of mower. THE FOOT LIFT raises cutter bar with perfect ease without the aid of hand lever, the first ever made. EASILY TILTED. can be entirely taken apart and put together again by the farmer with a common wrench. SEND FOR SPECIAL CIRCULAR.

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THE HOME CIRCLE.

Verses.

Written for the RURAL PRESS by "EGOTISM."

It is not true—it cannot be,
That life's pure joy was meant for me.
As night will come, so sorrow falls,
With its most dark, relentless pall.

Yet why should I, when fortune smiles,
My mind with these dark hints beguile?
Arise, dear spirit! Toll the knell
Of life, made dark and dismal.

Put on the armor fit for strife!
Draw forth the gleaming, glittering knife!
Cut from your life all noisomeness,
And let it blossom in truest trust.

The trust, a true man, surely feels,
When with the world in strength he deals;
And feels not, nor has cause to feel,
The pruning of poor fortune's wheel.

He better is, for all his ills,
If right applied, or aided with skill,
For surely, from the bitter flower,
The bee fills up his honey bower.

Seek thus, for what is best in life,
And evil meet, in manly strife.
So will your life with work be filled,
And so will flow, contentment's rill.

Three Classic California Fruits.

Written for the RURAL PRESS by MARY M. YATES.

I.
THE OLIVE.

O straight, gray tree the Savior loved,
O Olive of Gethsemane,
Grow in all gardens now, beloved,
Thy fruit in every land be free!

II.
THE LEMON.

If men, whose strength must be restored,
Love racy, fragrant cooling drink,—
They'll try the nectar Hebe used,
And make the Lemon aid, I think!

III.
THE ORANGE.

O apple of Hesperides,
That Paris tossed to lovely woman,
Thou never wast the fruit of discord,—
O-range to comfort every true man!

Corporal Jim.



At midnight the scouts came in with information that they had discovered an Indian village a few miles away, and two hours later the officers passed from tent to tent and aroused the sleeping men. Horses were brought in and saddled, ammunition overhauled and sabers buckled on, and seventy of us rode quietly away over the plains toward the foothills. There was plenty of time and the horses were not pressed beyond a walk. Just as day began to dawn we halted. While we sat waiting we could hear the bells of the Indian ponies and the barking of dogs, and once the crying of a child was wafted to our ears across the valley.

"We shall charge right into the village. Don't fire upon any of the squaws unless they take part in the fight. Keep together and mind the bugle calls."

So the order came down the lines, and ten minutes later daylight was strong enough for us to make out the wigwams. We rode forward a few hundred yards, and then the bugle sounded the "charge," and away we dashed.

Military reports have told you how it was. The Indians had somehow been warned and were lying in ambush in the dry ravine in front of the camp. We were staggered—checked—slaughtered—routed; two Indians killed and two wounded; thirty out of seventy troopers left lying there in front of the ravine—all dead or dying, thank God, when the fight was over, except Corporal Jim. He had been thrown from his horse and stunned. When he recovered consciousness he was a prisoner in the Indian camp.

Corporal Jim is an old veteran of the war, and this is not the first time he has encountered hostile Indians. There are seven notches cut into the stock of his carbine. Each one stands for a warrior he has sent to the happy hunting grounds. He does not say this, but all of us know it to be so. He has never uttered a boast, but we know that he is brave to recklessness. As he lies on the grass, bound hand and foot, with the warriors dancing about him with bloody scalp locks in their hands, Corporal Jim groans aloud. As they lift him up and point to the mutilated bodies on which the squaws and children are still wreaking vengeance, Corporal Jim turns pale and a faintness steals away his strength.

A prisoner in the hands of the Apaches! That means death. Ten thousand dollars in gold would not ransom him. If the chief

of that village knew that every living son in it would be wiped out in revenge, he would not spare his prisoner. Not death by bullet or stroke of tomahawk, but death after hours and hours of torture—such torture as only the merciless Apaches know how to inflict and prolong. They have ever been called the devils of earth. They are born with the ferocity of the tiger; they are reared to be merciless; they are trained to torture and kill; they die happy if they can first inflict a death blow.

As the lines are formed and Corporal Jim is unbound and conducted to the head of them he knows what is coming. He is to run the gantlet. That is always a preliminary. It is to whet the appetites of the warriors for the feast to come. On his right is Red Bird, a sub-chief. With his own hands Corporal Jim bound up that chief's wound on a field of battle, gave him a drink from his canteen and defended him against an exasperated trooper who wanted to finish him. Has the Apache forgotten the incident? His eyes flashed fire and there is murder in his look. Gratitude in an Apache! As well hope for it in a hyena! On his left is young Gray Eagle, the only son of a great chief. A year ago when we charged a village the boy was wounded and captured. It was Corporal Jim who had him in charge for six weeks, showing him every kindness and consideration. Aye, it was the Corporal who pleaded so hard for his prisoner that vigilance was relaxed and Gray Eagle escaped from the fort. He is impatient for the torture to begin. He would inflict it with his own hand if permitted.

There is no hope for Corporal Jim. He will be carried on the rolls as "missing—supposed to be dead." Around the camp fires for a year to come the boys will mention his name in whispers and hope that he was dead before the red demons reached him. It is high noon. The sunshine never seemed so mellow, the sky so blue, the distant mountains so grand. There is a shout along the lines. The Indians are impatient for the torture to begin. The Corporal is a brave man and a man in his prime. He will last for hours and afford them a feast. They have let go of his arms and he is standing alone and waiting for the signal to start. The signal is given, and as a yell rends the air Corporal Jim jumps to the left, wrenches a tomahawk from the hands of a warrior, and the next instant he is flying over the ground with the speed of a horse. Thirty warriors rush after him; thirty more mount their ponies and pursue.

Some day when these red devils are again being fed and clothed at Government expense and complaining of their "wrongs" they will tell us the rest of the story. They will not exalt as they tell it. They overhauled Corporal Jim, and he turned at bay and fought so desperately that they had to finish him then and there. He did not die alone, and those who tell us might show the scars of wounds inflicted by him in that last desperate struggle if they would. No man knows where he lies. The Apaches dig no graves for their enemies. The wolves and the vultures get everything but the scalp. But we raised a mound to him in the desolate graveyard to the west of the fort, and it is there to-day among the graves of the soldier dead:

"Corporal Jim!"

No other name, no date, no epitaph. God will know where lies the dust of his bones when the last trumpet shall sound.—New York Sun.

Earthquakes Foretold by Animals.

An Italian writer on the dreadful catastrophe which occurred on the island of Ischia, mentions those prognostications of an earthquake which are derived from animals. They were observed in every place where the shocks were such as to be generally perceptible.

Some minutes before they were felt, the oxen and cows began to bellow, the sheep and goats bleated, and, rushing in confusion one on the other, tried to break the wicker-work of the folds. The dogs howled, the geese and fowls were alarmed and made much noise; the horses which were fastened in the stalls were greatly agitated, leaped up and down and tried to break the halters with which they were attached to the mangers; those on the road stopped suddenly and snorted in a very strange way. The cats were very much frightened and tried to conceal themselves, or their hair bristled up wildly. Rabbits and moles were seen to leave their holes; birds rose as if scared from the places on which they had alighted, and fish left the bottom of the sea and approached the shores, where at some places great numbers of them were taken. Even

ants and reptiles abandoned, in clear daylight, their subterranean holes in great disorder many hours before the shocks were felt. The dogs, a few minutes before the first shock took place, awoke their sleeping masters by barking and pulling them, as if they wished to warn them of the impending danger, and several persons were thus enabled to save themselves.

Hints to Housekeepers.

A few lumps of beeswax, wrapped each in a bit of old linen, and put in the folds of your white satin or white silk gowns, will keep them from turning yellow.

Soak cauliflower, cabbage, etc., in salt water to destroy the minute insects that cling to the leaves. To remove every particle of sand, wash freely in running water.

Never do up delicate-colored silk in white paper to lay away for any length of time. Chloride of lime is used in bleaching paper, and it will have a deleterious effect upon the silk.

A simple way to remove grease spots from wall paper, caused by the head resting against the wall, is to hold a piece of clean blotting paper over the spot and press a moderately warm flatiron over it. Repeat the operation until all the grease is out.

A small scrubbing brush is a very valuable article about the sink for scrubbing the skins of beets and potatoes and other vegetable roots. Where a root is not peeled, it is necessary to scrub it well with a brush in order to get it clean; and where it is peeled, it is much better to scrub it before it is peeled than to wash it by merely soaking it in cold water.

Remember that the best method of cleaning mirrors and window glass is to rub them thoroughly with a thin paste of whiting and water; and, when this is dry, polish the glass with a dry chamois skin and dust off the powder. A little alcohol and cold water will also wash windows well, and gives them a brilliant polish. Though it is not as good as the whiting for polishing, it does not leave behind the dust which whiting does. There is no advantage in washing windows with soap-suds unless they are coated with dust and grease; even then alcohol and hot water are better.

What to do with scorched places on cloth is a question that sometimes puzzles the careful housewife. If the scorch is not too bad, dipping the article in soap-suds and hanging it in the sun for some hours will be likely to remove it. If the day is dull, hang the piece before a grate fire. Scorched spots that are very bad, and yet have not consumed the fiber of the goods, are said to be restorable by repeated dipping in a saturated solution of borax. The saturated solution, as the chemists call it, consists of as much salt or crystal as the water will dissolve. It is always safe to put in a little extra. If the borax stands undisturbed in the bottom of the bottle, one is sure of the full-strength solution. Repeated dippings of this, with exposure to sun or fire light, will remove what are by most housekeepers considered hopeless discolorations.

In this age of fearful moth-preventive smells, it is worth while to know that moths will never go where there are lavender bags. Even where they have begun their ravages in furs or feathers, a lavish sprinkling of the articles with good lavender water will prevent further damage. No one can ask for a purer or pleasanter odor about garments. A liberal distribution of lavender sachets in closets, drawers and trunks will give you the satisfaction of making sweeter your belongings with the weapon which drives away their depredators. Put a lavender sachet in your piano if you fear moths will ravage the felt. Another infallible remedy is compounded of the following sweet-smelling things: Lavender, thyme, rose, cedar shavings, powdered sassafras, cassia and lignea, in about equal quantities, with a few drops of attar of roses thrown upon the whole.

—American Cultivator.

Uses of Glycerine.

Glycerine is one of those substances that always seem to be lending themselves to new and unsuspected applications. It is found that the freezing of water in the hydraulic machinery—a very serious source of trouble in the winter months—is extremely prevented by the simple experiment of mixing a small percentage of glycerine with the water in the pumps. This precaution is now taken in the operation of the hydraulic jack on all ships in the English navy. Glycerine appears to be just as useful in maintaining the efficiency of the human machinery, for it is recommended as a cure for indigestion. A small teaspoonful should be mixed in half a wineglassful of water and taken with or immediately after

each meal until the trouble is past, which, in an ordinary case, will be in two or three days' time, and in an obstinate one probably from 10 to 15 days. The treatment will have to be renewed if the indigestion manifests itself again.—Ex.

Bits of Wisdom.

Foppery is the egotism of clothes.—Hugo. What thou seest speak of with caution.—Solon.

Wanton jests make fools laugh and wise men frown.—Fuller.

To be furious in religion is to be irreligiously religious.—Penn.

The acts of this life are the destiny of the next.—Eastern proverb.

Be a philosopher; but amid all your philosophy, be still a man.—Hume.

Hast thou virtue? Acquire also the graces and beauties of virtue.—Franklin.

There is not a string attuned to mirth but has its chord of melancholy.—Hood.

While we converse with what is above us we do not grow old, but grow young.—Emerson.

Of the king's creation you may be, but he who makes a count ne'er made a man.—Southern.

Misfortune makes of certain souls a vast desert through which rings the voice of God.—Balzac.

Do not allow idleness to deceive you, for while you give him to-day he steals tomorrow from you.—Crowquill.

Fate is the friend of the good, the guide of the wise, the tyrant of the foolish, the enemy of the bad.—W. R. Alger.

Trust him with little who, without proofs, trusts you with everything, or when he has proved you, with nothing.—Lavater.

Men possessing minds which are morose, solemn and inflexible, enjoy, in general, a greater share of dignity than of happiness.—Bacon.

Still his tongue ran on; the less weight it bore with greater ease; and with its everlasting clack, set all men's ears upon the rack.—Samuel Butler.

A willful falsehood told is a cripple, not able to stand by itself without another to support it. It is easy to tell a lie, but hard to tell only one lie.—Fuller.

The good things of life are not to be had singly, but come to us in a mixture, like a schoolboy's holiday, with a task affixed to the tail of it.—Charles Lamb.

It is a great dishonor to religion to imagine that it is an enemy to mirth and cheerfulness, and a severe exacter of pensive looks and solemn faces.—Walter Scott.

Say not "I have done good with what is mine." You give of that which has been lent you; you ought to render thanks to God for enabling you to do good.—Talmud.

In the age of acorns, before the time of Ceres, a single barleycorn had been of more value to mankind than all the diamonds of the mines of India.—H. Brooke.

Do to-day's duty; fight to-day's temptation. Do not weaken and distract yourself looking forward to things you cannot see, and could not understand if you saw.—Charles Kingsley.

The best time to frame an answer to the letters of a friend is the moment you receive them; then the warmth of friendship and the intelligence received most forcibly cooperate.—Shenstone.

Dickens' "David Copperfield."

Some interesting facts connected with Dickens' "David Copperfield" have been revealed by Charles Dickens, the younger. "I have," he says, "my mother's authority for saying—she told me at the time of the publication of Mr. Forster's first volume and asked me to make the fact public, if, after her death, an opportunity should arise—that the story was eventually read to her in strict confidence by my father, who, at the time, intimated his intention of publishing it as a portion of his autobiography. From this purpose she endeavored to dissuade him on the ground that he had spoken with undue harshness of his father, and especially of his mother; and with so much success that he eventually decided that he would be satisfied with working it into 'David Copperfield.'"

Diamonds for All.

"Do you know that when your shoes glisten with a polish they are really covered with diamonds?" asked a shoemaker the other day of one of his patrons. "This is true," he continued, "and I will show you why. Bone-dust, which is the principal ingredient of shoe-blackening, is almost pure carbon. The diamond, you know, is the purest form of carbon. When this paste has been smeared over your shoes the friction of the polishing brush crystallizes the blackening and converts it into millions of infinitesimally small diamonds, and every man with a shine on his shoes may revel in

the knowledge that he wears a cluster of diamonds on his feet."—Philadelphia Record.

Mark Twain's Little Horticultural Request.

Mark Twain is not always ready to help a fellow countryman in distress, but his great sympathetic heart grows elastic and stretches out to embrace the countrywomen of other nations whenever the necessity occurs or the occasion arises. But that the great American humorist always has an eye on the main chance is easily recognized in the communication which follows and which is one of the best things he has written lately:

EDITORIAL DEPARTMENT, CENTURY MAGAZINE,
UNION SQUARE, NEW YORK, April 6, 1893.
To the Hon. J. Sterling Morton—SIR: Your petitioner, Mark Twain, a poor farmer of Connecticut—indeed, the poorest one there in the opinion of envy—desires a few choice breeds of seed corn (maize), and in return will zealously support the administration in all ways honorable and otherwise.

To speak by the card, I want these things to carry to Italy to an English lady. She is a neighbor of mine outside of Florence, and has a great garden and thinks she could raise corn for her table if she had the right ammunition. I myself feel a warm interest in this enterprise, both on patriotic grounds and because I have a key to that garden, which I got made from a wax impression. It is not very good soil, still I think she can raise enough for one table and I am in a position to select the table. If you are willing to aid and abet a countryman (and Gilder thinks you are), please find the signature and address of your petitioner below. Respectfully and truly yours,

MARK TWAIN, 67 Fifth avenue, New York.

P. S.—A handful of choice (Southern) watermelon seeds would pleasantly add to that lady's employments and give my table a corresponding lift.

Secretary Morton complies with the request.—Washington Cor. to St. Louis Republic.

Things to Eat.

Ices were unknown before the seventeenth century.

In 1500 the French made five kinds of wheat bread.

In 1313 the price of an ox was \$12; if corn-fed, \$18.

Bread was first made in England with yeast in 1634.

In 1313 a lamb was worth 5s; two dozen eggs, 3d.

Salmon was formerly believed to promote drunkenness.

Pork was the most highly esteemed flesh at a Roman table.

In Iceland, codfish beaten to a powder is used as bread.

The peacock and swan were famous old German dainties.

The fashion of serving the fish before meats began in 1562.

The Old Tin Can.

"The old tin can" has been so long a cumberer of the ground that one is glad to see suggestions as to its use. These ways of utilizing cans may be given: Besides binding three two-quart fruit cans together and padding them to form a footstool, one may use the discarded oyster, salmon and general canned-goods cans as receptacles for lard. At butchering time, when the lard is ready to put away, pour it into the cans, cover it with a paper cap made of several thickness and tied down. Set the cans in a cold storage box, made by filling the box all round the cans with sand or gravel. If the storage is in a cool, dry place, the lard will be as fresh in August as when poured into the cans.

"Getting the Mitten."

An old-time New England expression, "getting the mitten," meaning having your offer of marriage rejected by your "best girl," has an origin in the customs of the earlier days. One hundred years ago, gloves were unknown in the country towns. Mittens were knitted and worn in all families. If a young man, going home from singing school with the girl of his choice, was holding her mittened hand to keep it from getting cold, and took that opportunity to urge his suit, if the offer proved acceptable, the hand would remain; if taken by surprise, an effort to withdraw the hand would leave the mitten. So the suitor would "get the mitten, but would not get the hand."

The Pig and the Bank.

In Cattawissa, Pa., recently, professional burglars broke into the bank and were at work on the safe which contained \$60,000 in currency, when a squealing pig came along. He was pursued by his owners. The burglars became alarmed and fled. But for the music of the porker the pillage would have been complete, as the thieves had wired all the doors of the houses near the bank building, so that the occupants would have had to come through the windows in case of pursuit.

YOUNG FOLKS' COLUMN.

A Family Jar.

Written for the RURAL PRESS by CAROLINE E. SANDERS.

I WAS reading the other day of some witty naturalist who said that the chief difference between men and animals was that the former could talk and tell each other how smart they were.

Seated at the window of my room when this remark occurred to me, the scene before me was this: A dull, leaden-looking sky overhung a bleak, wintry landscape. In the foreground, which was the part that particularly attracted my attention, was the framework which had been left standing of an old barn; the snow had drifted all around it, filling up the corners and lying in little heaps on the beams, and on some cross-pieces sat three robins, not peeking in the bare places in search of a dinner, nor chirping in friendly conversation, but with their backs fairly turned upon each other, and exchanging now and then a few sharp notes accompanied with a twitching of the wings and turn of the heads that plainly expressed most unamiable feelings.

"A family jar, evidently," said I to myself; "who can say that birds have not a language of their own and are not capable of telling each other more things than how smart they are?"

While thus watching them I suddenly became aware that I understood all they were saying.

"I tell you there is no question about it; Dick has been stealing the grain," said Papa Robin.

"And I tell you that you are an inhuman monster to make such charges against your own son," said Mamma Robin with a sniffle.

He—"My son, or no one else's son has a right to steal Farmer Brent's grain."

She—"Oh, you think he does great things to throw us a few scattering grains, and never a crumb of bread do we get."

Son (sulkily)—"Didn't do it, no how."

Papa Robin (in a rage)—"And I say I saw you at it. Suppose I'm getting so old, though, that the evidence of my eye-sight is not to be taken; very well, sir, I will have you before the grand jury!"

A shrill whistle followed, and in another moment the air was fairly black with birds.

A solemn-looking owl took a position as judge, while a flock of chickadees down in one corner, who appeared to be considered the principal witnesses, kept up such a chattering that a raven was constantly calling them to order by croaking something which sounded like "nevermore!" The bluejays seemed to think they were the only ones who knew anything about it, because they were home all day packing up to leave for the south, but a cat-bird told them to shut up, as she was in the barn and saw it done. Thereupon a pair of mild-eyed doves exchanged glances, as much as to say:

"Yes, and helped to do it."

"Order," quoth the raven, tapping with his bill.

"Tu-who, tu-who saw him do it?" asked Judge Owl.

"I," said the sparrow. "I saw him do it," and all the chickadees chattered in chorus.

"Order," quoth the raven.

"Let the prisoner on the sill stand forth," said the Judge, and as the young robin, with bowed head and trailing wings, stepped forward he asked in an awful voice:

"Can you show, Robin Redbreast, any reason why you should not suffer the extreme penalty of the law for this crime?"

"Was not there at all," said young robin with a sob.

"Prove it. Where is your witness?"

Just then there was a wizzing in the air, as of a bird in rapid flight, and down at the side of the forlorn Robin dropped Miss Jennie Wren.

"Please, Sir," said a small voice, "I can prove an alibi. Mr. Redbreast is paying his addresses to me, and we were at a picnic together all that day."

Then arose a great cheering and fluttering of wings, as they all pressed around to congratulate the happy couple.

"Order," quoth the raven.

My elbow slipped off the window sill just then. I looked around—not a bird was in sight. I must have been asleep.

Juvenile Thirst for Gore.

From his earliest years the genuine small boy evinces an extraordinary relish for horrible tales. Like "Budge and Toddy," he like things "buggy," and the more "bug" the better he enjoys himself. A Tennessee-street mother, who has recently been reading the life of Mary Queen of Scots aloud to

to her husband in the evenings, was tucking her small son in bed the other night when he requested, as usual, "another story."

She said she believed she had already told him all she knew.

"Well," said the terrible youngster, "read me some out of that book about Mary Queen o' Scots getting her head cut off and the blood running down her back."

An Essay on J. Cæsar.

A boy in one of the Detroit public schools recently handed in his composition on Julius Cæsar:

Julius Cæsar was a Roman citizen. He wasn't much at first, but he grew up with the country, and after while he bunched the conventions and got elected boss. One Fourth of July or something Cæsar went up to the capitol to see about a bill. A man met him on the steps and told him to beware of the ides of March. Cæsar laughed, "Ha, ha," and told the man to depress the front of his waistcoat and went on into the big joint. Some time afterward he came out again and adjourned to the S. P. Q. R. saloon, where a lot of Roman senators, members and office-seekers were leaning up against the counter. Cæsar offered to pay for the drinks, but nobody accepted his invitation, and he dropped to the fact that there was blood on the moon. Then somebody said something about his not having paid his ferriage when he crossed the Rubicon, and butcher-knives began flying through the atmosphere. Pretty soon Cæsar saw Brutus, his next-door neighbor, coming at him with a sticker, and that paralyzed him. "What has et you, Brute?" he exclaimed, and laid right down, and in a few minutes the patrol wagon drove up to the door. Just the same, you bet, Cæsar was no slouch. Vale Jule!

Effect of Tobacco on Boys.

The boy who smokes saps his physical strength. In boat-races and games of baseball, cricket, bicycling and other athletics the habitual smoker stands no chance against the young man of pure, cleanly and temperate habits. Some investigations have recently been made which convey a startling warning to smoking boys. From measurements of 187 students in Yale College it was found that those who let tobacco alone gained over those who used it during the college year 1892 twenty-two per cent in weight, twenty-nine and one half per cent in height, nineteen per cent in girth of chest and sixty-six per cent in lung capacity. Measurements at Amherst College showed even greater difference in favor of those who did not use tobacco. With such evidence as this before him, no sensible boy is likely to try to cultivate the tobacco habit or to cling to it if he has already acquired it. Give the boys more opportunities for athletics, and they will require less tobacco.—Troy Times.

A Little Girl's Composition on "Boys."

Boys are men that have not got as big as their papas, and girls are women that will be young ladies by and by. Man was made before woman. When God looked at Adam He said to Himself: "Well, I think I can do better if I try again," and then He made Eve. God liked Eve so much better than Adam that there have been more women than men ever since. Boys are a trouble. They wear out everything but soap. If I had my way, half of the boys in the world would be girls and the rest would be dolls. My papa is so nice that I think he must have been a little girl when he was a little boy.—Oak and Ivy Leaf.

People Who Rarely Wink.

There are people who rarely wink, says an exchange. How they manage to get along without doing so is a marvel, but somehow or other they do. Some eyes are naturally more moist than others, and the very moist eye does not so much need the assistance of the lids to keep the eyeball bright. It is a

constitutional matter, for winking, though under the control of the will, is done so quickly that it is practically an involuntary action. Men wink when they feel that the eye is uncomfortably dry, and when it does not become dry, the necessity for winking is not felt.

DOMESTIC ECONOMY.

APPLE OMELETTE.—Stew eight large apples very soft, mash them fine and season with a cup of sugar, a tablespoonful of butter and nutmeg or cinnamon to suit the taste. When the apples are cold add four well-beaten eggs. Bake slowly for 20 minutes, and eat while warm.

ANCHOVY SALAD.—Wash, skin and bone two anchovies, put in water to soak half an hour, drain and dry them. Cut three hard-boiled eggs into slices. Arrange the leaves of a head of lettuce in a salad bowl. Add the anchovies and sliced eggs, pour over a plain salad dressing and send to the table very cold.

CHEESE STRAWS.—One cupful of flour, one cupful of grated cheese, half a teaspoonful of salt, a pinch of cayenne pepper, butter the size of an egg, one egg and enough cold water to make a paste. Cut in strips seven inches long and half an inch wide. Bake a golden brown. Tie up in bunches of half a dozen each with baby ribbon.

FLANNEL CAKES.—Beat six eggs very light, stir in them two pounds of flour, one gill of yeast, small spoonful of salt and sufficient milk to make a thick batter. Make them at night for breakfast, and at 10 in the morning for tea. Have your griddle hot, grease it well, and bake as buckwheat. Butter and send them hot to the table, commencing after the family are seated.

RICE TOAST WITH POACHED EGG.—Boil the rice the night before it is to be used; put it into a bread-loaf pan and keep on ice; the next morning cut it in slices, brush a little melted butter over the broiler and the sliced rice, and broil, or rather toast, before the fire. When done, butter the slices, place on each a poached egg; spot the top of the egg with a little black pepper, and serve.

MINCED SANDWICHES.—Chop half a pound of lean ham very fine; add one minced pickle and a tablespoonful of mustard; put four ounces of butter in a frying-pan, stir over the fire until it creams; add the ham, the beaten yolk of one egg, with a little salt and pepper, remove the pan from the fire, stir all together, pour out on a large dish and let cool. When firm, cut in slices and lay between slices of buttered bread.

LARDED AND STUFFED SWEETBREADS.—Parboil half a dozen large sweetbreads. Prepare a dressing of grated bread crumbs, lemon peel, butter, cayenne pepper and nutmeg; mix with well-beaten yolks of eggs. Cut open the sweetbreads and stuff them with the mixture; then sew up. Have ready some slips of fat bacon and lemon peel, as thick as small straws. Lard the sweetbreads in alternate rows of bacon and lemon. Then put the sweetbreads in a pan, set in the stove and bake brown. Serve with veal gravy thickened with the beaten yolk of an egg and flavored with lemon juice.

ICED ORANGES.—Peel six oranges, carefully removing all the white skin and seeds, and separate into small portions. Whip the white of one egg with three tablespoonfuls of water, then add a dessertspoonful of powdered sugar. Mix these well together and strain through a fine wire sieve into a flat vessel. Dip the pieces of fruit first into very good sherry and then into this mixture and roll carefully in sifted granulated sugar. Place each piece separately on a platter until dry and arrange tastefully in a glass dish. The seeds are easily removed by cutting through the portions of fruit in the centre just deep enough to pinch out the seeds without losing much juice; the icing will close the cut.

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Training a Horse.

A horse should never be deceived by word or action. When a rider or driver pulls the reins and says "whoa," he should mean it and stick to it. But to cry "whoa," jerk the reins and lash the horse at the same time, is confusing and means nothing. It is quite common to say "whoa" when it is only intended to go slower or when the horse has not stirred a foot, to let him know of your presence. One day, when your life may depend upon a "whoa," you will find that your horse is not stopped by it because you have entirely played it out of him. Speak always in a natural tone of voice under all circumstances. Always let your horse face the object of his fear, and when frightened remember the slower you move your horse the more power you have over him. There are times when letting a horse trot is almost as bad as letting him run away. Fear is something a horseman should never exhibit in his countenance or voice, as the horse is a close observer and soon learns to take advantage of such indications to become careless of control, if not, indeed, aggressive. Let your lessons be thorough but not very long. Be gentle and patient with the colt, but make the willful, stubborn horse feel the full extent of your power till he submits.

The way to educate a horse not to be afraid of things is to get him used to them by bringing him into frequent contact with them. If the horse is afraid of the report of firearms, just throw him down and fire off a pistol over him. Whenever he makes a motion to get up pull the strap that holds him down and fire off the pistol again. This can be repeated and a lesson should last 30 or 40 minutes. The next day give him another lesson, and in about three days the horse will pay no attention to the discharge of firearms. Another cause of trouble is restiveness, which comes from bad handling and from a too eager disposition. It tells of a nervousness or impatience which develops easily into a multitude of vices, such as rearing, backing, bolting, balking, and even viciousness in shoeing when badly handled. The restive horse can easily be made an inveterate balker. It is difficult to cure when it becomes a confirmed vice. Gentleness and patient firmness of the trainer must cure and prevent. Many an ambitious horse is ever ready to start, unless he has been taught never to start until the word is given. It is easy to train the average horse not to start unless the lines are drawn and the word given. Horses are less to blame than drivers for the habit of starting too soon.—Kansas Farmer.

Is Electricity a Myth?

In its practical, serviceable relations, assuredly no. But there is an active debate in progress, says the *Mechanical News*, among scientific scholars on the question whether there is, after all, such a thing as electricity, using the word "thing" as implying a material entity—or whether it is merely an effect, or to speak more technically, a mode of motion. If the latter theory is accepted by the scientific world as correct, electricity will still be in very respectable company, for both heat and light have gone that way before. Not very long ago they were supposed even by philosophers, to be actual substances, not exactly tangible or ponderable, but still having a positive material existence, and liable some day to be weighed and measured, manipulated and transported like any other commodity. Practically, of course, this is done when a ton of coal or a pound of candles changes hands. But in any of these cases it is only the vehicle or agent which is visibly dealt in, and it will only be by a figure of speech that we shall ever ask for a hundred weight of heat or a gallon of light. The analogies of the case seem to point to the same conclusions, as regards electricity. What goes by the name of electricity may be generated and stored, and it is so treated for a multitude of familiar uses; but only in this view of the case, as light is stored in a gas tank or warmth in a cord of wood.

Possibly the question is not of much moment save as a topic of abstract controversy. But speculative inquiries such as this have led and will in many instances lead to results of vast practical usefulness to mankind.

The total number of vessels in the British mercantile marine, says Lloyd's latest returns, is 21,542, with an aggregate tonnage of 12,203,761 tons. Of this number 7,960 are steamers with 8,980,203 gross tons, or an average considerably over 1,000 tons each. Last year England added 872 vessels of 984,670 tons, of which 21,000 tons were purchased from foreigners. But England also sold to foreign nations, chiefly Norway, France and Germany, 117,000 tons

more than she purchased. In the last six years nearly four and a half million tons of steamers have been added to the register, and only 1.6 million tons have been removed; and of the latter the greater number have only changed flags and are still competitors for trade. In the same period 913,000 tons of sailing ships have been added on 1,206,000 tons removed; so that there are fewer sailing ships on the register now than in 1887.

Oranges as a Medicine.

It cannot be emphasized too strongly, especially at this season of the year and in this part of the world, that pure fruit juice is one of the best blood-purifiers and system-regulators there is. In fact, it is said to be the base of physicians' prescriptions in cases of depleted systems and impure blood. There are people in this place who testify to this fact, particularly as to oranges. Some people, who have heretofore eaten fruit between meals or just before retiring and condemned it as injurious, have learned in California to eat one or two oranges with nearly every meal, particularly breakfast, and have found to their pleasant surprise that it was better than any medicine ever taken.

Many remarkable things have been claimed for oranges taken as a food, such as making the complexion clear and beautiful, curing the drink habit and numerous other things as varied and marvelous as the achievements of corn medicines, and there are, doubtless, persons who have made themselves miserable and ridiculous eating oranges by the wholesale in the endeavor to accomplish some such impossible result.

But thousands of persons can testify that a judicious use of oranges is a good thing; but a few precautions must be taken. In the first place, buy nothing but good fruit, especially ripe fruit. Green or bad fruit cannot be good for anybody. Then, if you do not eat the orange out of the shell with a spoon as many prefer to do, be sure to peel it carefully. The white pith lying beneath the yellow rind is one of the most indigestible substances known in the vegetable world. It is better to eat oranges with a spoon and take as little as possible of the cellular matter. Do not eat too many oranges at first; but if the habit of eating them with meals is once formed, a person will never be satisfied to eat a meal without fresh fruit of some kind. The habit will work wonders in a short time toward regulating the system, keeping the blood in good condition and creating a healthy appetite.—Pomona Progress.

In building an earth dam 85 feet high and over 1000 feet long for the water works at Santa Fe, N. M., the upper half of the dam is puddled in layers, a herd of 115 goats having been bought expressly for puddling. These goats are in charge of a herder, who keeps them in motion when on the dam, which is stated to be from 12 M. to 1 P. M., and from 5 to 6 P. M. each day.

CONTRARY to what most persons would infer, it is said on the authority of the United States Department of Agriculture, after careful tests, that tapping the pine trees of the South for turpentine is not injurious to the timber, and that the lumber is in no way affected by it. The turpentine industry, with a product worth \$10,000,000 annually to the South, is thus a clear gain.

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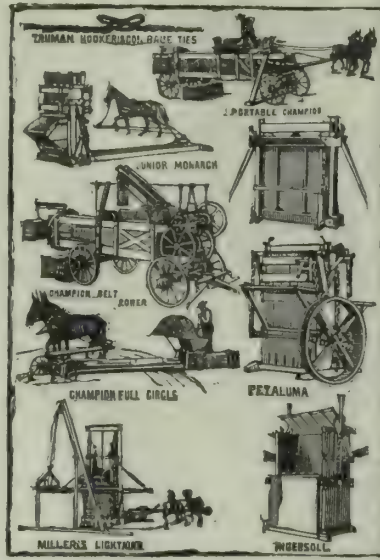
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ASSESSMENT NOTICE.

GRANGERS' BUSINESS ASSOCIATION, (A CORPORATION).

Principal Place of Business, No. 108 Davis Street, in the City and County of San Francisco, State of California.

NOTICE IS HEREBY GIVEN THAT AT A MEETING of the Directors of said Grangers' Business Association (a corporation), held on the 8th day of May, 1893, an assessment of ten (10) per cent, amounting to two dollars and fifty cents (\$2.50) per share, was levied upon the capital stock of the corporation, payable immediately to the Secretary of the corporation, at his office, No. 108 Davis Street, in the City and County of San Francisco, California. Any stock upon which the assessment shall remain unpaid on Thursday, the 8th day of June, 1893, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on WEDNESDAY, the 13th day of July, A. D. 1893, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

CHARLES WOOD,
Secretary of Grangers' Business Association.
Office, No. 108 Davis Street, San Francisco, California.

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A responsible land-owner, having a large improved estate in the Placer County foothill region, adjoining the Central Pacific railroad, where Orange and Fruit Culture is attended with a success only equalled in a very few sections of the State, and having a tract of about 250 acres, already largely cultivated, and containing about 2000 choice Orange Trees now in successful bearing, desires to meet with a gentleman of means, who desires to establish a pleasant country residence, and who would be willing to engage in fruit-growing under the most favorable conditions, and would go forward and engage in the cultivation of the particular tract.

The tract has a nursery of over 1200 young Orange Trees, budded to the choicest variety of oranges, of which about half would be suitable to plant out in orchard next winter. Peach, Cherry and other varieties of fruit trees can be planted in the tract to large and speedy profit. The tract is supplied by an abundance of water, and connected with the best-built roads to be found in the State. The tract can be leased, purchased, or bonded with an option of purchase, or otherwise favorably arranged for by a suitable party. In the vicinity is a most prosperous Country Club, with Cricket and Tennis Clubs, and a Football Team. The surrounding society is of a cultivated and superior class.

Ten and twenty-acre adjoining tracts, with abundant water, are also offered for sale at moderate prices, where residence and cultivation is intended. Such tracts will be sold upon cash payment of 10%, with deferred payments for number of years, at 6% interest. Address FRUIT LANDS, Rocklin, Placer County, Cal.

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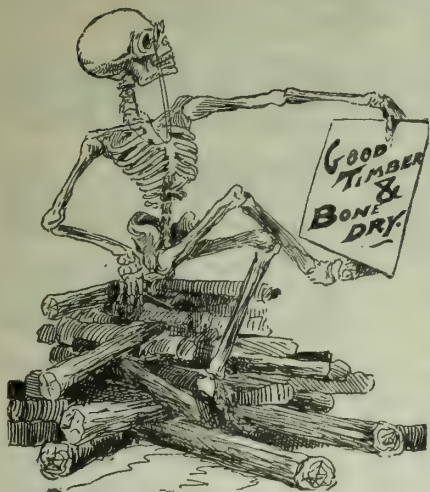
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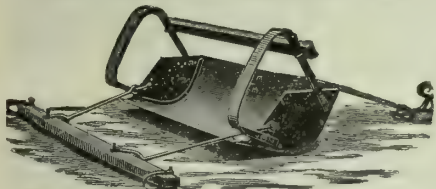
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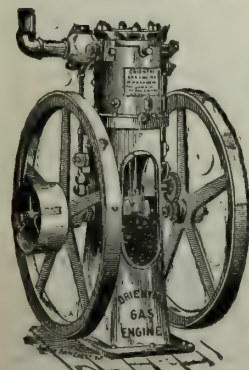


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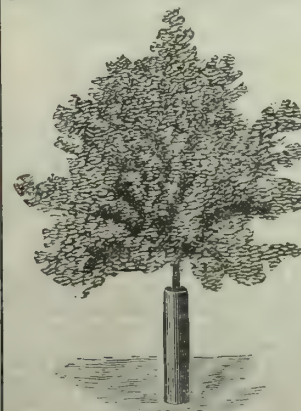
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AGRICULTURAL NOTES.

CALIFORNIA.

Butte.

Biggs Argus: Mr. and Mrs. H. J. Langdon informed the *Argus* that out of 50 acres of olives, containing 3450 trees planted last year on redlands, only 194 trees have died. The 3256 trees living have made a splendid growth and are as thrifty and healthy as any trees could be. And what proves the value of the redlands for olives is the fact that these trees were grown without irrigation. The secret lies only in the fact that Mr. Langdon kept the ground well cultivated. He also planted 10,500 grapevines of the Muscat and Seedless Sultan varieties, of which only 1280 failed to grow and do well. The above shows a very small percentage of loss and bears out repeated statements of the *Argus* as to the pre-eminent adaptability of the redlands for citrus and deciduous fruit culture. These trees and vines are now growing on the Chardon Colony tract, near Biggs, now under development by Col. E. S. Weeden, Col. Scott, Langdon and others.

Oroville Register: F. Walker, Esq., representing a body of English capitalists, is in Oroville. The object of Mr. Walker's visit is for the purpose of promoting a scheme to buy the Big Bend tunnel and water rights and construct a canal for irrigation and manufacturing purposes, carrying water to the vast area of arable land to the east and south of Oroville. Mr. Walker states that he is the representative of capitalists who were attracted to this section by the late citrus fair held in San Francisco, and should he receive guarantees from owners of lands to the total amount of 15,000 acres that they will take the water, the capital will be forthcoming and the canal will be put through.

Calaveras.

Angels, Calaveras county, has organized an Agricultural Association, and is thoroughly aroused to the importance of the fair for the Thirty-ninth Agricultural District, which is to be held there. A pavilion and race-track are to be built and liberal contributions assure their establishment at an early date.

Fresno.

Reedley Exponent: A Sharpless strawberry picked from the vines of Mr. P. Griest last Friday (May 5th) measured a fraction over seven inches in circumference. This is the largest strawberry we have ever seen. Affidavits of reliable persons can be furnished, if necessary, as to the correctness of this statement. Mr. Griest has nearly one acre in strawberries. He has 3000 vines, which will average a yield of one gallon to the vine. He is selling at 60 cents per gallon. This will figure a gross yield of \$1800 per acre. It is almost incredible but it is every word true. The vines were planted a year ago last fall. He has vines also which were planted last February which are yielding heavily of fine berries. We know, as through the courtesy of Mr. Griest we freely sampled them.

A prominent vineyardist near Sanger says that cutworms are doing great damage to the grape crop between Sanger and Selma. The Selma *Irrigator* states that Joe Carlson, who lives 4½ miles northeast of Selma, says they have ruined his first crop entirely. Some of the vineyardists are making war against them and find from 100 to 150 worms at the roots of each vine, where they stay during the day, coming out at night to prey upon the leaves of the vines. Ali are anxious to have hot weather come on, as that will kill the pests. Inquiry among raisin-growers north of Sanger elicits the information that crops in that vicinity are free from pests this year, and the prospects for a heavy yield are encouraging.

Humboldt.

Rohnerville Home Alliance: Galen Wilson tells that on one of two peach trees of the same variety standing two rods apart he put two bushels of ashes and none around the other. On the last-named the leaves were light-colored, the fruit small, and nearly all dropped off, while on the one that had the ashes foliage was dark green and glossy and the fruit larger than ever before, so that it was necessary to prop up the branches. He got two bushels of peaches for his two bushels of ashes, which was not a bad trade for him.

Kern.

Bakersfield Echo: S. B. Kingsley has brought from Los Angeles county a dozen head of thoroughbred Jersey cattle for his dairy ranch west of town. He was already making about 20 pounds of butter a day, and this addition to his herd will swell the output. He finds a good home market for all his butter and is well pleased with the business.

Los Angeles.

Downey Champion: O. P. Passons, a prominent walnut-grower of Rivers, whose three last crops amounted to 104,729 pounds, netting him the sum of \$7,929.51, says that this year's crop will be light, but little over half. Seedling oranges the same.

The orange-growers' meeting in Los Angeles last week was largely attended and very harmonious. The plan of organization suggested by the committee of five was adopted and the following organizers elected: Riverside county, T. H. B. Chamblin; San Bernardino county, W. E. Collins and S. B. Fox; Los Angeles county, Dr. Hall, Duarte, John Reid, San Fernando, T. L. Gooch, Rivers; Orange county, W. M. McFadden; San Diego county, Frank Kimball; Ventura county, N. W. Blanchard; Santa Barbara county, Harry Johnson.

Merced.

Herald: The auger of the artesian well apparatus at the new water works brought up, on Friday, from a depth of 144 feet, a heavy clay in which were found impressions seem-

ingly of leaves like those of the olive. The impressions are sharply defined, showing the stem, fibers and full outlines. If nature could talk, what tales of days gone by might be learned from this little find!

Monterey.

Pajaronian: The beet parasite—a small black bug—has been doing some damage in the beet fields, and a number of tracts will have to be replanted. This bug is sure death to the beets until the warm weather kills them off, and its appearance is one of the regular features of the beet business.

Watsonville Rustler: The proposition to establish a fruit cannery in this city is one that has been before the people for these many years. Various methods to secure the establishment of this much-needed industry in this locality have been discussed, but without any material results. The Watsonville Grange has finally taken the matter in hand, and, as a majority of its members are fruit-growers—men who are directly interested in a fruit cannery—it is to be hoped that they will accomplish what has been so frequently attempted.

Mendocino.

Beacon: Much has been said about the amount of loss on the stock ranges throughout the county. There is a general impression that there is no money in sheep at present prices, so the loss occasioned by every heavy storm is used to bolster up this theory. The late storms and the general backward spring has been very bad for scabby sheep, though the loss of old stock has been but little, if any, above the average during the past winter, but there is a perceptible shortage in the lamb crop. In fact, the loss of the sheep business is in the increase on lambs.

Orange.

That California can grow profitably something besides oranges is proven by the Anaheim *Journal*, which says: "A Colorado paper states that potatoes can be made to pay \$50 per acre net in that country. Robert Mears, of Fullerton (three miles from Anaheim), cleared \$437.50 on less than four acres this season. Still people will live in that cold, cheerless Colorado country."

Anaheim Gazette: More hay and barley will be harvested in this section this year than ever before. Down on the San Joaquin there are 25,000 acres in barley which it is estimated will yield upwards of 450,000 sacks, over 400 carloads. Around Anaheim the yield will be in the neighborhood of 200,000 sacks. The yield of hay will also be enormous, miles upon miles of it now being harvested.

Orange News: Mr. Alf. Leech, our local tinsmith, has a big job on hand in supplying honey cans for beemen. He now has orders in for about 500 five-gallon cans, and is turning them out at a rapid rate. Instead of the old plan of using the soldering-iron to fasten the joints, he has a small iron trough so arranged that the solder is kept melted by the heat of a lamp placed under it. The joints are held in the melted solder for a second or two and the work of soldering is done neatly and well.

Santa Ana Blade: For the first time the practicability of raising sugar beets in the Santa Ana valley on a large scale will be settled the present season. Small tests have been made with the best of success, demonstrating beyond a doubt that all the conditions for the sugar beet are to be found here. It is estimated that some 2000 acres will be cultivated this season in the valley, most of which will be near Anaheim. So far the crop is looking well and gives the most flattering promise of a splendid yield.

Placer.

A wide-tire ordinance will soon take effect in Placer county, and great improvement is expected in the condition of the roads.

Argus: The Penryn Fruit Co. shipped three cases of cherries on Monday, the first of the season. They were grown on the ranch of C. F. Tottenham.

Riverside.

Riverside Press: Just now the valley from one end to the other is a vast flower garden. Never have the orange trees seemed so full of bloom, while each rosebush appears to be trying to outdo its neighbor in the profusion of blossoms. On Cridge street, in Hall's addition, the rose trees on both sides of the street are loaded down with beautiful blossoms. There are many such lovely places all over the valley, and everywhere flowers are seen, in yards, along the sidewalks and in the fields. Out on the plains, on the sides of the hills and arroyos, wild flowers are blooming in rich profusion.

San Diego.

The new Board of County Horticultural Commissioners, of which Colonel W. E. Gunnis is chairman, reported May 13th to the supervisors the result of its investigations in the upper counties as to what is best for this section. The report recommends the gassing of citrus trees and the spraying of deciduous trees. Riverside had the best system for the destruction of pests of any place visited.

Prof. Hyatt of San Jacinto will send to the World's Fair a collection of the insects peculiar to that section. The *Register* says that in the collection there are specimens of nearly 200 different beetles, 40 species of butterflies, 100 wasps and bees, 60 bugs and a lot of different kinds of grasshoppers, flies, moths and dragonflies. Few would dream that so many different kinds of animals are crawling and flying within the borders of the county.

San Bernardino.

Ontario Record: The Ontario Fruit and Produce Co. shipped a carload of oranges East last week in an iced car, just as deciduous fruits are shipped in summer. So far as we know, this is the first shipment of that description made in southern California. The extra cost to Chicago

is \$90 per car, and the result of this experiment will be watched with interest.

The *Moreno Indicator* says that last week some boys brought to the hotel six enormous yucca palms all growing on a single stalk. Mr. Randall counted one of the heads and found over six hundred blossoms. Hence on a single stalk were over 2400 blossoms. We have read of 1800, but this breaks the record. This wonderful specimen of *Yucca Filamentosa* ought to have been sent to the World's Fair.

Ontario Observer: T. S. Dowse's beehive factory is running to its full capacity. He has unfilled orders for supplies, and the indications are that he will be able to do an extensive business. Mr. Dowse expects to enlarge his plant soon. The honey industry of southern California is an important one, and it calls for a large amount of the materials Mr. Dowse is prepared to furnish.

Solano.

Vallejo Times: Three years ago Samuel Brown bought a mare from a man named Parker, who lived near the northern border of Yolo county, and has used her in his market business most of the time since. On the night of Saturday, April 29th last, the animal got out of her pasture and returned to her old home, a distance of some 80 miles, reaching there Wednesday morning, May 3d. She went by the way of Cordelia, Rockville, Suisun, Vacaville, Winters and Madison. Mr. Brown traced the animal from point to point and finally located her at her old home. He returned to Vallejo with his property on Saturday last.

Sonoma.

Healdsburg Tribune: The cherry crop of this valley is fully one month late this season. Last year at this time the orchardists in this valley were busy shipping, but this year no shipments so far have been made.

Santa Rosa Democrat, May 13: It has been four weeks from last Tuesday since we had a shower of rain, and the foggy mornings have not yet come around; but there is this to be said—there is always a prediction of failure about this time of the year which is usually dispelled in June.

Forestville Cor. to Index-Tribune: The fruit crop in this section of the country is not so promising at present as it was earlier in the season. The peaches have been dropping off considerably in the last week, and threaten to drop off as much more in the week to come. The prune crop, which promised to be so abundant earlier in the season, has so diminished as to be about average. The prospect for a good apple crop, so far, is very good.

Sebastopol Times: On the 1st of May, Mr. and Mrs. C. H. Wheelwell of Sebastopol visited C. Nisson's ranch at Two Rock, where he raises a very large number of chickens annually. He has hatched over 10,000 this season, and on the 30th of April the large incubator, with a capacity of 2000, had sent out its brood of little ones upon the world, and a livelier set of chicks is not often seen. Mr. Nisson only hatches during the first part of the year, the incubator being now filled for the last time in 1893.

Index-Tribune: Farmers and dairymen are crying out for more rain. The dry weather of the past few weeks has had a tendency to stop the growth of grain and feed in this valley and if rain does not come inside of a week there will be short crops in hay and cereals in some portions of the valley. The grain on the reclaimed lands of Senator Jones, Tubbs, Meacham, Rose and others, however, is looking as fine as any crop that we have seen in a long time. Immense crops of hay, wheat and barley are assured in the reclaimed tule lands, bordering on Sonoma and Petaluma creeks, whether there is another drop of rain this season or not.

Santa Rosa Democrat: G. N. Sanborn reports the season on Gold Ridge so far as rather unfavorable. The prune crop will be large, and apples look well, but peaches are very light. The long-continued northwest winds have dried up the surface soil, and both the hay and grain crop will be light. The difficulty in plowing will also make the corn crop light. The hay and grain crop of Two Rock valley is also looking rather thin. There is quite a large lot of potatoes being put in in that section. Duncan Houx and the adjoining places are putting in a very full crop. Mr. Sanborn reports the outlook for blackberries as unusually good. He says that this is a very important crop in the Gold Ridge country. He thinks, without exaggeration, that the yield will be from 150 to 200 tons. It has grown into an interest of great importance. All fruit will be late this year on account of the eccentricities of the seasons.

Stanislaus.

A Crow's Landing correspondent of the Newman Tribune writes: J. F. Stewart has just put out about 85,000 sweet potato plants. He is going to try and raise sweet potatoes enough to supply the home demand anyway, and possibly might be able to spare a few to the Newman people. The sweet potato here is equal to that raised in Mississippi.

Sutter.

Farmer: The principal work in the orchards now is cultivating, which has been much aided by the recent rain. Thinning peaches has commenced. The curl leaf is disappearing, and the orchardists feel confident of a good crop of peaches. Apricots make a better showing now, and prunes, pears and plums are bearing heavily. Almonds are quite large and will make a fair crop. Cherries are ripening and will be a good crop. A prosperous fruit year is opening to the growers of this county.

Tehama.

Corning Observer: The first ripe strawberries grown this season in Corning were on the garden lot of H. W. Stewart. Last Sunday he brought into us some beautiful ones. The

plants were only put in last fall. As several of the colonists have planted patches of strawberries, we may look for much fruit next year.

Tulare.

Tulare Times: W. V. Flournoy is in town from Dinuba and says the '76 country will raise some good wheat. Had a late rain fallen Mr. Flournoy says that section would have raised its greatest crop.

Times: The orange trees out on the Curtis ranch, ten miles northeast of Visalia, are the finest in the county and will yield an immense crop the coming season. The trees are loaded down with blooms.

Times: Bill Scott, who is farming near Tip-ton, says that of 500 acres of wheat that gave splendid prospects a month ago he has only 80 acres that will be sure to yield. His neighbors are faring the same.

Visalia Delta: D. K. Zumwalt has the plans drawn for his proposed creamery building, to be erected on his ranch adjoining the motor railroad, midway between this city and Tulare. It will be a two-story structure, and rumor has it that a portion of the building will be used for a cannery.

Times: Persons in town to-day from Three Rivers and the other sections of the mountains do not give flattering reports of the condition of grain. At Three Rivers it is said that little good grain will be raised and that the hay crop will be short. More rain is expected by the residents of the foothills, but it will come too late to do any good and may do harm. The absence this year of rain in the foothills in April is something that has not occurred before in many years.

Porterville Enterprise: The grain is drying and dying on the very banks of the great Tule river, while the great volume of water runs almost wholly unmolested to the lake. Likewise the Kaweah region. What an enormity to pass upon the energy of the people at the close of the nineteenth century! Let the 30,000 people of the county look to the profitable works of Fresno and Kern counties on irrigation. Canals, water and profit must take the place of disappointment and loss.

Ventura.

Venturian: C. J. Daily, the manager of the big Patterson ranch, says that Mr. Patterson has rather changed his notion about selling his place now. This year he will put in 500 acres in beans—200 in Limas and 300 in Lady Washingtons. They have 1500 acres in barley which looks very fine.

Ventura Observer: D. W. Thompson will plant 1600 acres in beans on his ranch this year. It will require about 36 tons of seed. This is probably the largest bean ranch in the world. If the yield is good it will amount to over 2,500,000 pounds, requiring nearly 200 cars to carry them to market.

L. E. Mercer was down from his honey ranch near Saugus on Sunday. He stated to *The Venturian* that his bees were doing very well indeed, and were now making honey at the rate of 100 pounds to the swarm per month. As he has 600 swarms, the honey will accumulate pretty fast. They will continue to make honey for two months yet.

Venturian: T. A. Rice has four acres in alfalfa and barley on his place, the other side of Jerusalem, which he cut three times last year, not a drop of water having been used for irrigating purposes. Near by is another field of six acres which was cut five times. Neither had irrigation and the yield was about six tons to the acre, or two tons each cutting. Mr. Rice says that irrigation is not required for alfalfa, except to drown out gophers.

Yolo.

Cacheville Cor. to Democrat: The potato-growers on D. P. Diggs' farm are much encouraged at the way prices for tubers are maintained. Unless there is a slump in the market before the first of July, they all expect to be millionaires.

Davisville Cor. to Democrat: Crop prospects are only average in this locality. On the higher lands there are some fine fields of grain, but on the lower lands bordering on the tules, the yield will be less than for any season in years. Fruit will make an average crop if the weather continues good.

Woodland Mail: M. H. Diggs has brought to this office a box of potatoes, fresh from the rich soil on his ranch just north of Cache creek. They are uniform in size, bright and clean, and will no doubt prove a great addition to the Sunday stew. Mr. Diggs has 50 acres of the tubers, which he thinks will average 100 sacks to the acre. As they are at present worth three cents a pound, it may be seen that Mr. Diggs has a glowing potato future in store. He will begin digging in about a week.

OREGON.

David McDannald, living on Mud creek, below Milton, Or., was bothered with snakes; they would swallow eggs whole and they would swallow the young chickens. So great was the annoyance he could not raise any young fowls. He finally studied up a plan to rid his premises of the snakes. He bought a big lot of porcelain eggs and laid them around so the snakes could get them. They swallowed them the same as the genuine ones, but they could not digest them and death was the inevitable result.

WASHINGTON.

The Tacoma *Ledger* publishes an article showing in detail the progress made in irrigating the lands of eastern Washington. Eight large companies are organized, with a combined capital of \$3,160,000. The amount already expended in construction work is \$1,245,000. The land that will be irrigated when all the work is finished is 283,000 acres.

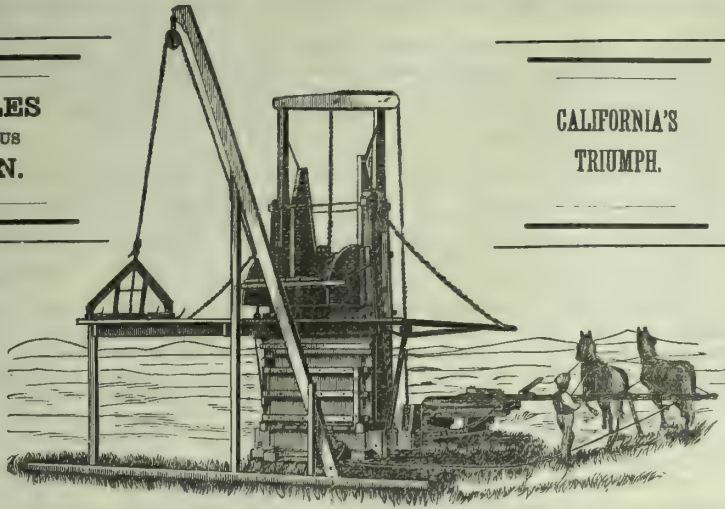
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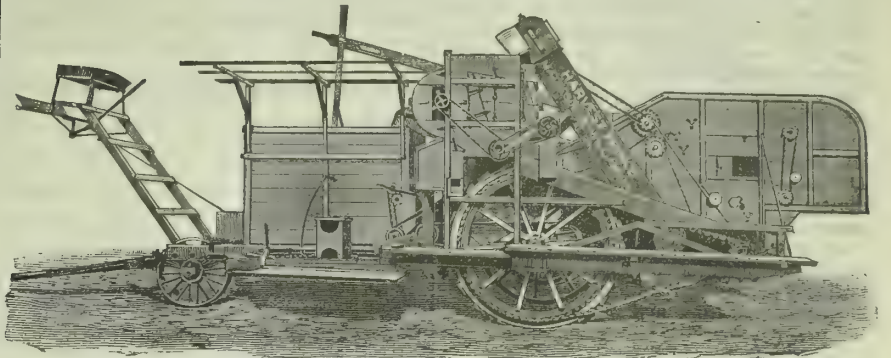
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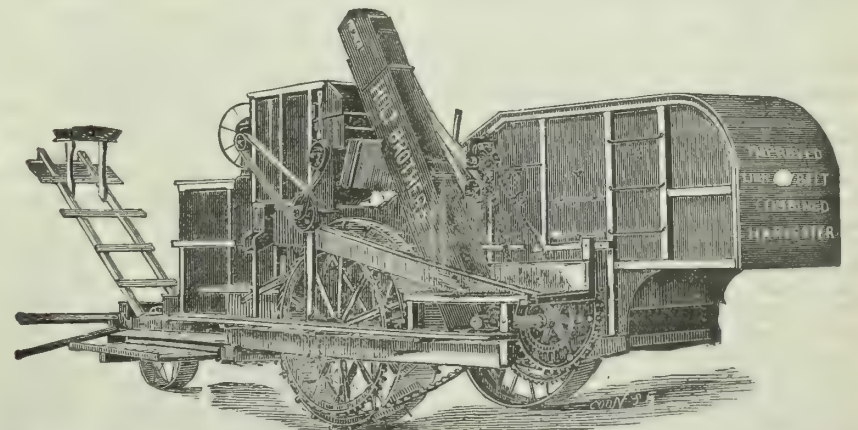
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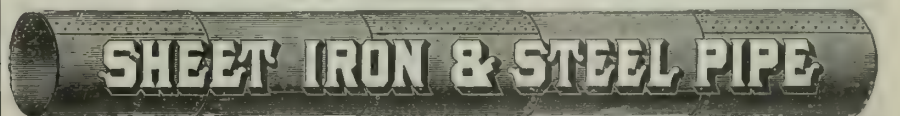
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PATRONS OF HUSBANDRY.

A Great Day at Merced.

TO THE EDITOR:—Children's Day, May 6th, was well remembered by Merced Grange. Through the efforts of Sisters Atwater, Perry, Brouse, Bickford and others, the hall was beautifully decorated with grasses, flowers and oranges. Every station had its appropriate floral offering, and the whole literally blossomed "as the rose." A much noted feature was the very large, fine oranges from the farm of Brother M. D. Atwater, especially interesting as an illustration of Merced's possibilities in citrus culture.

At 10:30 A. M. Worthy Master A. Bickford called the grange to order for a short business session. State Master Davis then illustrated and explained the secret work of the order, answered many questions, and gave a valuable and interesting lesson on grange rites, usage and parliamentary practice. Among other things he said in substance:

In dealing with public business and with business before your grange, learn to use your "Digest" your "Cushing's Manual," your wits and your judgment. When in doubt, don't ask some one else to tell you what or how to do—don't ask me to tell you. Read for yourselves, make yourselves familiar with rules of order and proper manner of conducting a grange or public body. It is valuable, tonic, bracing mental work. Your authorities are the same by which State granges and officers are bound; study them, use them, practice them. If to you a member or the master seems wrong, bring him to the test, prove it on him from the printed page, and, if you are wrong, acknowledge it fairly and cheerfully as a man—or a woman. Stick to your point till it is proved wrong, then stick to the right, whoever is wrong. Don't wrangle, don't argue for the mere sake of argument, don't try to prove what you know is untrue, but strive always for the truth, and bow to it whether it fits your theory or not. One honest acknowledgment of wrong is better than numberless victories over the right. As good grangers and good citizens, aim always for the welfare of the order and of the State.

Many questions were necessarily left unanswered, many disputes undecided, but with this cheerful, earnest advice and admonition ringing in our ears we will try to do what others, though willing, can not do for us.

As noon approached, the rattle and clatter of dishes and the many-scented, appetizing sweetness from the adjoining banquet hall floated in together, and cut off debate. Don't speak of "fine dinners, elegant spreads or bounteous repasts;" this was simply and substantially a Grange "Harvest Feast," which, when said, exhausts the whole vocabulary. Your dainty "finicky" city epicure, with lungs only half filled with foul air, and half-reluctant, semi-dormant stomach pampered and "tonicked," dosed and doctored into open rebellion, might not find in such a feast his ideal meal; but for your hearty, robust, fresh-air farmer or lassie, with sun-browned cheek and springy step, the simple, ample abundance is more tempting, and more satisfying, than any display of dishes and fine linen. One was irresistibly reminded of Ichabod Crane's vision of plenty at the home of his lovely Katrina Van Tassel. And as for waiters. Well, there were no whiskers or moustachios to mar the "elegance" of their faces, while the delicate muslin dresses, the rosy cheeks and bright eyes would shame "Delmonico's best." New York's famed four hundred never were served so well. Following is a short synopsis of the bill of fare which we take the liberty of printing in English.

There was roast beef and mutton, pork, chicken and lamb,
Young veal and fat turkey, with cranberry jam;
Great pork pies and pot pies, ham sandwiches, too,
A fat leg of mutton, a rich Irish stew.
There was bread of all colors and sizes and shapes,
And pickles from cucumbers down to sour grapes;
Baked salmon and heart, stuffed duck and stuffed goose,
And a warm-hearted welcome to "Eat all you choose."
There were oysters and lobsters and crab-sters and clams,
With relishes, marmalades, jellies and jams.
The vegetable names I never could tell,
While half of the salads would fill up a well.
The cakes and the cookies, the puddings and pies,
The crullers and doughnuts would open your eyes.
And some one sent in a great box full of raisins,
While walnuts and candy we'd no dish to place in.
Then they brought in great jars of sweet peaches and plums,
All floating in nectar to tickle the gums;
With blackberries, gooseberries, strawberries, cherries
And pitchers of cream—all served up by fairies.
We had milk and ice water, hot coffee and tea,
But no drop of liquor did any one see.
Then they proffered a glass of the best lemonade,
And mentioned a freezer of ice cream just made;
And a hundred more dishes, beyond rhyme or reason,
With everything else in its own proper season.
And this, my dear reader, is what, if you please,
We call in this county a Grange Harvest Feast.

After every possible effort had been made

to demolish the edibles, and after all had withdrawn from the contest, "slightly disabled, but still undefeated," the grange entertained its friends with an open meeting. Space forbids more than a passing mention of the program, but the children and their parents are deserving of special praise for the good work done. The grange also extends many thanks to those who so kindly gave their time and talents for the occasion.

At three o'clock Brother Davis began his stirring and instructive address on the grange and its work. Those members who were present felt at the conclusion new pride and confidence in our order, while to all others was offered convincing proof of its usefulness, intelligence and high morality. Some of the thoughts gleaned are here presented:

First, the grange is essentially a peaceful, law-abiding body. We do not fight for the love of it, but to accomplish a worthy end. We seek to do good, to prevent oppression, relieve suffering, point out and correct error and stimulate progress. We do not fight any man or aggregation of men; we fight for or against principle.

We are not brilliant and meteoric, but rather slow, steady, conservative, though withal, progressive and independent. We have not always been successful—have been beaten, have been in the wrong; not wilfully, but through misconception or misinformation; and we have not hesitated to correct our own errors as we strive to correct those of others.

As a peaceful body we have upheld the law and the government. Farming is essentially a peaceful pursuit, it is typical of quiet, restful repose, coupled with productive labor. As an intelligent body we have supported the public school, the newspaper, the university. As a moral body, we attend church and Sunday-school, are temperate and industrious. There is no record of malfeasance or misappropriation among grange officers. This fact is unique in the history of fraternal orders, and even those with the greatest power and grandest history can not point to an escutcheon so spotless. With our 27,000 granges and our hundreds of thousands of members, it speaks volumes to be able to truly say—no grange officer has been known to embezzle one dollar of funds entrusted to him.

The grange is purely an American production. It is indigenous to our soil; it savors of our institutions; it is based upon popular rule, upon liberty, labor and equality. It believes that work is honorable, and that "an honest man is the noblest work of God."

In conclusion Brother Davis mentioned some of the measures now advocated by the grange, and asked all farmers and their friends to study grange methods, principles and purposes. He said, "We invite your honest investigation and earnest co-operation. If you will make yourselves acquainted with us and our aims, I venture to say you will find the grange a live organization, a practical and conservative, though liberal and progressive order, a good thing to belong to."

E. L. SPINKS.

Merced, May 6, 1893.

The Grangers' Picnic at Yuba City.

TO THE EDITOR:—The great event has come and is numbered among the things of the past, and in the absence of the worthy Master of the State Grange and ye editor of the RURAL with their fluent speech and pen, it falls upon your humble servant to tell you and your readers of the day's glad doings.

The weather was perfect. Though a little warm in the afternoon, it was borne without complaint because it was the first of the season. In fact, all felt that this was necessary to start a healthy circulation of blood and sap and picnic lemonade and ice cream. The locality was the twenty-acre almond grove belonging to George Walton, three miles south of Yuba City, himself and family being valued members of the order. The grove was planted by the late Dr. S. R. Chandler, the pioneer orchardist of Sutter county, and became the property of the present owner by purchase. They are great trees now and seem to have outlived their usefulness as bearers but are in their prime for shade and picnic purposes. It became the universal sentiment that the grove should be perpetuated for social and sentimental reasons aside from their bearing qualities. Many ventured the assertion that in all the celebrations and picnics to be held in the United States, this was the only gathering that met in an almond grove.

The grounds were sodded and clean and all requirements were supplied to render the day enjoyable.

The attendance was very large from Sutter and Yuba counties and many were seen from Sacramento, Yolo, Colusa and Butte.

At 11 A. M. Worthy Master P. L. Bunce of Yuba City Grange called the assemblage to order and stated that owing to illness in his family he felt unable to preside and had selected George Ohleyer to preside in his stead. Mr. Ohleyer came forward and in a short address extended a cordial welcome to all for their presence and encouragement of these annual festivities. He quoted from the declaration of purposes of the order, showing their aims and purposes and pointed with

much pleasure to the accomplishment in part or in whole of those objects in Sutter county.

At the conclusion of his remarks the speaker introduced the Hon. John P. Irish as the orator of the day who would enlighten and entertain the audience.

Mr. Irish was greeted with applause and then proceeded to deliver one of the most profound agricultural addresses ever listened to in northern California. Few men study the world and human nature as does Mr. Irish. To him all created things are like an open book from which he draws inspirations.

He said where here seven years ago he spoke under fig trees, to-day he stood under the almond, and apprehended that on the next occasion he would orate under rose trees, so luscious and fertile seemed to him the soil of the county. He paid a high tribute to the people of Sutter county—to their co-operative efforts and successes. He referred feelingly to the erection out of the profits of their untiring labor of the 24-mile long bank of earth that protected them from the avalanche of mud and water. In this, as in all great emergencies, co-operation was the cause and key-note of final success. He conjured the people to stand together and be ever ready to meet the foe to their existence.

Mr. Irish is filled with unbounded faith in the future of California, in her matchless resources and climatic conditions. Her agriculture is and will be the most advanced, progressive and diversified on the globe.

He discouraged in most eloquent terms the tendency of our youth to seek the city and its turmoil, where so many are stranded for want of a useful occupation. Agriculture, he contended, was the foundation of our civilization, and as that is fostered or neglected so will civilization progress or retrograde. Until men began to till the soil they were nomadic and semi-barbaric, but being tied to the soil they study and adopt peaceful methods.

It is, of course, idle for me to attempt to report from memory this able address. I can only point to the drift of Mr. Irish's remarks and, in common with all, regret that it was not fully reported and published to the world as a worthy contribution to the literature of agriculture. Its delivery occupied an hour and was frequently applauded, and was closed amidst cheers and shouts of approval.

A short program was rendered afterwards by ladies of the order, consisting of vocal and instrumental music and declamations. The whole was seasoned with spirited music by the Yuba City brass and string bands.

It was a basket picnic, and the woods

were full of magnificent layouts to tempt and satisfy the inner man. Thus passed off the nineteenth annual picnic under the auspices of Yuba City Grange, and it was in all respects fully up to the best of its predecessors.

GEORGE OHLEYER.

Yuba City, May 15, 1893.

From Grass Valley.

TO THE EDITOR:—Grass Valley Grange considered your suggestion with regard to selecting one of our number as correspondent to your paper from this grange on its last meeting, which was May 6th. We meet only once in two weeks instead of every week as the grange directory has it. Its choice fell upon its lecturer, Mrs. R. S. Twitchell, who herewith proceeds to do her best to "fill the bill," feeling it not a task, but a pleasure and an honor. In my young days my dear father always took the RURAL PRESS, and the dream of my life then was to ever be smart enough to write for its pages as Mrs. Kimball, I think it was, or Mrs. Carr used to write. That dream has passed with many others, but the RURAL was always my ideal as a farmers' paper.

I may say our grange is in good condition, thanks be to a few faithful workers who are always on hand; have missed only two nights for the winter in holding grange meetings. Our worthy past master, J. W. DeGolia, has not been able to meet with us since November. He has been all winter in a very serious state with a complaint of a pulmonary nature. Wishing to show him our appreciation of his services in the past, the sisters of the order surprised him with a fine P. M. jewel ordered by us through A. T. Dewey, State Secretary. Members of the grange met at his residence on April 28th, and the presentation was made by W. M., Alex. Henderson, in a few words, which were just what they should have been. The recipient tried to respond, but his feelings overcame him and caused us all to have occasion to use our handkerchiefs rather vigorously.

Then our past A. S. was given a badge pin from the same, by the same, the sisters being under many obligations to him for always being on hand about dishwashing time on our Harvest Feast occasions. He hardly knew what to say, being taken so by surprise, so walked over to our P. M. and said, reaching out his hand, "Come, let's shake, old pard," which was far more eloquent than a set speech would have been.

Several others of our grange have been kept away all the new year by sickness, but we hope to have better attendance soon. We have ordered new badges through the State Sec'y, which are now due, are plan-

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A. G. GLENN Manager.

ning for a Flora Day some time in June, and, with Bro. Frisbie's visit in the near future to look forward to, we mean to try to "keep up with the procession."

MRS. R. S. TWITCHELL.
Grass Valley, Cal.

Bennett Valley Grange.

TO THE EDITOR:—On May 27th, twenty years ago, Bennett Valley Grange was organized at a private residence in this valley. After a short time it built a large hall for grange purposes, that stands to-day as an honor to the founders. It is situated six miles from Santa Rosa, in one of the oldest and prettiest oak and madrone groves in the State.

The grange was very prosperous for a number of years, continually adding members to the roll.

It also had a plan of buying in the San Francisco markets, through an agent appointed by the grange, he also being a member. Such a scheme is well worthy of consideration now.

Some granges are buying and selling in San Francisco, and there is no good reason why all granges should not. The trade-card system was introduced here but did not meet with much approval.

At one time the grange was looked upon as being of no use by some; at that time the meetings were not attended as they should have been. It finally revived and has been in good condition ever since, both socially and financially. We have two regular meetings almost every month, with a good average attendance.

The question of establishing a creamery in this valley on the co-operative plan occupied considerable time at the meetings during the past two months, but was finally laid aside and something easier taken up. The worthy lecturer most always has some interesting subject to offer for discussion.

The farmers in this section are looking a little downhearted at present on account of the continued dry weather.

Last, but not least, on the 27th inst., the twentieth anniversary of this grange, there will be a picnic given by the grange, at Grange Hall, to which everybody is invited.

Bro. E. W. Davis, W. M. Cal. State Grange will be present, and address the people in the morning.

One of those good old times, as the grange only is capable of giving is anticipated. Come one, come all.

W. L. WHITAKER.

Bennett Valley, May 10th.

The Secretary's Column.

By A. T. DREW, Secretary State Grange of California.

INDEFINITELY POSTPONED. — Eden Grange, through its picnic committee, recently notified the secretary of Temescal Grange that it had been decided to give up the proposed picnic at Alvarado.

THE FARMERS' INSTITUTE recently held under the auspices of Tulare Grange, although moderately attended, was a very interesting and instructive session. It is proposed to hold the next meeting at Visalia.

BUSINESS SITUATION.—A patron in one of our interior towns, who has had good business education and experience, and can give the best of reference, wishes a situation whereby he can earn a livelihood for himself and wife, alone. Address Secretary of State Grange for further information.

SEND THE CASH.—It is the order of both State and National Granges that their secretaries require payment before forwarding grange supplies. The price list of supplies is published in the annual reports. Remittances for supplies have to be made some time, and it saves book-keeping and breaking of official rules when the cash is sent with each order.

ORGANIZATION DEFERRED.—In company with Bros. Shoemaker, Tuohy and Chapin we visited the home of Sister Lillian Shuey, near White river, some 15 miles northeast of Delano, Kern Co., with a view of holding a grange organizing meeting, on Friday, May 5th. Wheatland school district closing ceremonies occurred near by in the forenoon, followed by a feast of good things, which secured the attendance of almost the entire community for miles around. The grange visitors made the best of the situation by accepting the generous invitation to enjoy an excellent Harvest Feast with the happy youths and parents present. By politeness of the audience the aims and purposes of the grange were briefly set forth, and after a short conference with individuals desirous of having a grange organized, it was decided to postpone further action until

after harvest. All in all the day, with its events, was well enjoyed by the journeying patrons.

PICNIC AND CHILDREN'S DAY.

By recommendation of the National Grange, June is the month for Children's Day in the grange. Secretary Cromarty writes that, accordingly, Watsonville Grange has decided upon holding a picnic at Chittenden's Grove, June 3d, for celebrating Children's Day. Ample provision will be made for candies, nuts and other good things, for the pleasure and encouragement of grange children and their companions. By vote, Hollister Grange is invited to join with Watsonville on the joyous occasion. Watsonville Grange will no doubt make this a unique and happy occasion for both young and old.

The grange is considering the question as to the best method of securing a good cannery for Watsonville. A special meeting of members has been called by the worthy master on Saturday, May 13th, to debate the matter. This is an important enterprise, not only for the benefit of fruit-growers, but all citizens. Co-operation is the key-stone to success, and we hope Watsonville will soon be blessed with the much-needed cannery.

A VETERAN'S OPINIONS.

A faithful past master writes the following sentiments relating to the grange and some requisites for its advancement, which might well be read by the lecturer of each subordinate grange:

An article in the PRESS of April 22d, by "A. R. W." seems to call for some reply, but what he means by the National and State Grange recognizing that we are the people is not clear to me; but as to being consistent with its teachings and wasting time with useless ceremonies I do not agree with the brother. I believe that the time could not be better spent with new members than teaching them the principles of the grange through our ritualistic work. To me it is grand. If we live up to its teachings we would be pretty good Christians as well as good grangers. I would not be willing to leave out any part of it. As to falsely assuring candidates that there is nothing to conflict with their belief or politics, if he has found that assurance false his grange must have been different from any that I have known. He asks why so many old members remain out of the grange. So far as I have known, it has been for different causes, some because they could not run everything their own way and others because they did not take interest enough when in the grange to know what it was doing for the farmer. What the grange has accomplished for the people of the rural districts, socially, intellectually and financially, in the past few years is beyond computation.

As to the needs of the order, my opinion is that it needs more earnest and interested workers and less drones and faultfinders. I think we need no pruning-knife in the forms of the grange work, but let us do the work well as it is and we need have no fears but the grange will go onward and upward. If we are to have any pruning, let it be of such members (if we have any) as have violated their pledge by talking or publishing to outsiders that the grange is false in its pretensions or who are otherwise working against the interests of the order.

V. W. STILL.

Highland Ranch, May 1, 1893.

If You Want a Harvester Don't Miss This.

I have stored at Marysville, Cal., a Driver Combined Harvester, fourteen feet cut, with thirty-two-inch cylinder, which has been used but a few days and was afterwards thoroughly overhauled and repaired and put in first-class order, in every respect as good as new. The width of the cylinder and separating capacity are ample for the heaviest grain. This machine was put in order under the supervision of Mr. John Driver, Superintendent of the Marysville Harvester Works, and has the latest improvements. It is for sale and must be sold this season AT YOUR OWN PRICE. Make me an offer if you are going to buy a harvester.

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ORANGE CULTURE IN CALIFORNIA.

Now that the interest in the culture of the orange is extending so as to embrace nearly all parts of the State, a book giving the results of experience in parts of the State where the growth of the fruit has been longest pursued will be found of wide usefulness.

"Orange Culture in California" was written by Thos. A. Garey of Los Angeles, after many years of practical experience and observation in the growth of the fruit. It is a well-printed hand-book of 227 pages, and treats of nursery practice, planting of orange orchards, cultivation and irrigation, pruning, estimates of cost of plantations, best varieties, etc.

The book is sent post-paid at the reduced price of 75 cents per copy, in cloth binding. Address DEWEY PUBLISHING CO., Publishers "Pacific Rural Press," 230 Market St., San Francisco.

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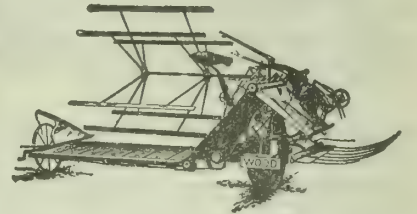
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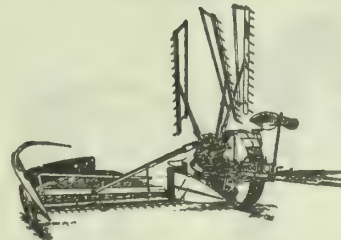
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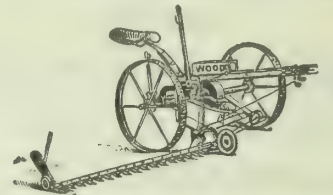
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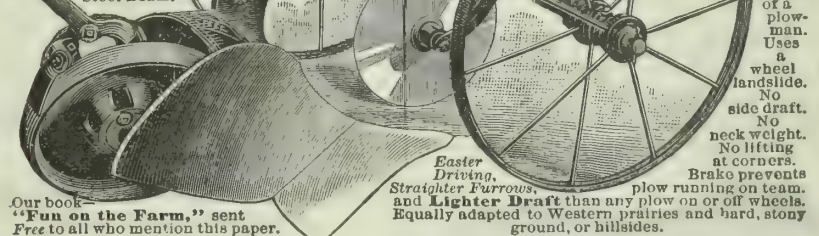
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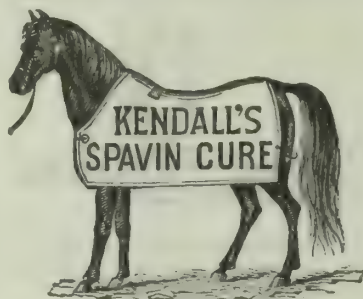
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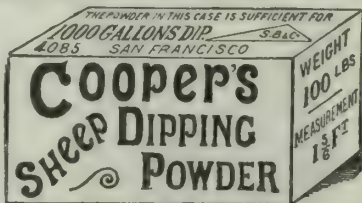
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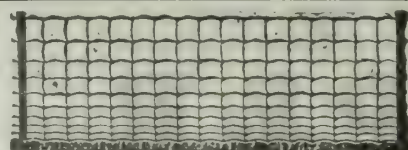
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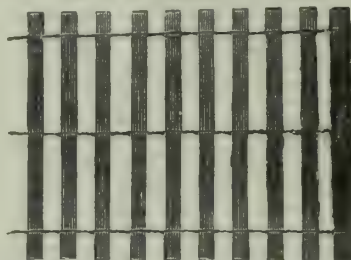
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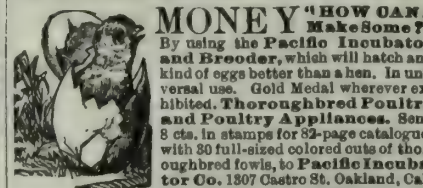
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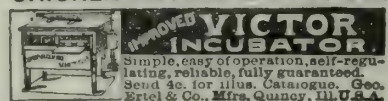
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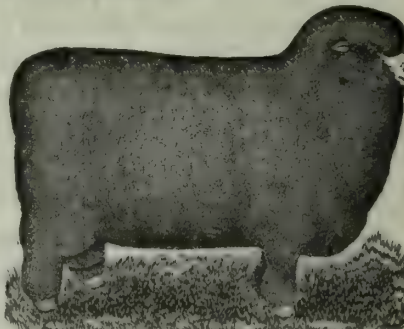
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S. H. MARKET REPORT

Market Review.

SAN FRANCISCO, May 17, 1893.

The week has been characterized by marked activity in the local wheat market, and a better tone has prevailed abroad than for some time past. The prime cause of the advance at home has been reports of damage to growing crops. There seems to be no question at this time that the California shortage will be material, by some estimated to be one-third below the average yield. Scarcely a section of the State has failed to suffer either from drouth, hot winds or some other injurious condition. Early in the season, too abundant rains drowned out new-sown grain and prevented general re-seeding, so that, as a whole, the season so far has been anything but satisfactory. Reports of these things began to have their effect on the local market last week. Various rumors of damage had before that time been spread; but supplies of old grain were so abundant, and the market had apparently dropped into a condition of such chronic stagnation, that no ordinary cause was sufficient to engender life and promote activity. When, however, advices of the shortage appeared to be well founded, and, in addition, reports from the East were so discouraging to the grower and advices from Europe were less favorable than formerly, speculators began to move, futures rapidly advanced, and the Produce Exchange witnessed scenes of excitement such as had not been present for months. Transactions were confined largely to December wheat, but the entire list shared in the upward tendency, and figures for spot also improved. Wednesday's transactions aggregated 25,600 tons, 11,400 being in wheat and 14,200 in barley. There were 7400 tons of December wheat and 8600 tons of December barley changed hands. The business of the day was nearly three times as great as the daily average for months past.

Thursday there was a cessation of the activity and prices dropped a little. The bull element attempted to continue the boom, but was not successful. For the remainder of the week quotations were pretty well sustained, but transactions were not at all heavy. December wheat was yesterday quoted at \$1.02 against \$1.44 last Thursday. While it is true that this movement is altogether speculative, it seems to have been the result of legitimate conditions, which give promise of better prices for the future. Stocks at hand are more than sufficient to meet all present demands, and the movement, therefore, only incidentally affected May quotations. For the present, the market is a waiting one, and is likely to be affected either way by more definite advices of the coming crop. The Produce Exchange is gathering statistics of the California crop, and will publish them about June 1st. It is likely that they will be used as a basis for higher or lower values, as the case may be, and another movement is probable at that time.

The world's wheat crop for 1893 is, of course, yet an unknown quantity. From the Government report, published in another place, the condition of the crops east of the Rocky mountains does not appear to have improved during April. On the contrary, it has receded, and reports of damage are more numerous than ever. In these States it has been generally cold, cloudy and wet, and unfavorable either for seeding or to start anything in the ground which had been seeded, with the possible exception of oats. It seems quite probable that the crop will not be over 410,000,000 bushels, or a reduction of 100,000,000 from the yield of 1892.

In Europe, the favorable conditions lately noted do not seem to have continued. A press dispatch from Italy declares that government estimates that 113,500,000 bushels of grain more than usual must be imported this year, because of damage to growing crops from drouth. Previous reports from Italy had not been encouraging, but there was no reason to expect this immense shortage. The statement may be an error. At the same time, there is no doubt that greater imports than usual will be required. Reports from Russia are conflicting as usual. It is always difficult to obtain a satisfactory statement of conditions in this great producing center. France reports that the drouth has been severe, and it is believed that great damage has already been done. A heavy deficit is looked for by many, irrespective of any possible change of conditions in the future. In the leading agricultural sections of England little rain is reported in the last two months and not a drop in Hampshire in the past six weeks. The spring sowing in England was done earlier than usual, the rule being that seeding is delayed by undue moisture of the soil. The early sowing, however, was not affected, for the reason that the ground has been too dry to encourage the seed to sprout, and apprehensions are being expressed as to the outcome of crops.

Reports from Germany are to the effect that crops have suffered severely from drouth, and the same complaint is heard from other sections of western Europe where the crop prospects are poor and the expectation is for correspondingly great importations of food supplies. With this news also comes an English estimate showing that the wheat crop in India is some 35,000,000 bushels less than during the last crop year, and Algeria is also said to have a smaller average. The conditions in Russia are reported as more favorable than in the famine season of two years ago, but it is not believed that the country can come up to the usual export average.

All these reports are of decidedly a bullish character and, in fact, it may be suspected that they emanate largely from bull sources. At the same time it can be safely set down as a fact that conditions in Europe are not by any means so satisfactory to the grower as they were a month since. The total yield will probably be below the average and the American surplus will at least find a market. So far, however, American stocks are diminishing slowly. The visible supply east of the Rocky Mountains is now about 72,000,000 bushels. The invisible supply is still in the neighborhood of 125,000 bushels, but it does not seem likely that at the beginning of the new cereal year more than 100,000,000 bushels of all stocks will be on hand.

If the shortage in Europe comes up to expectations and our yield is not over 410,000,000 bushels, we shall have little enough above our own needs for export.

Crops in Kansas and Missouri.

The Kansas City *Star* of the 3d inst. has the following crop items:

A letter from Garfield, Kan., says: "Crop prospects were never worse. No rain to amount to anything has fallen in six months."

A letter from Burrton, Harper county, Kan., says: "The wheat crop threatens to be next to an entire failure; the oats cannot possibly make a crop."

A letter from Mexico, Mo., says: "We cannot have more than half a crop of wheat here under most favorable circumstances. I never saw as poor a prospect in the 30 years I have been farming here."

A letter from Windom, McPherson county, Kan., says: "I have raised wheat here for 17 years, but never saw the crop look as poorly at this time of the year as it does now. A number of farmers have commenced plowing wheat up. Oats are turning yellow and not growing. My corn sprouted and then died in the ground. Grass is hardly growing and cattle are poorer than at any time since last fall."

A letter from Alden, Kan., says: "I have traveled over the greater portion of Rice county today, and find the wheat much worse off than I had thought. I talked with several good farmers, and all agree that with good rains we might yet make five bushels per acre. If this dry, cold weather continues many more days we will do well if we get our seed back. I think the party who said Kansas would make 28,000,000 bushels put it entirely too high."

India Wheat.

Throughout northern India the season has since November been characterized by extraordinarily heavy rain and severe cold. In the Punjab and northwestern provinces these conditions seem to have generally favored the crop up to date of report, except on low-lying lands where some damage has occurred. Fine weather, which, however, has not generally supervened, was everywhere desired. In Bengal sowings were retarded by delay in the appearance of the winter rains, but the subsequently abundant rainfall has been, on the whole, favorable. In the Central Provinces and Berar, notwithstanding some check to sowings from excessive rains in October, prospects were satisfactory until the last two or three weeks, when serious injury was caused by the continued cold and wet. In the northern districts of Bombay and in Sind the season has been generally favorable. In the Deccan and Karnatak, however, injury has, as in Berar, been caused by untimely rainfall. Generally it may be stated the season, by its favorable opening, encouraged high expectations, which have since been over considerable areas disappointed by the continuance of excessive rain.—Calcutta, March 22d.

Argentine Wheat.

The new wheat crop in the Argentine Republic has been in process of shipment for several weeks. The crop is an unusually good one, and is expected to yield a surplus of 650,000 tons for export, Santa Fe alone contributing 420,000 tons of the quantity. Last year 70 per cent of the surplus for export was sent off in the first five months of the cereal year. Thus far this season the movement has been much slower. The unsatisfactory prices in England are at the bottom of the backward movement. The Argentine farmer likes a good price for his staples just as well as the American farmer or the Australian farmer. The wheat raised in the Argentine Republic is of fine quality and comes more directly into competition with California wheat than from any other source. A surplus of 650,000 tons for export is an important item in the problem for the current year.

Other Grains.

Barley has developed decided strength during the week, in sympathy with the upward movement in wheat, and influenced by much the same conditions—reports of damage to the growing crop. Transactions during the week were active, prices assuming great strength and undergoing a sharp advance for futures, while spot also improved. The market is now firm. The shipping movement continues in healthy condition and values seem to be on a fairly sound basis.

Oats had a strong upward tendency during the week, and best qualities were advanced. There was an active demand for large white corn and higher prices were obtained. Yellow is plentiful and rather slow. The last steamer took 2793 cts. corn to Central America. Rye advanced during the week.

Oranges.

The shipping movement from southern California continues to be heavy, and the Eastern market shows some improvement. The World's Fair has not yet been a means of disposing of a large part of the surplus, as was expected, but perhaps it will soon help matters. It is difficult to estimate how many oranges are yet left to ship. The orchards have been so much broken into that it becomes a question of mere guesswork. Certain it is that a large portion of the fruit now on the trees will never go forward, and the total shipments may not reach the estimate of 7000 carloads. Returns have been received of a carload of Navel's shipped to England from north Pomona and sold in Liverpool. The oranges netted \$1.15 f. o. b. in California. This was a fair test, as all conditions were favorable. The fruit arrived in good condition and foreign oranges were scarce, yet the price realized cannot be considered satisfactory, as similar oranges were selling here at \$1.75.

In the local market oranges continue in large supply and are very cheap. No change of conditions or special improvement in demand is to be noted.

Provisions.

Pork products continue very firm, and prices have an upward tendency. No change in local quotations is to be noted. The Chicago *Breeders' Gazette* of May 10th says: "The tendency in hogs has been upward since our last report, quite decidedly so. The best heavy grades have made their way up to \$7.95@8, or within 75c of the highest price reached, which was \$8.75. The increased strength of the market is explained by the circumstance that the hogs persistently refuse to come forward in any such

numbers as the "bears" have tried to make themselves and others believe would be the case. From present appearances this month's receipts will not show a very considerable increase over the April total, and seems quite likely to fall 250,000 head below the receipts for May last year. The reports of serious losses of young pigs by reason of the cold, wet weather of the last few weeks has also inclined prices upward. The gain for the week amounts to 25@35c per 100 pounds. Receipts for the last six days foot up 90,000, which is a decrease of nearly 49,000 from the total for the previous six days, and of 53,000 as compared with the corresponding time last year. The prevailing high prices have cut down the shipping demand, less than 30,000 head having gone forward within the last week."

Wool.

Wool is dull at all Eastern points, and there is nothing apparent that promises to early dispel the indifference of buyers. Less interest has rarely attended a new clip. Some good old lines of territory have been taken by millers when prices placed them on the safest carrying basis. Receipts of new have been moderate. Dealers are not yet encouraging consignments, the money situation being unfavorable for advances. The weekly report of Thomas Denigan, Son & Co. says: "Wool keeps coming forward, but there are no buyers for it. We have heard of no sales here, though some wools seem to have been sold at Red Bluff on the 12th and 13th inst. at 2@3c per pound below what growers expected."

Vegetables.

Potatoes continue very firm, and our quotations show an advance in some lines even over the high figures of last week. Receipts from Oregon are now very light, and local sources are heavily drawn upon. Nothing has as yet appeared to lessen the prospect of a continued firm condition of the market. Onions are firm, and prices for old very high. Asparagus is in large supply, and so are peas and rhubarb. String beans and summer squash are scarce.

Poultry.

The poultry market has a rather better appearance than a week since, and quotations in some lines have advanced. The demand is very good, and receipts are only moderate. Not much Eastern stock is coming in. Eggs are in heavy receipt, and prices rule low.

Butter and Cheese.

The butter market has improved somewhat during the week. Prices are a little firmer, though they have undergone no advance. Cheese rules weak, no California selling above 11 cents.

Miscellaneous.

New crop honey has arrived. The lot, though fancy, is quoted at 7@7½c, a decline from recently ruling prices for old. The crop this year promises to be large and fine. Stocks of old are practically exhausted.

Mutton is cheaper, while hogs are firmer. Little is to be said of the condition of the dried-fruit market. Local stocks are very small.

No trade is reported in hops. During the week flour advanced, in sympathy with the upward movement in wheat. Bran is very firm. Chopped feed has advanced.

Markets by Telegraph.

California Products in the East.

NEW YORK, May 14.—Though the disordered condition of monetary affairs has not as yet produced a general sensation of distrust, all negotiations for any lines of credit of moment are soberly considered. This added to the backward spring, which has prevented or delayed a material portion of the country dealings, intensified the depressed feeling noticed last week. The hull is marked in wool, hides and large lines of groceries.

In canned fruits a very tame feeling prevails. Holders seem less despondent than they were a few weeks ago, but there is no business of account to allow a settled basis of prices. There was some export call for pears, but it soon filled up with \$1.60 as the extreme.

Prunes maintain the last quoted figures. Sellers appear content to make small sales, as we see no large lines offering of boxes or sacks.

Peaches have some movement at 9@9½c. It would be difficult to place car lots at the price.

Raisins—there is a confident feeling in prime bags, and holders of parcels outside of the known concentrated lots of the pool call prices stronger. Perfect three-crowns are quoted at 5½c. A small line of Chicago loose sold at \$1.25@1.30. Importers of Greek currants are alarmed at the decreased consumption of that fruit in this country. They attribute some of the falling off to an increased use of Pacific Coast small raisins, West and Northwest.

Apricots—Steady at 14¼@15½c.

Cherries are due for the coming week.

California oranges range from \$2.50@3.50. One carload went to England. Florida shipments have completely closed down.

Wool is dull at all Eastern points and there is nothing apparent that promises to dispel the indifference of buyers. Less interest has rarely attended a new clip. Some good old lines of Territory have been taken by millers when prices placed them on the safest carrying basis. Receipts of new have been moderate. Dealers are not yet encouraging consignments, the money situation being unfavorable for advances. The condition of goods is no better than last noted. A number of mills have deferred operations for a while. Shearing at many places has been delayed by adverse weather.

Sales at New York, 55,000 pounds Spring California and 87,000 of other on private terms; also 325,000 pounds foreign.

Sales at Boston, 1,462,000 pounds domestic, including 53,000 pounds Spring California at 15c@18c; Terri-

tory sold at 21c. Texas, 14¼c@18c. Sales of foreign, 174,000 Australian, 120,000 other grades. Philadelphia says her manufacturers' bids for new are 2 to 6 cents below asking rates.

Lima Beans—Steady in a small way at \$2.10 to \$2.15. Hops—Spot or country dealings were light with brewers, and few actual export orders appear. Prices here have lost ½ cent, on the best grades. Supplies have a quality character that allows good picking among the undergrades. Such lots are quoted as before. The London and German markets report more animation. Export for the week, 182 bales.

Quotations: State, '92 choice, 21½c; prime, 20½c@21c. All others, 18@20c; olds, 6@6½c; Pacific Coast, choice, 21½@22c; prime, 15@20½c.

California Fruit at Chicago.

CHICAGO, May 16.—California Dried Fruits—There exists a fair demand for prunes, which are in rather small supply and rule steady. Raisins are in fair supply, slow sale and easy. Unpeeled peaches meet with moderate sale. In other grades very little is doing. The offerings are small. Raisins—London Layers, 3-crown, ½ box, \$1.40@1.60; fancy, \$1.75@1.86; loose Muscatels, 3-crown, according to quality, ½ box, \$1.25@1.35; 4-crown, sacks, ½ lb, 5c; 3-crown, 4½c; 2-crown, 3½c; Seedless, according to condition and quality, 4@4½c. Prunes—40 to 50 to the 70, sacks, ½ lb, 12½@12¾c; 50 to 60 10½@11c; 60 to 70, 10@10½c; 70 to 80, 9½@10c; 80 to 90, 9@9½c; 90 to 100, 8@8½c; 100 to 120, 8½c. Apricots, new, choice to fancy, in sacks, ½ lb, 13@14c; fair to good, 15c. Peaches—Peeled, 25-lb boxes, ½ lb, 22@24c; sacks, 20@22c; unpeeled, 8½@11c. Nectarines—Red, in sacks, ½ lb, 10@11c; White, 11@12c.

Lemons—Steady and in fair request. Choice, ½ box, \$3.50@4; fancy, \$4@4.50; poor and damaged, \$1@2.50.

Oranges—California Navels were quoted a shade higher. They are in good request. Seedlings also are very steady and in fair demand. Some smutty and ordinary are received, but not many. The fruit is running much better than some time ago. Quotable—Seedlings, smutty, \$1.50@3; bright, \$1.85@2.10; Riverside, 128 to 216 to the box, \$1.90@2.40; 250 to 300, \$1.65@1.80; unsmooth, 90c@1.25; Navel, 96 to 112, \$3@3.25; 128 to 200, \$3.25@3.50; fancy to extra, \$3.50@4; Blood oranges, 120 to 200, \$2.50@3.50.

New Potatoes—California, 2-bushel sacks, \$1.50.

May Crop Report.

WASHINGTON, May 10th.—May returns in the Department of Agriculture on the condition of winter wheat show a reduction of 2.1 points from the April average, being 75.2, against 77.3 last month and 84 in May, 1892. The averages of the principal winter wheat States are: Ohio, 88; Michigan, 71; Indiana,

(Continued on next page.)

HORSE COLLARS

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Davis & Son's Horse Collars are not filled with Self-Pulverizing Cork.

The U. S. Inspector of Harness Supplies and Horse Collars selected Davis & Son's make—both harness and collars. And so will all persons who want a solid, broad-faced, smooth collar which does not pinch the neck nor roll about unsteadily for three months before it settles down to a fitting shape or set squarely back on the shoulder. If you want a collar not stuffed with wads but our collars, as all other makes on this coast are wad collars. All wad stuffed collars flatten down in a short time so that a sweat collar is needed to protect the horse from the wads or ropes of straw. Davis & Son's Collars are all put under a powerful shaper or press before finished, which softens them into a perfect shape, which allows the collar to set with its whole face against the shoulder. When a wad-stuffed collar is brought under this force it shows the old wad-stuffed collar to be merely a Puff Ball. Send or bring in to our factory in this city any collar and see this done, and see what a Pan Cake you have been selling to the people for collars. Our Boston Team long straw collars have no wads. The Rod of our Great Machine is supplied with small teeth on its lower surface like a fine saw. It picks up and carries with it as it flies through the straw a long straw in each tooth, all of which are deposited in the collar, one behind the other, with more precision and regularity than human skill could ever accomplish, thus avoiding all lumps and wads, not even two straws crossing each other.

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prunes and apples good; peaches only fair. Solano (Tremont)—Orchardists say the fruit crop will not be as large as usual. Peaches and plums will make a fair crop. Almonds have dropped so badly that the crop will amount to practically nothing. Grapes give promise of a large yield. (Denver)—Wheat crop in the Montezuma hills will be fair. In the lowlands to the north there will be a failure. (Vacaville)—No change to note in crops.

Yolo (Rumsey)—Vineyards and orchards look well. Prospects for average crop good as in former years. (Cacheville)—The rains were beneficial to new fields of alfalfa sown this season. (Capay)—The wheat crop has been benefited, and the estimates for this county will have to be increased several thousand bushels. (Davisville)—Mr. Hammond, of the Oak Shade orchard, reports apricots and plums promising. Almonds will not produce well. All depends upon the weather of the next two or three weeks. (Madison)—Many farmers plowing up their wheat in order to put the ground in good condition for next year's work. (Guinda)—W. B. Stitt's peach orchard is so heavily loaded that thinning has to be resorted to. His crop of apricots is much heavier than is general. The outlook for these two fruits is ahead of near-by localities. (Winters)—The apricot crop will be almost a total failure. What there are on the trees will be ripe in about ten days, if the warm weather continues. (Blocks)—The north wind is ripening the grain crop. Hay-makers report the crop as short.

Sutter (Nicolaus)—The crops are quite bright in looks and are doing well. The rain in the early part of the week appears to have done considerable good, especially on the plains. It did the hops an immense amount of good. (Live Oak)—Curl leaf is worrying the orchardists. (Meridian)—Hay will be scarce. Considerable overflowed land is being prepared for corn. The ground is covered with a rank growth of burr clover, and it is being harvested and will make excellent feed. (West Butte)—About half a crop of hay will be secured in this section.

Yuba (Marysville)—The rain has been of great benefit and insures a fair crop from grain that was sown late.

Butte (Biggs)—The rain of the fore part of the week will be worth thousands of dollars to this community. (Oroville)—The north winds have about carried off the effects of the rains which were precipitated during the early part of the week. (Houcut)—Everything is looking well. The hay crop will be good, strawberries plentiful and peaches excellent.

Placer (Newcastle)—Weather very favorable for working the ground and for all growing crops. (Auburn)—The fruit crop for Placer county will average well. Cherries and berries are plentiful. Peaches affected slightly by curl leaf and blight, yet there will be a fair crop. The yield of plums will be small. The apple prospects in the upper part of the county are excellent. (Chicago Park)—Peaches will yield a fair crop. Kelsey plums damaged slightly by March frost, but will give one-third of a crop, while other kinds of plum trees are loaded with fruit.

SPECIAL ANNOUNCEMENT.

We have made arrangements with Dr. B. J. Kendall Co., publishers of "A Treatise on the Horse and his Diseases," which will enable all our subscribers to obtain a copy of that valuable work free by sending their address (enclosing a two-cent stamp for mailing same) to Dr. B. J. KENDALL CO., ENOSBURGH FALLS, VT. This book is now recognized as standard authority upon all diseases of the horse, as its phenomenal sale attests, over four million copies having been sold in the past ten years, a sale never before reached by any publication in the same period of time. We feel confident that our patrons will appreciate the work, and be glad to avail themselves of this opportunity of obtaining a valuable book.

It is necessary that you mention this paper in sending for the "Treatise." This offer will remain open for only a short time.

Improved Crop Favers.

The increasing demand for reapers is an indication that greater care is being taken in harvesting and also shows that reapers have been brought to a greater state of perfection. One of the leading reapers in use here is the Wood's Enclosed Gear, which has an automatic and satisfactory way of handling any and all conditions of grain. Another favorably known machine in California is the Wood's Twine Binder, for which Frank Bros., the local agents, are expecting a larger sale than ever.

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If you want to know about California and the Pacific States, send for the **PACIFIC RURAL PRESS**, the best illustrated and leading Farming and Horticultural Weekly of the Far West. Trial, 60c for 3 mos. Two sample copies, 10c. Established 1870. DEWEY PUBLISHING CO. 720 Market St., S. F.

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A notable invention of the Columbian year, for transporting California's fresh fruit to market. Look into it! It is worthy of trial! Its advantages truly stated are: Fruit can be picked later and ripen; requires no wrappers; no decay from pressure, bruising or rubbing; the ventilation is absolute and positive; it grades and counts the fruit in the carrier; fruit all open to inspection; no rehandling or repacking at destination; no skilled labor for packing. Gives the grower all the advantage arising by arrival of his fruits in markets ripe, sound, luscious and attractive, instead of half ripe, bruised or decaying. It isolates each piece of fruit by double, elastic walls, with air spaces between, over and around it. It is not an untried quantity. Messrs. Brown & Wells, of California Market, San Francisco, say: "We have made shipments of green fruit in it to Honolulu, Panama, Boston, New York, Philadelphia, Australia and Arizona, and have received report to the effect that the fruit arrived in perfect condition. We believe it is surely destined to become in the near future the universal package for short or long distance shipments." Nothing to equal it for fine apricots, peaches, plums and pears. Will carry fresh figs successfully. Carriers now ready for delivery for apricots. Send in early orders to insure supply.

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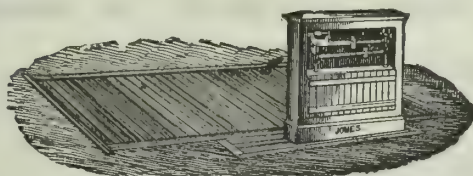
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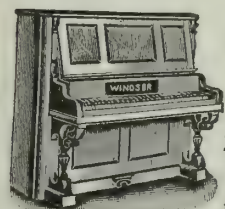


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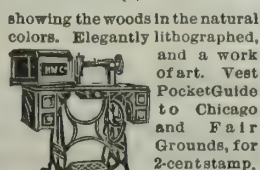
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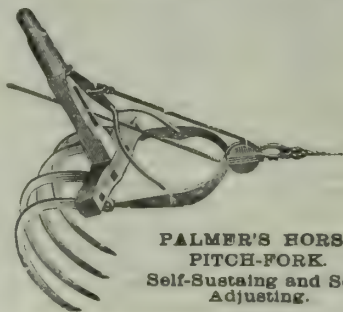
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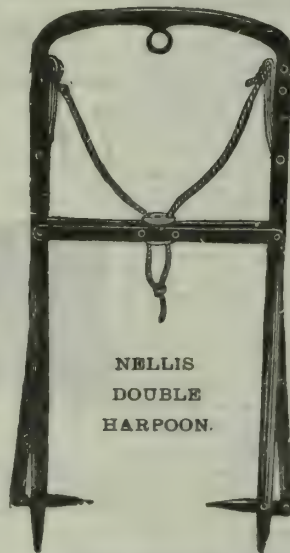
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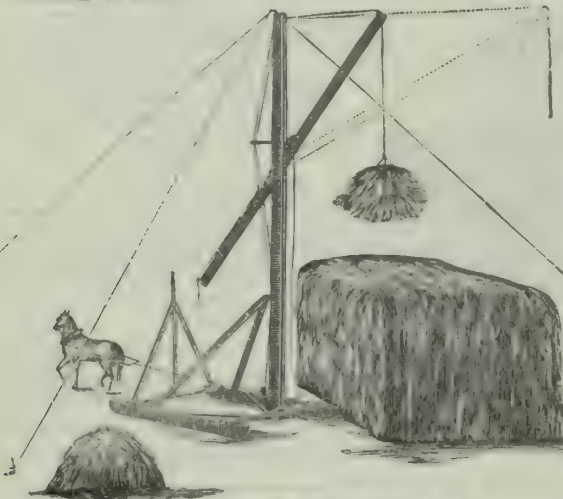
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WE CLAIM FOR THIS MACHINE:

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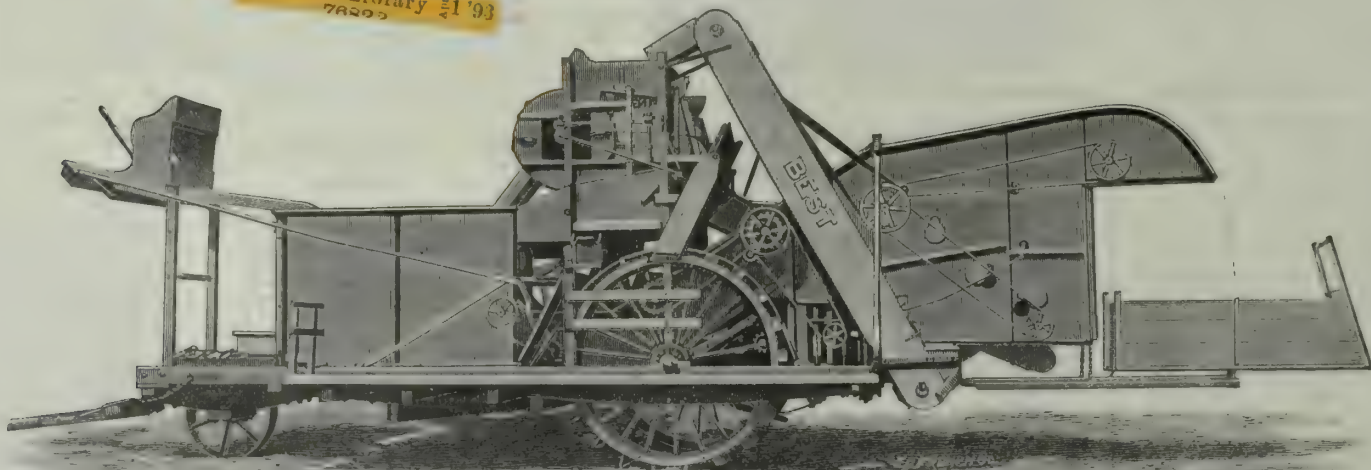
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It indisputably the simplest, lightest draft, best made, best grain-saving machine ever introduced. All farmers who have used it recommend it as superior to any Harvester yet in the field. It is single geared, drives from both wheels, has brakes on both wheels, automatic governor on the wind of the shoe, weighs one to three tons less than any other Harvester, no bothersome chaff carriers, no clumsy chains and expensive gearing to break and wear.

The separator and header wheels are so arranged that it can turn a square corner, cutting out a clean corner. It has the best recleaner, has the only header that can handle tangled and down grain successfully, the best separator for handling weedy and heavy grain, has a ten-inch driving belt, new and improved belt tightener, has high drive wheels made on the most improved plan.

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SAN LEANDRO, CAL.



Vol. XLV. No. 21.

SAN FRANCISCO, SATURDAY, MAY 27, 1893.

THE DEWEY PUBLISHING CO.
Office, 220 Market St.

A California Rose Tree.

When the distant reader tires of pictures and descriptions of climbing roses surrounding brick blocks and then seeking the summits of sky-scraping trees, he can get relief by contemplating the rose trees of California. One thing, however, the antipodes may as well concede first as last and that is, that the rose in California, whether considered as a bloom, or as a vine, or as a standard tree, is immense. If the rest of the world will concede that point at the outset, it will save them and us much trouble.

We have shown house-covering, climbing roses upon several occasions; now we have a rose tree growing on the grounds of T. S. Hawkins, of Hollister, San Benito county, which may be taken as a type of many similar rose trees in the older settled regions of the State. We have no statement of the age, nor the variety, but the size can be easily estimated by the surrounding objects. We take it to be 10 or 12 feet high and nearly 2 feet greater in its diameter, and probably carries more than 1000 blooms.

It will interest rose-growers to be assured that such a standard rose tree can be grown here with very little effort on the part of the grower. A cutting of a strong-growing variety will advance into such a tree with but little culture, except such pruning as is necessary to keep it in tree form. It does not require a briar or other foreign root to accomplish it. Rich soil and sufficient water will make a rose tree in the California valleys or foothills without recourse to hardier stock than most free-growing tea-roses possess in their own roots. Of course, to secure full-sized blooms, systematic pruning and thinning of shoots and buds are necessary, and yet rose trees left almost entirely to their own ways, produce wonderfully large as well as copious bloom. They attain, too, a self-support which makes a stake as useless as it would be to an orchard fruit tree.

The prevailing form in California rose gardens is the bush, and the cutting out of old wood and retention of new constitutes the chief pruning given them. With some eye for symmetry any one can easily produce rose bushes which can be fairly called magnificent. Though this is the prevailing type, the standard rose tree has many advocates and is superior in the production of large blooms. Most such standards are made by developing a strong shoot from the roots, cutting away the rest of the top growth and

keeping shoots and suckers well suppressed. There are, however, a few growers who claim decided advantage in using a strong stock and budding into it. The Manetti is generally employed, but the Banksian and others are also used. Mr. F. O. Havens, a most successful rosarian of Oakland, has chosen the Prairie Queen as the best stock, after long experimentation with other roots. Certainly we have never seen better hybrid perpetuals and hybrid teas than he grows upon Prairie stock.

ONE THOUSAND TUBS of butter have just been shipped

THERE are obvious difficulties surrounding estimates of coming crops that render it practically impossible to furnish an exact statement of what the yield in any particular product will be. As a general rule, the actual result is a reduction from the estimate, whether it is for an enormous yield or for a material shortage. The tendency is to magnify our misfortunes even more than our fortunes. So, when there is a widespread cry that California will produce only half a wheat crop, we may expect to find the truth somewhat in excess of that figure; and, likewise, when the prediction is made that our fruits will be double

the usual quantity it is safe to rely on something less. For instance, early reports this year were to the effect that the yield of prunes would be unprecedented. But the elements have since intervened, and at present there seems to be no alarming prospect of overproduction. Calling attention to early statements in the *RURAL* that there was a prospect of an immense output of prunes, a critic writes that there is a great change in the outlook. There is a material change, it is true, but it cannot have been said to be unexpected. As a matter of fact, seasons in which adverse conditions are totally absent are not to be expected. So, if the



ROSE TREE ON THE GROUNDS OF T. S. HAWKINS, HOLLISTER.

from Eureka to Peoria, Ills., and an era is thus marked in the California dairy industry. It is the first shipment of butter thus packed ever made from Eureka to the East, tubs having never been used before this season in Humboldt county. The special advantages of this method of packing butter are several. The tubs each contain ten pounds and when opened there is small danger that the contents will be strong or rancid before used. When the tubs are filled, a salt paste is placed over the top of the butter. This paste, after a time, hardens and the tub is air-tight, thus keeping the butter pure and fresh. It is expected that the large kegs will be replaced by the tubs to a considerable extent.

THE Department of Agriculture has received advices from Copenhagen to the effect that M. F. Anderson, a large importer of food products in that city, has sent an order to the United States for a considerable consignment of California canned and preserved fruits. This, the department is informed, is one of the immediate results of the recent corn banquet given by the agent of the Agricultural Department at Copenhagen, at which the only fruits offered, such as raisins, figs, etc., were products of California. California fruits make their way by merit.

prune yield does not carry out early prophecy, nothing rare or unusual has happened. At the same time, no undue calamity has occurred to prunes, and there is yet no reason to anticipate anything short of a full yield. All of which goes to show that crop reports are, in the nature of things, mere approximations, sometimes correct, or nearly so, often not.

MANY READERS of the *RURAL* will hear with deep regret of the death of Julius Weyand of Stony Creek, Colusa county, which occurred on Wednesday of last week. Mr. Weyand came to California in the '50s and established himself upon a 2000-acre ranch containing a large area of the hillsides of the Coast Range. He has become most widely known as a grower of Angora goats. He pursued the business with great skill and devotion and was a leader in all progressive movements of goat-breeders. It will be very hard to fill his place.

THE first apricots of the season have been shipped. Two ten-pound boxes of Pringle apricots were forwarded from Winters to Porter Bros., Chicago, by F. N. Wertner, Tuesday, May 16th. The fruit is said to have been in very good condition.

PACIFIC RURAL PRESS.

By THE DEWEY PUBLISHING CO.

Office, 220 Market St.; Elevator, 12 Front St., San Francisco, Cal.

ANNUAL SUBSCRIPTION RATE THREE DOLLARS a year. While this notice appears, all subscribers paying \$3 in advance will receive 15 months' (one year and 13 weeks) credit. For \$2 in advance, 10 months. For \$1 in advance, five months. Trial subscriptions for twelve weeks, paid in advance, each 50 cents.

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	1 Week.	1 Month.	3 Months.	1 Year.
Per Line (agate).....	\$.25	\$.50	\$ 1.20	\$ 4.00
Half inch (1 square).....	1.00	2.50	6.50	22.00
One inch.....	1.50	5.00	13.00	42.00

Large advertisements at favorable rates. Special or reading notices, legal advertisements, notices appearing in extraordinary type, or in particular parts of the paper, at special rates. Four insertions are rated in a month.

Our latest forms go to press Wednesday evening.

Registered at S. F. Post Office as second-class mail matter.

Any subscriber sending an inquiry on any subject to the RURAL PRESS, with a postage stamp, will receive a reply, either through the columns of the paper or by personal letter. The answer will be given as promptly as practicable.

ALFRED HOLMAN.....General Manager

San Francisco, May 27, 1893.

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The Week.

The hot norther which is blowing as we write on Wednesday will serve to emphasize the unfavorable condition of the hay and grain crops reflected by the reports from the State Weather Bureau, which we print upon another page. It seems clear that our hay supply will be considerably short and growers should expect full values this year. They will need them to partially compensate for reduced weights. Grain-growers are following the usual hedging course in cutting poor fields for hay. As things now look it will be a good shift.

World's Fair departures from this State are only moderate so far. It is probable that California will do most late in the season, for he who goes now will be apt to be late in his work with the fruit crop. No doubt the summer's prices for green and dried fruits will determine many California questions as to the Chicago show. We mention this for the benefit of the Chicago directors: push the price for California fruits if you want gate money from the fruit-growers.

THE schism between raisin-growers and packers at Fresno is wider than ever. The present outlook is that no organization can be maintained that contains both elements. Growers will, for the most part, this year attempt to pack and market their own product. They propose to pay their commissions to themselves. May the disastrous experience of last year never have a successor.

HOP LICE have been discovered on the leaves of plum trees in yards near Salem, Or. There are none yet on the hops, as it is too early for the appearance of the winged generation, which, a little later on, will be developed and fly to the hops, there to begin their work of destruction. The little pests appear to have begun their march south from the lousy yards of Puget Sound.

TELEGRAPHIC REPORTS from the dairy test between Jerseys, Guernseys and Shorthorns at the World's Fair are to the effect that the Jerseys are ahead, both in the amount of milk and the percentage of butter and cheese.

University Horticulture.

One of the most gratifying signs of the progress of rural arts in popular appreciation can be found in the horticultural adjuncts of great institutions of learning. In Europe admirable horticultural establishments for demonstration and instruction have grown up upon separate foundations. The Kew Gardens, London, the *Jardin des plantes* of Paris and a host of other botanical and horticultural concerns in the great cities of Europe are well-known throughout the world. The botanical gardens of the European possessions in India, of the colonial Governments of Australia and of Africa, of the South American nations, constitute a chain of horticultural institutions which belt the world and accomplish wonders in plant distribution and acclimatization. Recently the United States has done something to gain a place in this progressive movement. This is being done in part by private munificence in separate foundations as the Shaw Gardens at St. Louis, but the most promising movement in this country is in connection with our great universities.

The Arnold Arboretum at Harvard bids fair to be the forerunner of a most honorable race of university horticultural adjuncts. The latest indication of this comes from the World's Fair, where it is said that the new Chicago University proposes now to secure the World's Fair Floriculture building and its priceless collection of plants for its botanical department. It is said that the scheme has so nearly approached final decision that Chief Thorpe has been approached on the matter of his acceptance of the directorship of the gardens and a position in the faculty. Chicago is not the only aspirant for the inheritance of this collection, which would remain practically intact in case its final disposition is for educational purposes. The Leland Stanford Jr. University people are said to have also been after Chief Thorpe on this same project. The Californians offer great inducements, claiming to be anxious to build up an immense department for practical and experimental study in the culture and propagation of flowers. Most of the exhibitors have expressed their willingness to contribute all their duplicates that still remain at the close of the exposition. The Society of American Florists, with 3000 members, has interested itself in this matter, promising its united and individual support.

We hope California will secure this grand addition to its University equipment. With us naturally horticulture has always been a leading line in the agricultural department of our State University. The introduction and trial of economic plants and distribution of seeds, cuttings and plants have reached wide extent and have been in progress for 15 years. Much of the chemical work has also pertained to horticultural materials and products. At present further extension and better facilities for this work are being attained. The department of botany has a separate garden arranged for its distinctive uses, while the economic gardens are being extended. The erection of a new greenhouse of iron and glass has been provided for by the Regents of the University, and may, we hope, soon be constructed. The four outlying experiment stations and the two forestry stations, which will be given over to the University on July 1st, also constitute a most important feature of the horticultural equipment of the State University.

While this tendency is rife in University affairs, it is gratifying that California is taking action to hold herself in the van of progress. Nothing less could be expected of a State which is a veritable plant paradise and where horticultural industries are at the same time the most delightful and most profitable outdoor occupation of mankind.

The Rose Show.

The rose show of the State Floral Society, which occupied the Mechanics' Pavilion in this city during four days of last week was a notable success in all save its financial features. Either the World's Fair or some other attraction prevented the popular attention which the effort deserved, and the receipts were considerably less than expected. The great central area of the pavilion was filled with groups of palms, ferns and other foliage plants most effectively displayed and collocated in a very effective manner. The exhibit of cut flowers, mostly by amateurs, was greater in extent than ever before secured by the society, and was about 40 by 250 feet in area. Roses comprised, of course, the chief feature, but there were also very fine general collections of cut bloom. The display of cactus was immeasurably greater than ever before, and a fuller show of cactus bloom was also presented. Some idea of the cactus display can be gained from the statement that not less than 100 feet of table four feet wide was required to hold the specimens even closely set together.

Perhaps no single exhibit won wider interest than a seedling rose exhibited by W. A. T. Stratton of Petaluma.

It is a seedling of the Duchess de Brabant, but departs signally from the form of that variety. It was only shown in opening bud, as the exhibitor had no more advanced bloom. It is very large and long, with opening petals reflexed something like the *Mermet* form, of a delicate rose-pink, with some disposition to shading with another tint. The striking features of the new variety, it seems to us, are length and form combined with color, and in these respects it seems to us to have a character of its own. It seems to have a future.

It appears that the Southern Pacific Railroad Company has reduced its transcontinental freight rates on a number of articles, but the reduction seems not to have been extended to fruits. In view of our heavy production in several lines—oranges for instance—it is obvious that freight rates must come down or the industry will find serious trouble marketing its product profitably, even with intelligent shipments by strong unions. Expense in growing and marketing oranges is said to be about as follows when sold in Chicago at \$3 per box: Freight, 90 cents; commission, 30 cents; picking, boxing, etc., 50 cents, total, \$1.70. On oranges selling at \$2 a box the expense would be: Freight, 90 cents; commission, 20 cents; boxing, etc., 50 cents; total, \$1.60. This would net the grower only 40 cents a box. The only variable item in the foregoing is the commission charges. The principal expense is the freight. Railroad companies, under the impression that there is much profit in the orange business, put on "all the traffic will bear." It may not bear it in future. The next step after organization is a movement looking to lower freight charges.

THE fruit-growers of Willows, Santa Clara county, are the latest to fall in line with the co-operative movement. They met the other night, and decided to organize a local association and build a drier on the plan of the West Side. For the purposes of incorporation the following were elected directors: Edward Maynard, H. J. Keesling, Bradley Smith, C. W. Cutler, David Cobb, Freeman Gates and G. W. Worthen. The value of the shares was placed at \$10, and 225 shares were subscribed for on the spot, while a large number of others expressed their determination of subscribing as soon as the papers are made out. It is proposed to dry all the fruit this year and sell it through the Santa Clara County Fruit Exchange, with the exception of apricots. Already offers of \$50 per ton have been made and refused for green apricots. There seems to be no good reason why apricots should be held out of the Exchange. It ought to be able to market fruits even more satisfactorily when prices are high than low.

WE have had the pleasure of meeting Mr. Fred. O. Smith, who comes to this country to study our fruit industries, in the interest of the Agricultural Bureau of South Australia and as correspondent of a number of prominent colonial journals. He will remain in this State three months, the principal part of the fruit season. The object of his visit is to inquire into every particular concerning the methods that prevail here relative to cultivating and dealing in all kinds of horticultural products, varieties best suited for all purposes, method of marketing, manufacture, treatment for diseases of plants, legislation and the like. On his return Mr. Smith will make a full report of all information gathered by him, which will be published. We find Mr. Smith well informed upon horticultural subjects and well fitted, by practical experience and research, to serve most acceptably in his mission. He is also a genial gentleman, and we bespeak him a cordial welcome from all with whom his errand may bring him into contact.

D. B. WIER, who has become quite widely known throughout the country for his horticultural writings, died in this city on Tuesday from a stroke of apoplexy. Mr. Wier came to this State with the American Horticultural Society in 1888, and concluded to remain here. He has been industrious and has made many friends, especially in Sonoma county, where he planted a small fruit farm. He has done much to spread the truth about California through Eastern horticultural journals, and thus leaves the State in his debt. He was at one time owner of a nursery and fruit farm in Illinois and was prominent in Eastern horticultural circles. During his residence here he made a good name, submitting patiently to many deprivations, working toward better circumstances, which he died without achieving.

THE RIVERSIDE Press is "glad to find one paper published outside the orange section that correctly understands the situation. The RURAL PRESS gives the true cause of the depressed and unprofitable orange market." It is the purpose of the RURAL PRESS to ascertain facts relative to market conditions for all agricultural and fruit products and tell them. It is not a bull nor a bear organ. It aims at the truth and generally comes pretty near the center of the target.

From an Independent Standpoint.

For the past ten days the President, the members of the cabinet, the chief dignitaries of the army and navy, the Spanish Minister and "society" in general have been in hot water, all on account of the visit of the "Infanta Eulalie," or, in plain English, the aunt of the baby King of Spain. In an evil hour during the last session of Congress it struck somebody that, in view of facts surrounding the discovery of America, it would be a nice thing to invite the ruling powers of Spain and the descendants of Columbus to come over and join in the ceremonies of the Columbian exposition. By formal resolution of Congress the invitation was given. No care was taken as to how the guests were to be received, the Administration being left to carry out that part of the programme. The invitations were accepted, the Queen Regent naming her sister, Eulalie, as her personal representative, and the lineal descendant of Columbus, the Duke of Veragua, promising to come on his own account.

When the time approached for the big show to open, Secretary Gresham, by order of the President, wrote to the expected guests telling them to come on, and suggesting that they make up a pleasant little party and come together. Now, from an American point of view this plan seemed a natural one but to the Queen Regent of Spain it was a deadly affront. The idea of so august a person as the aunt of the baby King to journey in company with a mere Duke! Horrors!! The Spanish Minister, under instructions from home, waited on the President and informed him in terms as delicate as possible that his suggestion was almost an unpardonable affront and that the Infanta was so cut up about it as to contemplate giving up the trip altogether. If she came, he said, she would expect to be accorded precisely the attentions and honors due to royalty. Without knowing exactly what attentions and honors were due to royalty Mr. Cleveland told the Spanish Minister that no affront was intended and added that he hoped the Infanta would not give up the trip.

For some weeks the matter hung in abeyance, but finally it was officially announced that the lady would overlook the President's affront and come as originally intended. Her plan was to land at New York, and the agents of the Government engaged for her reception a suite of rooms in one of the swell New York hotels—it so happened the same rooms occupied by the Duke of Veragua a few weeks before. Here was more trouble, for the Spanish Minister, again speaking by orders from home, announced that the Infanta would not consent to occupy apartments which had been prepared for and occupied before herself by "a mere subject." He further announced that the Infanta would expect to be received with royal honors and would, among other attentions, require that the President should call upon her. Now, Mr. Cleveland may have his faults, but snobbishness is not one of them. He draws the line at making calls—is too busy for that sort of thing. He informed the Spanish Minister that if the Infanta chose to come to the United States she should have the best of everything to be had, but that he would make no call; that if she wanted to see him, he could be found at the White House.

After a deal of fuss and feathers the Infanta finally came, arriving at New York on Thursday of last week. She and the small army which comprises her suite spent a day in New York and were then taken by special train to Washington, where they were lodged in a mansion specially engaged and refurnished for them. On the day after their arrival the Infanta with her husband and the Spanish Minister called on the President. Later, Mrs. Cleveland, the members of the Cabinet and their wives and the higher officers of the army and navy paid their respects, but the President made no call. From Washington the royal visitor will return to New York, where she will be given a grand ball under the auspices of Government officers and of the extreme rich of the metropolis. From there she will go to Chicago and view the Exposition. After that she will "put aside her royal character"—these are the words of the report—and visit the Yellowstone Park "as a private person."

The details of the ball to be given in the visitor's honor at New York, as arranged by the Government agent and the Infanta's chamberlain, make charming reading. Early in the evening the lady will "hold a drawing-room," at which those in attendance will be expected to observe the etiquette of the Spanish court—that is, they must advance half doubled-up, kneel at the Infanta's feet and kiss her hand. In retiring they must retain the bent posture and walk backwards. After this, the Infanta will view the dancing for a few moments "from a dais;" then she will have supper (but not in the same room with the common herd), and after that retire. The struggle for invitations to this ball is said to be without precedent in the social history of New York. A half-dozen "society"

ladies will make up the list, and will, of course, confine it to their own set. Uncle Sam will pay the bills.

To an American of right spirit all this is very humiliating and very disgusting. It was a mistake for Congress to invite this punctilious grandee to come over; but the manner of her reception and entertainment is a greater mistake. Instead of attempting to imitate the etiquette of the Spanish court the Administration should have required her to conform to the American way of doing things. She should have had every attention due to a guest of the Government, but there should have been no foolery. The spectacle of a ball at which American citizens play the fool at scraping and bowing and kneeling before a sprig of royalty is humiliating to the last degree.

What must be the opinion of Europeans when they read about all this? They will think—and have the right to think—that we are a nation of snobs and sycophants. Even the woman in whose honor all these absurd things are being done must smile at the folly of her entertainers. If she had been received with the simple dignity characteristic of the best American life she would have gained something from her visit; but as it is she will go away without knowing that the great body of sensible, self-respecting Americans are very different from the snobs and dukes who bow and kneel before her. Those who have acted for the Government in this matter have most shamefully been allowed to misrepresent and to humiliate the American people. A less serious but nevertheless aggravating cause of chagrin is that the people will have the bills to pay.

There is persistent effort to put the Administration in a bad light in relation to the Geary Chinese law; and so far as we can see, there seems to be no reason for it. When the measure came into operation the 6th inst., something over 80,000 Chinese became, under its provisions, liable to arrest and deportation. The failure of this large number to register was due to advice from lawyers who held the new law to be unconstitutional. In this situation it was arranged between the Chinese officials and the law department of the Government to bring the issue to an immediate trial before the courts. A test case was accordingly hurried through the lower court and sent on appeal to the Supreme Court. Very properly, the President directed the prosecuting officers of the Government to wait till the question at issue should be settled, as very speedily it was settled by a judgment sustaining the law.

There is now great outcry that the President will "suspend" the enforcement of the law till Congress shall meet in the hope of securing either its appeal or some modification of it that will render it of no effect. Now the President has no such power and there is no apparent reason to believe that he would exercise it if he had. But it is difficult to see just how the new statute is to be carried out until Congress meets because no money has been provided for that purpose. Of the sum appointed for putting the measure into effect, only \$16,000 (or thereabout) remains and this sum is absurdly small in comparison with the magnitude of the job in hand. As a matter of fact, the purpose of the Geary law was not to drive the Chinese out of the country, but to prevent the coming of more Chinese. The design was nothing more than to provide a system of identification to distinguish those individuals lawfully here from the interlopers. Proof that there was no design of deportation in large numbers lies in the fact that only enough money was provided for carrying out the rules for registration.

As matters now stand, the law cannot be enforced till Congress provides the necessary funds. And that will, in all likelihood, never be done. More time will be given for compliance with the rule for registration, and, now that the legal validity of the rule is established, the Chinese will unquestionably step up to the captain's office and get their papers.

The hot-heads who are clamoring for enforcement of the law, in the face of all reason, seem to have no sense of the enormity of using a technicality to make a law do what it was not designed to do. And they seem even less sensible of the disaster which the immediate deportation of the Chinese (if it were a possible thing, which it is not) would bring upon California. If every Chinaman in California were arrested and sent away between this date and next Saturday, the industrial and financial life of the State would get a staggering blow that it would not recover from in ten years. It will be time enough to talk about sending the Chinese away when it possible for the State to get along without them. As it is now, one-fourth of our orchards, our vineyards, our hop-yards and our fields would for at least two years go untended and ungarnered if there were no Chinese to work in them. Let us ask the farmers of California if

they are willing to pay such a price for the advantage of being rid of the Chinamen?

The right solution of this Chinese question is to exclude new comers and to get rid of those now here by gradual and natural processes. In this way the Chinese problem will soon solve itself. This was the whole idea and purpose of the Geary law; and a little patience will bring about all that the law intended and all, in fact that is wise or desirable. This is perhaps not popular talk but we ask the people of California to take a sober second thought and judge if it be not good sense.

It is no longer possible to conceal or explain away the fact that California is miserably represented at the Columbian Fair. The State building is still in chaos. No single exhibit is as yet complete, and altogether they do not form as good a representation of California's character and possibilities as the display of the State Board of Trade in the Crocker Building. Even the fruit stands in Chicago are better advertisements of the capabilities of the State than this great building which has cost so much money to construct, to decorate and to equip. The legislature appropriated a lump sum of \$300,000 for the purpose of representing California at Chicago and the several counties and private individuals have spent as much more, and all there is to show for it is a great barn of a building containing little more important or attractive than may be found in a first-class grocery store. What California should have done was to provide for the display in rapid succession of her very best products each in its own season. To attempt by the construction of a vast building to compete with far richer communities was a monstrous error. At best a building shows only the skill of an architect, adding nowise to the reputation or to the standing of a State. Washington, with a big cabin made of native logs, has really done something worth notice, while California, with a stately building, has simply fallen in line, but a considerable distance behind the older and richer States. We are not informed what proportion of the State Fund went for the construction of this building, but certainly a very large share of it, and every dollar thus expended was wasted. This is the common history of such appropriations; not one time in ten are they expended judiciously in a way to promote the best interests of the State. There is a good deal to be said for those much reviled members of the legislature who decline to vote away the people's money for any other purpose than the specific charges of government. It cannot be denied that when this line is once crossed there is usually more waste than profit.

It will interest many of our readers to know that President Cleveland's taste for country life has led him to make a home beyond the limits of Washington City. He has leased from Francis G. Newlands an old colonial house, with about thirty acres of ground surrounding it, known as the "Woodley place," and will soon take up his residence there for the summer. It will be remembered that he did the same thing during his former term of office. There is no more interesting fact in the present social life of this country than the growing tendency of people of taste to choose the country instead of the city as the place for making a home. Among those who are at liberty to choose, it is becoming the fashion to do this, and there is no reason to complain of a fashion so wholesome in its consequences. People of observation are coming to understand that not only is the country the pleasantest place to live, that only there are to be found the really genuine things of life, but that it is positively unsafe to bring up children in any other atmosphere. The physical advantages of fresh air, fresh food and abundant exercise afforded by country life, important as they are, are perhaps even less important than the higher advantages afforded by nature's open book and by the absence of unnatural and unwholesome excitements. The public cannot be too often reminded that only from the country do really great men and women come. In our own country no great soldier, no great statesman, no great leader in intellectual or industrial life has ever been bred up in the city. Every man from Washington's time down to the present whose name and history is part of our higher national fame, was country born and country bred.

Adobe Roads.

While in Marysville on Monday, Dr. David Powell of that city spoke of adobe roads and how nearly impassible they were in winter. "One," said he, "some miles from Yuba City and near my brother's ranch was one of the very worst in Sutter county. I have seen the driver on the Colusa stage put six horses on a two-horse conveyance in order to get through this particular place. Lately I was over it, and could but think what a contrast it now presents to what it used to be, and thought how easily and cheaply adobe roads could be put in the same excellent condition that this one is. Ditches were plowed on each side and the road rounded up in the center. Then on top of the

adobe a layer of red earth was placed, and above this a layer of sand perhaps three inches thick. That road this winter, in spite of the severe and unusual rains, has been firm and hard, and to-day is in better condition than the streets of Marysville."

"Yes," said R. C. Kells, who was present, "that is the correct way to make adobe roads. The South Pass road has been built in the same manner, and is now as firm and hard as any street. The earth and sand unites with the adobe in some manner to form a compact mass that remains hard and firm during the rainy season and gives a good road all winter."—Oroville Register.

How to Buy Grain Bags.

The last legislature passed an act in regard to prison-made grain sacks, which provides that the price in no case shall exceed more than one cent a bag over the net cost, and it is made the duty of the prison directors to confine the sale of jute to actual consumers. Orders for grain bags must be accompanied by an affidavit from the applicant that they are for his individual use. Applications are to be filled in the order in which they are received; but, as there are at the prison 450,000 or more sacks, no trouble or delay is apprehended in filling orders. The Salinas Index publishes the following letter from Warden Hale to J. R. Hebberson in response to a request for information about the sale of sacks:

SAN QUENTIN, CAL., May 2, 1893.

J. R. Hebberson, Salinas, Cal.—DEAR SIR:—In reply to your inquiry in regard to prison grain bags, I have to inform you that we are selling at 5.73 cents. You will observe by the enclosed circular what the rules and requirements are under which we are obliged to sell. This is a law passed by the last session of the legislature, and we are obliged to follow it. I will state that if you or any of your friends desire to purchase more than 5000 bags, there is no doubt that you can do so, providing you follow the requirements in the last part of the section. We had a case a few days ago where a party desired more than 5000 bags, and upon my recommendation the board approved the same, and the order was filled for 20,000 bags. Trusting that we may receive orders from you and your friends. I remain, very truly yours,
W. E. HALE, Warden.

An announcement of Mr. Hale, relative to grain bags, appears in our advertising columns.

A Card from Mr. Heintz.

TO THE EDITOR:—I ask of you most kindly to publish my statement below, in which you will see that the issue of the "Transaction of the State Board of Horticulture" of April the 28th, '93, published in pamphlet form, has grossly misrepresented and falsified actual proceedings, and I hope and trust that you will allow justice to be done me in this matter. In the discussions on page 6 of the pamphlet, Mr. Commissioner Block is made to say:

Commissioner Block. I would be in favor of doing so, and am in full accord with the suggestion, and further than this: it might be possible that the newspapers may say something, and still there might be a mistake. We cannot take a general statement made by a newspaper, or by Heintz. I would not take his word to positively condemn anybody, and it may be a misstatement of the facts; but when it is ascertained as a positive fact, then of course the board ought not allow them commissions.

I wrote Mr. Block for an explanation and have received from him the following answer:

SANTA CLARA, May 12, 1893.

Dear Sir: I have just returned home from San Francisco, and find your favor of the 9th. In answer to your inquiry, I will state that my arguments are misreported. I stated that I did not wish to condemn any one on newspaper reports, but I had no reference to you personally—particularly so, as at the time I so stated I did not know, nor was I informed, in what paper it appeared. Yours truly,
A. BLOCK.

Will you take the word of Mr. Block, who is known all over the North as a truthful and reliable man, or the unreliable report of the State Board as authority? If a statement is false in part, it's a safe assumption that it is false in the whole. Yours most truly,
C. M. HEINTZ.

Weevils in Warehouses.

TO THE EDITOR:—Will you, through your columns, kindly inform some of your readers if there is any way by which we may rid our granaries of weevils. We have tried one thing after another, and all we accomplished was a mere check for the time being.

Cayucos.

HELEN STEWART.

We know no better treatment than a thorough cleaning of the premises followed by a liberal application of whitewash made from fresh lime. Apply the whitewash with a good spray pump, and in such quantity that it will flow into the cracks and crevices. Permanent eradication need not be expected. Bisulphide of carbon vapor would kill all weevils, but most warehouses are too loosely constructed to make it possible to hold the vapor. If, however, it is used, exceeding great care must be taken not to have any fire about the building, as the vapor is very inflammable. If any reader can give better advice, we shall be glad to hear it.

For Outworms and Beetles.

TO THE EDITOR:—Cutworms and beetles have done considerable damage this year to grapevines and young trees. I find they will both eat syrup in sweetened water thickened with flour and made strong with Paris green. I put it on paper on the ground and then on vines and find plenty of dead worms and beetles on and under the paper. Although I have not yet tried it on canker worms, I think it may work as well.
J. C. KIMBLE.

Grangeville, Cal., May 19, 1893.

War on Commission Men.

FRESNO, May 20.—The raisin men held another stormy meeting to-day, and decisive action was taken with regard to the further co-operation of the growers, packers and commission men. The fight has been for the past month to get the packers expelled from the organization. The growers are largely in the majority, and the belief is general among them that these packers who do not produce raisins, but who receive and pack them on commission, are not

working for the interest of the growers. The feeling was by no means friendly between the two factions, and it was rendered more bitter by the circulation of placards just before the meeting, in which it was claimed that these men who had packed their own raisins, and sold them last year, were on the point of commercial ruin. It could not be ascertained where the placards came from, and the growers at once concluded that the commission men were secretly circulating them, and all hope of a reconciliation between the growers and commission men was at an end.

When the meeting was called to order, one of the first measures introduced was a resolution that no commission packers could become members of the raisin association. The debate was long and animated and resulted in the passage of the resolution, which is what many growers have wanted all the time. Future steps are somewhat uncertain. Growers have expressed their determination to dispense with the services of middlemen. They say they will send one of their own number East to sell the raisins.

Weekly Crop Bulletin.

(Summary of report of observer James A. Barwick.)

The continued cool weather, with moist southerly winds and considerable rain during the week, has produced more cheering results from the various portions of the State; even portions of the San Joaquin valley, where it was thought the wheat crop would not make hay, will now produce a small crop of grain.

The fruit crop is variously estimated from below the average to an average and above. The hay crop may not be an average one, taking the State as a whole, but some portions will be largely in excess of an average, especially barley hay, which in southern California will be an immense crop.

There was some slight damage done to fruit by the hailstorms of the 17th and 18th, which appear to have been general over the Sacramento valley, the foothills and portions of the upper San Joaquin valley, but the good they did far exceeds the temporary damage.

The rains have done a vast amount of good to the coast portion of Sonoma county, whose hillsides had begun turning brown. Lassen (Susanville)—Crops in the Lakeview districts, although late, are looking well and promise good returns.

Butte (Oroville)—The rain was just what was needed in the foothills to insure a good hay crop. (Concord)—The hop yards in this vicinity will be greatly increased this season.

Glenn (Willows)—Considerable damage to crops reported as having been done by the furious rain, hail and thunder storm.

Colusa (College City)—The rains have knocked down some of the heaviest wheat, but the benefits derived from it were great. (Grand Island)—Crops have not been so poor in a record of 20 years as they will be this season.

Sutter (Southwest Sutter)—Alfalfa hay yields well. Fruit crop poor; peaches and apricots very light, but pears and apples nearly up to the average. (West Butte)—The hail of the 17th injured heavy grain somewhat. Hops are in bloom around Nicolaus.

Yuba (Marysville)—Little if any damage done to fruit by the heavy wind, hail and rain storm. (Wheatland)—Weather favorable to growing grain. A good yield is promised of apricots, prunes and cherries.

Yolo (Davisville)—The hay crop will be a light one. (Briggs Vineyard)—Raisin grapes will be heavy. Prune crop medium; plum crop fair. The peach and almond crop will be very light.

Sacramento (Sacramento)—Crop prospects good, especially for small fruits as well as for pears, cherries and prunes. Along the river the general average of fruits will be lighter than last season. Hops are doing well. (Folsom)—Haying has commenced. The crop for the coming season will not be as large as that of last season.

El Dorado (Diamond Springs)—Fruit crop not as heavy as was at first estimated. Pears light, while peaches will fall short of expectation. (Cool)—Haying going on and yield will be unusually light.

San Joaquin (Stockton)—The light rains have done but little good. The cool weather is favorable and improves the harvest prospects. Haying began during the week; quality fair; crop light. The cool weather is improving the wheat. What there is of it will make not more than half a crop. Too cool for watermelons.

Stanislaus (Turlock)—Crops looking better than they were three weeks ago.

Tulare (Milo)—A great deal of grain is beyond recovery. (Grangeville)—Grape vines are loaded and prospects are most excellent for a large crop.

Kern (Bakersfield)—This county is especially favored this year.

Sierra (Vincaville)—Peaches good; pears fair; all other tree fruits light. (Rio Vista)—Hay crop in this immediate vicinity will be an average one, but in the hills and on the plains it will be exceedingly light; in fact, the yield of hay for the county will be much below the average.

Napa (Napa City)—Not since 1864 has the grain and hay crop looked so unpromising as now. (Bryessa)—Grain sown previous to the middle of February is looking fine, but late-sown grain will not yield over three-fourths. (Calistoga)—Vines are looking well and promise a good grape crop. There will be a fair yield of fruit, except cherries and apricots. Grain crop looking well, except on low and wet ground. A fair average hay crop will be secured.

Sonoma (Sonoma)—Good crops of grain, hay and barley will be harvested along the creeks, whether more rain falls or not. (Forestville)—Indications for a heavy crop of blackberries. (Santa Rosa)—There will be at least half a crop of small grain. Fruits are looking well. (Petaluma)—The rains have done a vast amount of good towards bringing out both grain and hay. Green feed has also been greatly benefited.

Contra Costa (Cornwall)—Rain beneficial to grain, but stopped haying.

Alameda (Livermore)—The rains did great good to grain. (Niles)—Cool southerly winds. Corn up and looking well. Hay and barley a short crop. Prunes, heavy yield.

Santa Cruz (Watsonville)—The apricot crop is spotted this year. The Redmon and Pearson orchards have heavy crop of apricots and the most remarkable feature is that the Moorparkers are making a fine showing.

Santa Clara (Campbell)—The prune crop is reported to be light and the apricots lighter.

Monterey (San Ardo)—In some places grain is beginning to dry out, not much rain in April being the cause.

San Luis Obispo (San Luis Obispo)—The light fogs have helped late crops, hay and pastures. Apricots are better than at first expected. All other fruits doing splendidly. The hay crop will be light.

Santa Barbara (Santa Maria)—A large bean crop is being planted. Haying going on favorably. Fruit condition the same, but the apricots show up very light.

Ventura (Hueneme)—Barley crop fine and all other crops are looking and doing well.

San Bernardino (Chino)—Barley in some parts of this valley is light, while in other places it is turning out a heavy tonnage. The wheat crop southeast of Cucamonga will be almost a total failure. The barley looks better and will head out.

Riverside (South Riverside)—Grain crops are looking well. Reports from San Jacinto say grain is badly in need of rain.

San Diego (Escondido)—Hay-making in progress all over the valley, and much of the grain that was intended for hay will be allowed to mature. (Barnard)—The cool, damp weather has been beneficial to all growing crops, and helped corn and potatoes very much. Many late-sown fields of grain now promise a fair yield.

Gleanings.

THE Madera county division proposition was carried by a vote of nearly 1200 to 300. Madera is selected for the county seat.

THERE is a growing suspicion that Evans and Sontag long since left California and are now in Chicago running hotels.

A MISGUIDED exchange is of the opinion that the scale bugs imported from Australia are only plain, common, every-day bumblebees.

THE CHICO Chronicle Record is convinced that "Butte is the most beautiful place in the State," though it doesn't spell it that way.

IT is estimated that there are 3500 acres of mustard sown, 3000 acres of beans and 500 acres of potatoes planted or to be planted in Lompoc valley.

AN EXCHANGE has an article on "Breaches of Trust." The usual breeches of trust are tailor-made, and worn by giddy masculine butterflies of fashion.

IT is said that 50,000 acres are seeded to barley in Orange county, and a million sacks will be harvested the coming season. No less than 10,000 acres are planted to barley on the La Habra ranch.

WE read in an exchange that at the San Jose flower show the real estate men sent "a beautiful lyre ten feet high, elegantly made and decorated," etc. Real estate liars, though elegant and highly decorated, do not usually run over six feet high.

AN OLD MAN at Yucaipa, near Redlands, sat down to rest and, leaning his head against a big rock, fell asleep. While in this condition a swarm of bees made their home upon the tails of his coat and the old fellow had to abandon the garment for fear of irritating his buzzing tenants.

FLORIN, Sacramento county, comes to the front as usual as the boss strawberry patch in the country. The fruit-growers' association of that place on Saturday shipped from there an entire carload of berries for Eastern points—some ten tons. This was the first full carload of strawberries sent out this season from one locality.

A POMONA paper has discovered a cure for rattlesnake bite in a plant growing near that place. The RURAL PRESS recently published in this column another remedy by a southern California doctor. Then there's the Keeley cure for that which bieth like a serpent and singeth like the ingratitude of a graceless son. Slowly and surely old John Barleycorn is being corked up in his demijohn.

THE Southern Pacific Company has issued the following reduced figures on east-bound freights from all California terminals except San Diego: Wool, in grease, to Boston in any quantity, 80 cents per 100 pounds. The present tariff is 89½ cents. Wool, scoured, to New York, Boston and Hartford, \$1 per 100 pounds. The present tariff is: New York \$1.10, Hartford \$1.23, Boston \$1.24½. The new wool rates are in effect.

THE late legislature passed the following amendment to the Constitution, in relation to young and non-bearing fruit trees and vines, to be voted on at the election of 1894: "Section 12½, Article XIII—Fruit and nut-bearing trees under the age of three years from the time of planting in vineyard form shall be exempt from taxation, and nothing in this article shall be construed as subjecting such trees and grapevines to taxation."

THE fabulous achievement of the Visalia rooster which laid an egg has been heard of with undeserved scorn and ridicule by unkind newspaper brethren of the editor who owns the prodigy. The Tulare Register, however, is a notable exception. It lets drop the following words of comfort: "Never mind, brother Maddox, we'll believe it. We have been personally acquainted with several roosters which, while they did not lay eggs, would have done so if they could."

NOW that railways have fixed the round-trip rate to the World's Fair at \$100, it is in order to figure up expenses. Add the sleeper, \$31; meals, going and coming \$21.50; board one month in Chicago, \$60; fare to the exposition grounds, \$10; street-car fare and necessary sundries, \$45; going to theatre and other places of amusement, \$32.50; and the result is \$300 for the trip, which can be reduced a little by economy, but not much, and is more liable to be too low than too high a figure.

THE TULARE Register gives a new method of removing cutworms, which is given for what it is worth: "A gentleman of this city who owns a vineyard suggested yesterday to a Register reporter that a 'boss' way to settle the cutworm problem would be to turn a couple of hundred half-starved chickens into each orchard and vineyard where the worm exists. The cutworms got away with most of his vineyard, but the vines near the poultry yard among which the fowls were accustomed to run, are untouched. He says that chickens consider the cutworm a great delicacy."

NEW STRAINED HONEY of superior quality is beginning to come into the San Diego market. The honey industry has long taken a second place to that of fruit and as a result the price of honey is higher. For a year or so producers have received 25 per cent more than previously. They are now paid 5 and 6 cents. The new honey just offered brings as high as 6½ and 7½ cents. When the market settles producers of the first grade of white honey expect about 5½ cents. Indications are for a light crop this season, which will also tend to keep prices firm.

THE MARYSVILLE Appeal has for some time been advertising a free picnic at Shelton's grove, in that city, for May 25th. The Appeal made all arrangements, sent out all invitations, and, in short, was sponsor for the whole affair. Among other thoughtful things, the Appeal sent out to all northern California editors a free railroad ticket and an accident policy. In consequence, grateful editors have given the event a vast amount of encouragement and prominence. The attendance was no doubt very large. Nothing short of a pyed form, or other horrible calamity, could keep newspaper men away when things had been so nicely arranged for them.

A DEER stepped out of the woods back of Bucksport Tuesday and stood for some time studying the picture presented to his view, says the Humboldt Standard. Before him was the bay, speckled with vessels, while along its margin were a dozen pile drivers at work. From the north came sounds from a busy city, and from the south the screech of a locomotive was heard. He was evidently enchanted by the picture and, like a charmed bird, he was led on. He walked down to the water's edge and plunged into the bay to swim to the opposite shore. Two workmen near by got into a boat, overtook the deer in midstream and made him a captive. Thus he was initiated into the ways of civilization.

THE prune yields of California and France for several years are said to be as follows:

CALIFORNIA.		FRANCE.	
Year.	Pounds.	Year.	Pounds.
1887.....	5,825,000	1879.....	20,027,100
1888.....	8,500,000	1888.....	20,532,500
1889.....	17,000,000	1889.....	33,368,500
1890.....	14,000,000	1890.....	59,147,000
1891.....	27,500,000	1891.....	60,000,000
1892.....	21,400,000	1892.....	20,000,000

Common estimates are that the California yield for 1893 will be in the neighborhood of 40,000,000 pounds, but they are no doubt much too high.

THE California Irrigator is the name of a new publication, whose title explains its mission. The first issue contains a variety of valuable information, presented in an attractive and intelligent manner, and pertinent to this highly important industry. There are a number of excellent illustrations. The pages of the Irrigator, of which there are fourteen, are the same size as the RURAL PRESS, and give evidence of much mechanical care and taste. The publisher is Byron Jackson, San Francisco. The new publication seems destined to fill an important place among class papers in California.

THE IRRIGATIONIST.

The Storage of Water for Irrigation.

The *N. Y. Independent* is doing an excellent work in educating the Eastern mind on the subject of irrigation for the arid lands. It has recently published articles from many special students of irrigation, one of which we reproduced in last week's *RURAL PRESS*. We now make other selections from the same source; first, from A. P. Davis' article on "Storage of Water for Irrigation," as follows:

The problem of water storage for irrigation is a very different one from that for the domestic supply of a city. In the first place, it is important that water for domestic use be as nearly as possible free from mud and organic impurities, while for irrigation such impurities are not only no objection to the water, but often materially add to its value by enriching the soil to which it is applied. In the second place, it is far more easily defeated by the expense of construction. A city of a hundred thousand people may consume no more water for domestic use than would be required to irrigate a square mile of land in the arid region; but such a city may very easily and conveniently pay for its supply several hundred thousand dollars, a sum many times as great as could be afforded for the same water for irrigation.

The range of capacity in proportion to cost, and the distance the stored waters can be carried, is, therefore, far less in the case of reservoirs for irrigation than for domestic supply, and only such sites as have large capacity and exceptionally favorable dam sites can be used.

In the selection of reservoir sites regard must be had to several considerations. The area and character of land to be irrigated, and its distance from the proposed reservoir. The area of the watershed, the drainage from which is to fill it, and both the maximum and minimum annual rainfall of the watershed. If the quantity and value of the land to be watered and the capacity of the reservoir are great, as compared with the available water to be stored, it may be advisable to build a reservoir of sufficient capacity to contain much more than the minimum annual run-off, so that the discharge of wet years may be saved for use in time of drought.

The mean discharge of streams varies considerably with the topography of the basin, and with the character of the soil and climate. A basin composed largely of very steep, rocky, barren mountain sides, will discharge a larger percentage of its rainfall than one that is comparatively flat and covered with soil and verdure, and its floods will be far higher and more sudden. In an arid region it is never safe to count on storing more than 50 per cent of the rainfall, and in many cases the available supply will fall below 40 per cent.

RESERVOIR SITES

May be divided into two great classes: Natural lakes or depressions, and reservoir sites on drainage lines.

Lakes often afford large storage capacity with small expense for outlet cut or tunnel, and perhaps a small dam or dams. Such dams as may be necessary to afford the required capacity can more often be constructed of earth than in the case of reservoirs on streams, as the foundation is far more likely to be of fine sand or loam rather than rock or shale. Such sites have two important advantages—the dams are not endangered by the enormous floods that are bound to occur on streams, and an opportunity is afforded for disposing of the rock and silt from the storm waters stored, before they reach the reservoirs.

The chief expense attending this method of storage is usually the diversion and transportation of water from some neighboring stream, and this expense is very greatly increased from the fact that the volume of water to be conducted is never constant, but comes chiefly in floods discharging several hundred times the average flow of the stream, and in order to approximate its conservation a canal must be built large enough to carry the heavy floods, unless storage can be provided on the stream itself. Where a large natural basin occurs in reach of an important stream affording a small subsidiary reservoir site at a higher elevation, the conditions for water storage are ideal.

The selection of a suitable reservoir site on a stream is no simple task. The fall of the stream, and the slope of the adjoining land toward the stream, is often very deceiving to the unpracticed eye, and the area of the reservoir consequently much smaller than it looks.

The average depth of such a reservoir is seldom over two fifths the height of the dam, and often less than one-third, making the capacity far less than may appear.

A careful set of borings is usually necessary to determine the depth of excavation to a suitable foundation for a dam and the character of such foundation. An ample spillway must also be provided; this, as has been well said, is the most important part of the work, as more dams have failed from defective spillways than from bad construction.

CONSTRUCTION OF DAMS.

Dams may be built of earth, loose rock or masonry, or of a combination of these materials. Earthen dams, where practicable at all and not too high, are usually far cheaper than those built of rock; and this, as we have seen, is nearly always the determining feature of water storage.

An earthen dam must have a broad foundation of some kind of earth, preferably a clayey or sandy loam, but never of rock or shale. Suitable material for construction must also be at hand. This should consist of any kind of fine, homogeneous earth, nearly free from coarse gravel, rock and shale. The dam must, of course, be water-tight, not only to prevent the escape of water, but to prevent its own destruction. This is sometimes accomplished by means of a masonry core, consisting of a thin masonry dam built up the center of the embankment; sometimes by a core of puddle work, of selected material solidly rammed to prevent leakage, and sometimes the face of the dam is composed of such puddle work. The most approved modern method, however, is to make the entire embankment as

nearly impervious as possible by carefully excluding rocks and other coarse materials, and having the embankment well rolled and tramped throughout its construction. A submerged puddle core should, however, be built the entire length of the dam to prevent seepage under it, and should extend for several feet above the base of the embankment. The slopes given should be considerably flatter than the angle of repose of the material used in construction, especially on the interior face, which will be exposed to the action of the water. This should also be faced with rock rammed into place in order to neutralize the erosive action of waves.

Loose rock dams are constructed of rock laid with some care, without mortar, and should be built as solidly as possible, to reduce settlement to a minimum. To render it impervious to water, an apron is built on the upper slope. This apron may be of tarred planking, or an earth embankment, or it may consist of a sort of rubble masonry laid in rich asphalt, which has sufficient elasticity to conform to the settlement of the structure if well built. The apron must be carried down to impervious bedrock to prevent percolation under the dam. The cross-section must, of course, be sufficient to enable the dam to resist the water pressure by gravity alone. Except where rock is scarce, or transportation very cheap, or suitable earth distant, a masonry dam is more expensive than the ones above described. There are some situations, however, where it is the only practicable form, and others where it is cheapest, and it is always more ornamental. It is usually built in the form of an arch, with the convex side up stream. It is desirable to use as large rock as possible, as this economizes cement and makes the structure stronger. The mortar must be carefully mixed and well rammed into all joints and crevices. The mortar used on the up-stream face must be very rich, so as to prevent leakage.

Every dam must have a spillway. A masonry dam may itself be a wastewear, provision being made to prevent the washing out of the foundation by the shock of the water. It is better, however, to have a spillway at some distance from the dam, over a saddle in the hills, or, if necessary, through an ample tunnel. This is especially the case with earthen or loose-rock dams, as it is difficult to build a safe wastewear over them.

It is, of course, necessary to provide outlet sluices from a storage reservoir, and these may be either through a dam, or, preferably, through the hills in some other part of the reservoir. These sluices, the gates for controlling their discharge, and the machinery for working the same, must always be accessible for examination and repair.

PREVENTING SILT DEPOSIT.

In most parts of the arid region the storm waters, which are the main source of storage water, carry large quantities of rocks, sand and silt, and introduce, perhaps, the most serious problem with which the irrigation engineer must contend, viz., how to prevent the filling of the reservoir with detritus. Some attempts have been made to deal with this difficulty by constructing dams with several sluiceways through the bottom, through which the water is allowed to rush at times to wash out the silt. This method is by no means satisfactory, as the sluices weaken the dam, the floods allowed to pour through waste large quantities of water, and only that silt near the sluiceways is removed.

A very effective method, where possible, is to locate the reservoir at some point not on the stream from which it is to be filled, and to lead the water by a canal from the stream to the reservoir. At some convenient point on the canal a flume is inserted over a cross-drainage line, so that the flume will be six or eight feet above the ground, and a sand-box or section of the flume constructed wider and deeper than the rest, with its bottom several feet lower than the grade of the canal, so that it will be constantly filled with water flowing at a very low velocity, and in this the water will deposit its load of sand. Large gates are placed in the bottom of the box, which can be quickly opened to allow the sand to drop out, and waste little or no water. The floods in the cross-drainage line are supposed to carry the sand away, or it can be removed with scrapers. The larger the sand-box the more completely will the silt be deposited, and the less frequently will it require opening.

Where the reservoir is situated on the stream that is to fill it, the following method may sometimes be employed for removing the debris: A small reservoir may be constructed up stream, as much higher than the main reservoir as practicable, and the water piped down under pressure, and at favorable periods the sand and gravel may be washed out by hydraulic force, as in placer mining, and allowed to run through sluices provided through the bottom of the dam.

If the flow of the stream is suitable, it may not be necessary to construct an upper reservoir, but only to divert the stream into pipes high enough up to secure sufficient hydraulic force.

This method is effectual but expensive, and not always practicable, as the fall of the stream may be too low to give sufficient hydraulic force without going so far away as to render the cost prohibitory.

The disposal of silt deposited in reservoirs still remains one of the serious problems of irrigation engineering; but, as water and irrigated land become more valuable, as they inevitably must, and storage systems multiply as they are now doing, the combined experience and ingenuity of our engineers will undoubtedly suggest plans and improvements that will constitute its practical solution.

Methods of Applying Water.

T. S. Van Dyke writes of southern California as follows:

Almost all kinds of ground are now irrigated here. Leveling is not necessary or anything approaching it. The ground should, however, be graded to an even slope on every face on which water is to run. This does not much increase the cost and quickly repays it in convenience alone.

The methods may seem to vary much, they may all be reduced to three: flooding, small furrows and basins. The

choice will depend upon the texture of the soil, the amount of water available and the size and continuance of the head or stream in which it may be had. The best of all is the small-furrow system, for in its effect it is exactly like a long, slow, soaking rain.

For a ten-acre tract from 150 to 200 streams, each running about a gallon and a half or a gallon a minute, are turned into small furrows running across the tract at intervals of three or four feet. These average some three or four inches deep and are rapidly made with a small corn plow. These streams are fed from a small flume laid along the upper side of the tract with small gates regulating opposite the ends of the furrows. At first one would suppose these little streams would never get anywhere; but if you will have patience you will find them across the tract in from 20 to 30 hours or so. They are then allowed to run a day or two longer, when the whole tract is in about the same condition that it would be after a soaking rain of three inches, of which about 90 per cent goes into the ground.

If the slope of the ground is too great to allow running these streams straight down they are run diagonally or laterally or on curving lines. Hillsides, knolls and other slopes that but a few years ago were thought impossible to irrigate to advantage are now the most valuable part of the whole country, the trees or vines being planted on contours where the water will run the best. Terracing is rare, except on very steep hillside. The cutting of the soil from winter rains is prevented on slopes by letting the grass and weeds grow to bind the soil, which a small growth quickly does, cultivation being of little importance in winter where one has plenty of water in summer.

Sometimes the soil is so sandy or loose that these little streams drop through too rapidly or fail to soak sideways to meet the water from the next stream; and often this cannot be prevented by enlarging the streams to any ordinary extent. In such cases flooding is about the only way. The ground is turned into a series of basins by ridges thrown up by the plow, or by a sled with solid converging runners, called a "ridger," which is dragged backward. The size of these basins will depend upon the slope of the ground. A stream of about two cubic feet per second, or 900 gallons a minute, will fill all these on ten acres in a few hours to an average depth of three inches, the water flowing from one basin to another as fast as the first fills. This gives almost as good a wetting as the small-furrow method, but not as uniform or effective, while some packing and puddling of the ground result, which do not in the other case.

Where water is scarce, or can be had only in a small, continuous stream, instead of in large, accumulated heads, small basins around the trees are used. These vary in size with the tree, the water supply and the soil, and are filled with hose or a small furrow carrying water. In this case the tree is practically grown in a flower pot of dry earth, and on the outer edge is a debatable territory, into which new roots are constantly coaxed only to find it drying out about the time they get there. Remarkable results are obtained in many places by this defective method; but they only prove what would happen if the better methods were used. Where the rainfall is pretty good and trees need only drink and water to perspire, this will do quite well. One or two applications would in many years more than double the profits of many an Eastern orchard.

All methods of subirrigation have been tried here, and except on a small scale, and for some things, like strawberries, are practical failures. Roots clog the aqueduct, and uniform wetting is almost impossible even where they do not.

The amount of water used in a year varies with the climate, texture of soil, nature of crop, nature of the season and skill of the irrigator; so with the number of times it is used. Some of the best work is done with only a foot and a half in depth, which is the equivalent of about 40 inches of rain as it ordinarily falls. Some things need much less, some considerably more on some soils, and in some hot and dry seasons. Fine work is done in places on deciduous trees with only nine inches, in others it takes three feet for old orange trees in full bearing. Three times a year for deciduous fruits and five for oranges and lemons generally suffice, though many places use fewer applications of the water.

In all cases constant and thorough cultivation to the depth of four or five inches should follow each irrigation as soon as the ground is in condition to work well. The mulch thus formed of top soil retains the moisture in almost all ground until the roots exhaust it. It also aerates the ground, which is of great importance. Eastern people have much yet to learn from the Californians on this point. Where the cultivator rests the least in summer there is the best fruit, the largest yield, and the least water necessary. In places like Riverside and Highlands are miles of orchards without a weed or spear of grass in summer, and the top soil fine as meal. The difference can be understood only by those who saw the fruit 15 years ago and see it today, and who saw the quantity of water then wasted and thought necessary, and the comparatively small amount now used to produce the splendid results once deemed impossible.

THE FIELD.

Experiments with Potatoes.

Among the experiments frequently made and reported for determining the effect on the potato crop of the various modes of treatment, we find an interesting series, carefully and accurately performed, given by Prof. C. S. Plumb in a late number of *Garden and Forest*. The result of these experiments was that large tubers weighing from 12 to 14 ounces gave a much larger crop when planted than small ones weighing only one or two ounces, these tubers being planted whole. Prof. Plumb quotes the results of other experiments bearing on this subject performed by Prof. J. C. Arthur, in which he found that the larger the tuber

planted the greater the yield, without any regard to the number of eyes. A definite relation is also found to exist between the weight of the tuber and the number of its shoots. The heavier the piece the more shoots it will send out. The number of stalks in the hill was found to correspond with the increased size of the seed tuber. Instead, therefore, of cutting to one, two or three eye pieces, it should be cut to one, two or three ounce pieces.

Prof. Plumb gives in a table the result of his experiments with potatoes planted whole. Small ones, or those weighing only one or two ounces, gave a yield of 17 ounces; those weighing from four to six ounces produced 21 ounces, while tubers weighing from 12 to 14 ounces gave over 29 ounces in the crop. Thus it appears that the large tubers gave nearly double the product of the quite small ones, while intermediate grades correspond with the increase in size. The *Country Gentleman* notes a material omission in these experiments in the absence of any report of the condition of the soil. Experiments which it has made for many years show the great difference in product in a moist or dry soil, or in one thoroughly pulverized, or in a dry or moist season, in affecting the condition of the planted tubers. In a very dry soil small planted tubers lose their power more or less in producing shoots, while in a finely-pulverized, moist soil, the growth is strong and the product greater. When the potatoes are planted whole their impervious coating prevents this drying and there is a smaller loss in a dry soil. For this reason it is often better to plant the potatoes whole when the planting is done late in spring or early in summer. In a moist and well-prepared soil there is much less difference between the effect of large and small pieces, and here it is that Prof. Plumb's valuable experiments appear to be deficient in their report. He does not state whether the soil was moist or dry, finely pulverized or lumpy, nor what effect a dry or moist season may have had.

Some years ago the *Country Gentleman* performed a series of experiments to determine the effect of using large or small tubers for seed. The large ones weighed half a pound, the small ones about half an ounce. Each were cut alike in two or three pieces, containing the same number of eyes. A fine, rich, rather strong soil was selected, made sufficiently fine to retain its moisture. They were planted early in the season and a uniform and proper moisture continued through the summer. When the resulting crop was dug each kind was kept carefully separate. The potatoes from the small seed were quite as large as those from the large ones, and spectators pronounced the crops of equal size. But on measuring them it was found that the larger tubers gave one-tenth more in product. Had the soil been dry, or lumpy, or cloddy, or had a severe drouth prevailed, or had they been planted late, it is probable that the small seed would not have given one-half that of the others.

It is this omission in many experiments which have been made that has resulted in the failure to give an accurate account of what should be their results.

Look Out for Poison Oak.

Dr. H. W. Harkness of San Francisco says: "The instant one becomes aware that the poison oak has taken effect, place a teaspoonful of powdered sulphur upon a brick or piece of wood, and, setting it on fire, hold the hands in the vapor for the space of three or four minutes. The face and neck should be exposed for about the same length of time, removing the head from time to time for the purpose of breathing. Should other parts of the body be affected, the remedy may easily be applied by seating the patient in a chair placed over the burning sulphur and enveloping the patient in a blanket, of course leaving the head uncovered. This course of treatment will in most cases give great relief at any stage of the disease, and if applied early will greatly lessen its intensity if not altogether arresting its progress.

"I would further suggest to those who are peculiarly susceptible to the influence of the poison, that they provide themselves with sulphur and thoroughly fumigate hands and face in the manner before described before starting for home. This treatment, if carefully applied, will often obliterate all traces of the poison and save the person from days of suffering which usually follow."

HORTICULTURE.

A Specialist in Small Fruit-Growing.

TO THE EDITOR:—While in Placerville recently I visited a noted berry-grower, Mr. John Waters, of Placerville, Cal. Mr. Waters has in cultivation the leading varieties of strawberries, and so far this season they have made a very luxuriant growth. The Oregon Everbearing strawberry seemed to be the best as regarded prolificness.

Strawberries commenced ripening on his place about April 15th; when I was there I found Mitchell's Early, Oregon Everbearing, Jessie and Gandy ripe. This latter berry, the Gandy, in the Eastern States is considered a very late berry; here in California it is among the earliest. The Mitchell's Early I think is the finest flavored of the four varieties mentioned, being very sweet and possessing a wild-wood flavor similar to wild strawberries.

The Monach of the West, Largest of All, Lady Rusk, Honey, Capt. Jack, Australian Everbearing, Mill City and the White Pineapple gave evidence of a large crop.

The White Pineapple is a marvel among strawberries. It is a very heavy, stocky plant and has the largest blossoms of any strawberry plant that I have ever seen, and Mr. Waters assures me that the berry in size is in proportion to the blossom and that the fruit is highly scented and perfumed with a delicious strawberry aroma and possesses an exquisite flavor. The berry is a glowing white in color and, as Mr. Waters states, very prolific. I shall watch with interest the conduct of this strawberry this summer and shall report results from time to time.

Mr. Waters favors spring planting of strawberries, and

from my observations and experiences I favor spring planting also.

Mr. W. has a general collection of strawberries, raspberries, blackberries, currants, gooseberries, etc., and I am led to believe that he realizes more money from the sale of these small fruits than many fruit-growers having 10 or 12 acres in large fruits.

His currants were remarkably full of bloom and young fruit; also the varieties of American and English gooseberries. These latter seem to be extremely early and when I was there were already pretty well grown.

The various kinds of raspberries gave promise of an immense crop.

Mr. Waters' system of trellising is far superior to any that I have ever observed in any part of the country and is worthy of special mention. Posts are driven, say at about 50 feet apart, and four heavy wires were used, similar to the way a wire fence is constructed. The young plants, either raspberry or blackberry, are made to grow as tall as it is possible to make them; the trellis being about five feet high the plants, of course, grow quite a height above the trellis. In the fall or spring the old wood is removed and the young growth is pressed down and wrapped around the wires. Of course all the young growth grows straight up and by bending the plants down this way more fruit branches are secured. By having the rows five and six feet apart they can be easily cultivated and picking is facilitated to a wonderful degree.

The rows of raspberries at Mr. Waters' place looked like solid walls of green, so thickly did the young growth spring up from the bended canes. The varieties of blackcap raspberries raised here yield wonderfully and are a very paying crop.

A great many choice varieties of flowers, roses, etc., are grown at this place; also many varieties of larger fruits. It seems almost incredible that such a great variety of trees, plants and flowers could be so successfully grown on such a small piece of land—three-quarters of an acre, I believe. The location and soil, though, are two very important factors; the land slopes to the south and the soil is a heavy, reddish brown, intermixed with clay. This is the soil for strawberries, as greater results can be secured from such than from black, loamy, bottom-land soil. The black soil will produce the largest plants and more runners but the clay soil the most fruit.

S. L. WATKINS.

Grizzly Flats, Cal., May 18, 1893.

The Price of Dried Apricots and the Color of Cheese.

TO THE EDITOR:—This is rather a miscellaneous mixture, but apricots and cheese often get swallowed at the same meal.

I have been asked for further information as to my statement some weeks ago as to the price in England of dried apricots. The price I quoted, 1s 6d per pound, was the then current retail price in the town of Cambridge, England, and not the wholesale London price. English people have a high appreciation of the apricot, either dried, canned or in marmalade. Readers of the "Mill on the Floss" may remember the unfailing allurements that "apricot roll-up" was to Tom Tulliver, who may well represent in that taste the average English boy. Peaches, dried, find no favor in England. Those planting for the English market will do well to bear this in mind.

Now for the cheese. In looking over the British wholesale price current for dairy products, I find Canadian cheese quoted under two heads—colored and white. The price of the latter is as much as 4s per cwt. higher than the colored—"Colored, 55 to 56s; white, 56 to 60s."

I am pleased to record this, as the old plan of staining our cheese a ripe apricot color with annatto had nothing but a morbid love for "any color so it's red" to recommend it. If we'd just leave our dried apricots red and our cheese its natural golden, it might ultimately prove full as well for our digestions, our markets and our pockets. The natural rich saffron of the apricot unsulphured and the inviting tender yellow of full-cream cheese unpainted are just as pleasing to the eye and as gratifying to the inner man as cheese an unnatural red and apricots of a sickly pallor.

Carmel Valley, May 21, 1893. EDWARD BERWICK.

Reduced Yields Anticipated.

TO THE EDITOR:—Some time since I read in your journal reports on fruit prospects, that the wine-grape crop in this county was going to be "immense," also that there would be a "very heavy" crop of prunes, etc.; all this while the fruit prospects were yet in bloom, and the biggest prophet in the land could not foresee what the result was likely to be. Since then frost and dry, hot weather have been at work. I have had cause to travel considerably through the county, and find that many vines have died and others so diseased since last year that, even if the fruit sets properly, the crop will be much less than last year; also that the sudden change to hot days this spring has already killed the fruit prospects on many vines. And in this section the prune crop will, with even present prospects, be much lighter than last year; also, wherever I have been through the county, the reports are very adverse for even a fair crop, in some localities owing to frost while the buds were tender, and too much north wind and heat.

Sonoma, May 14th.

A GROWER.

To Kill Off Cut Worms.

C. J. Berry recommends the following plan to stop the ravages of cut worms: Take some stiff pasteboard—one side of it to be glazed; cut the sheets up into either round or square pieces big enough so that a slit can be made into the card half way, and in the middle cut a hole big enough to fit around the body of your tree. Slip the pasteboard about the body of your tree and bring the two sides together where you have cut the slit, and lap them and fasten with a paper fastener or any way you please. The

glazed part of the cardboard must be down. The worm climbing the tree comes in contact with this wall at right angles to his ascent, and, being unable to walk on a ceiling like a fly, he thus falls to the ground, where he soon perishes. The writer has tried this remedy and found it most effective. I desire to suggest to some one of our manufacturers that they could find ready sale for large quantities of these protectors if they would make them and have the holes in their center different sizes, or perhaps what would be better, to make the holes big enough to fit most trees and bind the edge of the hole with india-rubber so that it could be made to fit snugly about the body of all trees requiring protection. Through the medium of the columns of your paper, and with the request that your numerous exchanges will copy this article, a great good will be done the tree-grower, and some one may be induced to manufacture these tree protectors.

FORESTRY.

The Eucalyptus.

The eucalyptus tree is a native of Australia and Tasmania, where it forms large forests. There are about 140 species described, but they vary extremely, different kinds of leaves being produced on the same tree, thus presenting distinct specific characters and varying also in the nature of their barks.

In Tasmania and Gippsland, Victoria, they grow to an immense height, often exceeding 400 feet. Their naked and branchless stems of a dirty white color look like natural columns. These are often blackened by the fires of the natives or rung by the settler's ax, when they afford a grand but dismal spectacle, as one speeds along in the train; in some countries square miles of country have been passed in which the forests have been rung preparatory to settlement, and in some cases for no obvious reason, as the land is unfit for occupation, and there stand those foreign monarchs of the forest like giant skeletons, sapless, lifeless-looking, dismal and forlorn in the midst, oftentimes, of a luxuriant undergrowth.

The trees are named usually according to the nature of their bark, which they shed instead of their leaves, such as stringy bark (*E. obliqua*), iron bark (*E. sideroxylon*), blue gum (*E. globulus*), peppermint tree (*E. amygdalina*).

The wood of some is very hard and durable, and so heavy as to sink in water. Many yield a kind of resin or gum, such as *E. resinifera* and *E. amygdalina*. A volatile oil of wonderful medicinal qualities is also produced from the leaves of various kinds, but more especially as that known from the *E. amygdalina*, which is the most productive, and yields nine-tenths of the oil of commerce, though not always placed on the market under its own name.

This arises from a certain amount of notoriety gained for the *E. globulus* abroad, owing to the fact that it is the easiest of the species to acclimatize. As a matter of fact, however, there is scarcely any *E. globulus* distilled in Australia. *E. mannifera* yields sweet secretions analogous to manna. *E. gunnii* furnishes a liquid that ferments and forms a kind of beer. They all produce abundance of seed, which vegetates freely and becomes naturalized in various countries.

The *E. amygdalina* or giant eucalyptus, called "waugara" by the natives, is also known as the peppermint tree. This is one of the most remarkable and important of all the plants in the whole creation. Viewed in its marvelous height when standing forth in its full development of the slopes or within the glens of mountain forests, it represents probably the tallest of all the trees of the globe. Regarded as a hard wood tree of rapid growth, it ranks foremost, and contemplated in respect to its yield of volatile oil from its copious foliage, it is unsurpassed and perhaps unequalled by any tree in the world. These qualities have made it become generally known, and much through the exertions of Baron Von Mueller this tree is now being introduced abroad with good results in countries subject to neither severe frosts nor intense moist heat. It assumes under different climatic and geological conditions various forms. Thus, in the ravines of the cooler ranges it attains its greater height, combined with a perfect straightness of stem, while the bark strips so completely as to render the huge stem quite smooth and almost white.

In the more open country it is much smaller. Under these conditions it is called a "peppermint tree" in Victoria and Tasmania and a "messmate tree" in New South Wales.

In Victoria this tree often exceeds 400 feet in height. Such trees are found on the Black Spur, Upper Yarra Yarra and Upper Goulbourn. A fallen tree on the Dandenong ranges measured 420 feet. The length of the stem up to the first branch was 295 feet. The diameter of the stem where it was broken, 365 feet from the root, was three feet.

A still thicker tree in the same locality measured 53 feet in circumference three feet from the ground.

A tree near Mt. Wellington, Tasmania, has been found which measured 12 feet in diameter, 220 feet from the ground. Another tree was found 130 feet in circumference at the base. Within a square mile 100 trees could be counted with a circumference of 40 feet. At the foot of Mt. Baw Baw, Victoria, is found the highest of the giant trees of Australia. This monster is 471 feet high, and another on the Cape Otway ranges is 415 feet in height. The final height is sometimes attained by a single branch pushing skyward.

It is a grand picture to see a mass of enormous tall trees of this kind with stems of mast-like straightness and clear whiteness so close together in the forest as to allow them space only toward the summit to send their scanty branches and sparse foliage to the free light.

The distillation of the oil was first initiated by Baron von Mueller. *E. amygdalina* yields more oil than any of the other varieties, and is therefore almost solely employed for the purposes of distillation. It is also one of the best for subduing malarious effluvia in fever regions, although it

does not grow abroad quite so well or quickly as *E. Globulus*.

The respective hygienic value of various trees may to some extent be judged by the percentage of oil in their leaves, as stated below:

	Per cent of oil.
<i>E. Amygdalina</i>	3.313
<i>E. Oleosa</i>	1.250
<i>E. Leucocylon</i>	1.060
<i>E. Gonicalyx</i>	0.914
<i>E. Globulus</i>	0.719

The lesser quantity of oil in *E. Globulus* is compensated for by vigor of its growth and early copiousness of its foliage. It readily adapts itself to other climates, and hence abroad nearly all the varieties of the oil are known as *globulus*. During the last 20 years the blue gum has come into high repute as a sanitary tree. A high authority states that the sewage systems of large towns in warm climates would be simplified if each house had the evergreen gum tree in the back yard. The disinfecting and deodorizing virtues of the tree are unquestionable.

Flesh of any kind is as well preserved by eucalyptus as by creosote, while beef sprinkled with it will dry hard without putrefaction. It is fatal to bacteria and other micro-organisms. It may be injected into the veins and arteries of cadavers for purposes of preservation. It is also a good admixture in dressing gangrene.—Journal of American Medical Association.

POULTRY YARD.

Grading Up Poultry.

"Many of our farmers hesitate to improve their poultry, fearing the cost will be greater than they can afford, which is a mistake. They begin to calculate on the probable cost of two or three hundred fowls at two or three dollars each and inferior stock. And yet, even if it were to cost this amount, we do not know but what it would be profitable in time to make the change," says J. W. C. in *Breeder's Guide*. "The cost need not be a fiftieth or a hundredth part of this sum. We can take a farm with one or two hundred fowls and in two seasons have nothing but thoroughbreds upon it, and all with a direct outlay of only a few dollars. It will, however, require a little work and care. It will not do to buy a trio or pair of fowls of some good and desirable breed and, turning them loose in the flock, expect in a year or two by some magical means to find the whole flock like them in form and feather. Plenty of outbuildings are usually found on any farm in one corner of which a nice little coop may be fitted up, with a small run attached to it, at a trifling outlay of time and labor. Here the work of improving the farm fowls will really begin. Some care should be exercised in building this yard to make it so that the mongrels, who usually fly like pigeons and can crawl through the smallest opening, may not get in with the stock and fight with or otherwise disturb them. Wire netting for roof and sides of such a run is the most effective way of keeping them out. The fowls and such a yard complete the fixings necessary to change the stock on any place.

"Whether to start with fowls or eggs is a question which each one must settle for himself. If we were doing it and in a hurry to make the desired change, we would start with fowls, gaining a year's time at least by so doing. One man will never buy anything but fowls, while another is equally as positive that eggs are at all times the cheapest way of getting new fowls. But in either case we will suppose the farmer has a few hens or pullets ready to lay. The best male and the hens or pullets should now be placed in the yards, if not already there, and all eggs carefully saved for hatching. Soon some of the common hens will become broody; they can then be put to use, hatching the eggs of the yarded fowls. Do not set an egg of the common stock, and, if any of them steal their nests, raise the chicks until large enough for broilers, then dispose of them, thus giving the good chicks the whole range and all the attention. Two or three hens of some non-setting breeds, or four to six of those which lose more or less time in waiting to set, will furnish the eggs necessary under favorable circumstances to raise all the fowls needed to replace the common stock.

"The last and most important act of the change comes in killing or selling off every one of the old fowls. Right here is where many lose the result of all the outlay of time and money. They have a few pets among the superannuated old cocks and hens, and, keeping them, in a few years few traces remain of the once-fine fowls which graced the place. With good fortune, ducks, geese and turkeys can be improved in the same way from a single pair of birds or one or two settings of eggs. There is no excuse for keeping poor fowls when a good flock can be had at such a small outlay."

Profit in Poultry.

We are now looking at poultry-keeping only from a commercial standpoint, ignoring the pleasure of the fancier entirely, says the *Fanciers' Monthly*. The fancier will keep his beautiful birds, and take great pleasure in studying them and their breeding, pay or no pay. But we can assure the other class that poultry-rearing, poultry-keeping, *does* pay if managed right. Poultry-keeping pays a farmer always, if he will give his fowls one-half the care and thought that he does his other stock, if he will keep his birds clear of vermin, if he will "read up" a little on the care of poultry, if he will throw aside his prejudice that "one sort of hens is as good's another," if he will take advantage of all chances to make a dollar honestly from poultry, it will pay him, or his wife, or his boy, or his daughter. Poultry-keeping pays the laborer, the mechanic, the merchant, the professional man, who has but a small inclosure wherein he can keep a few hens to supply the family with eggs, rear a few chicks every year, sell a few

dozen eggs in the spring for hatching purposes, and a few birds in the fall for breeding stock, if he happens to have fine stock. Poultry-keeping will pay the wives and children of these men, and give them considerable besides money. Poultry-keeping will pay the "breeder" who advertises well, who has a good market for his poor stock, unfit for breeding, who makes his fowls pay first as *market* birds, then as pure-bred ones, who unites the business of market poulterer with that of breeding fine stock for sale, and, raising hundreds of chicks, he has plenty to supply both branches of his trade—and is usually well paid in his poultry-keeping.

Green Food for Fowls.

When I began taking care of poultry I had not read any article about the benefit that clover was to them. It is only in the last few years that the poultryman's attention has been called to its usefulness as a food to help hens in the formation of eggs. I commenced using it the first season I had the care of poultry through observing the hens night and morning picking in the clover field not far from the house, and concluding it must be good for them I plucked it by hand until it was high enough to mow with a scythe, and I prepared it for their use by rolling it up in a wad and with a sharp knife slicing it off about half an inch long, holding the clover and cutting down over the edge of a board as one would cut dried beef. It used to take me some time to prepare enough for 200 hens, but now, with a clover-cutter, it is only a few minutes' work. I think it very necessary to have it cut short, for I fed some once about three inches long to some game roosters in coops that had not had any green food in a number of days, and they gorged themselves so that I lost two valuable ones. One I saved by opening his crop and taking out the contents and then sewing it up. He came out all right. The clover was all wadded up and would have surely killed him; so I have been very careful ever since.

I have followed gardening the last 20 years in connection with poultry, and when weeding in my vegetables I keep a wheelbarrow near, and whenever it was filled I wheeled it in to my hens, and it is astonishing how many weeds a flock of hens of from 200 to 350 can utilize. It is a good deal better to let the hens turn them into a fertilizer than to pile the weeds up in a corner as some gardeners do and let them rot down. The wheelbarrow I used had a tire on the wheel about 3½ inches wide, and I could wheel it in the garden over soft ground. I think it is just as necessary to have some kind of green food for fowls as any other ration, and for winter I have usually put all my soft heads of cabbage that were not salable where I could get them at any time and have fed a great many every winter. When these were gone I have fed malt sprouts from the breweries and consider them very good. Prof. Stewart says they are very nitrogenous.—Country Gentleman.

Questions and Answers.

Are chickens hatched in an incubator larger than those hatched from the same kind of eggs under a hen? Or are they stronger? 2. How many kinds of lice are there; I have been troubled with several. 3. Some of my hens sneeze; is it a cold or roup?—G. D. Answers: No difference at all. 2. There are different kinds of lice, the worst of which are the red mites, the large gray louse and the feather louse. 3. Your chicks have a cold, and now is the time to attend to them. Put a tablespoonful of kerosene in a gallon fountain of drinking water. A teaspoonful of castor oil would also do them good.

Will chickens hatched in February or March molt in the fall of the year hatched?—G. B. M., St. Joe, Mo. Answer: Yes, they are liable to do so.

In hatching duck eggs, must I have more moisture than with hens' eggs? If so, how much, and how applied?—G. W. C. Answer: Not as much is required, as a rule.

In feeding broilers are we to limit the quantity of green alfalfa, and does it make any difference whether it is the last meal at night?—W. B., Conn Valley, Cal. Answer: All green food should be fed during the forepart of the day. They can have all they will eat up clean, providing there is a variety of other food given during the day.

When running an incubator should the eggs be turned after they commence to hatch? I have an incubator, and it does very good hatching.—T. B. S., Shedd, Or. Answer: The eggs should not be turned after the eighteenth day.

I bought four Langshan pullets that are diseased on the legs. They have thick scales and hard knobs like warts, and the legs are greatly swollen. What is the best remedy?—J. B. W., Sioux City, Ia. Answer: They are suffering from scaly legs. Make an ointment of equal parts of melted lard and kerosene, and bathe the legs every night until the scales fall off, when the swelling will naturally decrease.—Poultry Keeper.

Peach Trees in Poultry Yards.

While we have frequently alluded to the advantages of fruit trees in the poultry yards, yet we select the peach in preference because it will bear fruit in three or four years from the time of growth from seed, and also because it is a tree that delights in being cultivated, or rather in having the surface of the ground frequently turned over, thus fertilizing it and keeping down the grass and weeds at the same time, while the hens will keep the borers away. Borers and yellows will not be great obstacles to a peach tree in a poultry yard. The main object, however, is to compel cultivation of the tree, as by so doing the yards are rendered clean and healthful for occupancy by the fowls, which is a very important matter.—Poultry Keeper.

For Scabby Leg.

We find the following remedies for scabby leg in the *American Cultivator*: For scabby leg on fowl, mix a tablespoonful of kerosene in a pint or a little more of skimmed milk and allow the fowl to stand in it. Or rub the legs

with lard in which kerosene has been mixed to the same proportion, while the lard was melted. We prefer the first remedy.

A Deadner on Vermin.

To 600 square feet of poultry-house I take one-half bushel of lime and pulverize it in a box in the open air by sprinkling water over it until thoroughly slacked, being careful not to get it too wet. When cool, add ten pounds of sulphur and one ounce of fluid carbolic acid; stir with a stick until mixed thoroughly. Clean out the house, drive out the birds, and shut the house up tight. Then throw the mixture promiscuously into the nests, on the perches, over the floor, in the air, and everywhere. The dense cloud of medicated dust will gradually settle into every crack and crevice in the house, and the lice and other insects will retire from the business at once. This remedy is also recommended for gape and the roup. Leave the birds that have either in the house. I have never had occasion to use it for either, but know it to be a dead shot on lice.—E. J. Endecott.

Preserving Eggs.

We have often given replies to inquiries in regard to how best to preserve eggs, and though many methods are given, yet the following rules will enable one to keep eggs from three to four months if followed:

1. The eggs from hens that are not with males.
2. Keep the eggs on racks, using no packing material.
3. The eggs should be turned half over three times a week.
4. Keep them cool, which is the most important of all.
5. Use only fresh eggs, as one stale egg may injure the others.—Farm and Fireside.

THE DAIRY.

Care of Cows and Handling Cream.

[Extract from a paper read before a Farmers' Institute in Michigan, by W. L. Thomas, a dairy farmer.]

We now come to the next step in the process of butter making—that of handling the cream. To the inexperienced, this may seem to be a matter of but little importance, thinking that when once separated from the milk there is nothing more to do but let it set until time to churn. Here is where a great mistake is often made, for to fail here may make the difference between success and failure.

As soon as cream is separated from the milk, by whatever process, it should be cooled down to a temperature of 40 to 45 degrees and left there until ready to ripen for the churn, if sour cream butter is to be made. If subsequent skimmings are to be added to the first quantity each should be cooled to the same temperature as the first before mixing. When enough has accumulated to make a churning it is ready to ripen. To do this within a certain time a starter is generally used in cool weather, which may consist of one part of buttermilk or sour skim-milk to eight parts of cream. The whole is then warmed to a temperature of 64 degrees and let stand in a room of the same temperature 12 or 14 hours, when it will have a slightly acid smell and be somewhat thickened. When it has reached this condition it should be churned immediately. If you wish to make sweet cream butter, which, by the way, is becoming quite fashionable and popular, then instead of putting in the starter and letting it stand, simply warm it to 50 degrees and churn immediately.

The churning of cream is a varied process, running all the way from stirring in a milk crock with an iron spoon, to the concussion method now used with the box or barrel churn.

The churn should be filled but little more than half full to give proper fall, then turn at the rate of 40 revolutions per minute. As soon as the glass begins to clear it must be watched closely to see that it does not gather, and must be stopped as soon as the granules are the size of pin-heads. Now draw off the buttermilk, or most of it, and then pour in fresh cold water, put on the cover *without fail* and revolve three or four times; draw this off and repeat the process twice. Let drain a few minutes, then sprinkle on salt at the rate of one-half ounce to the pound. Put on the cover and revolve five or six times, so slowly that the whole mass will drop from top to bottom; then open, sprinkle on as much more salt and turn again. It can then be taken out on the worker and what little water remains pressed out, salting more if necessary. By this process butter will never have white streaks. The butter is then ready for the package. It can be put up and shipped the same day if the weather is cool, but if warm should be cooled by putting in the refrigerator until solid. This is the process used by us at home and seems to give perfect satisfaction to our customers.

Butter, to command the highest market price, must have three qualifications: First, grain; second, good flavor; third, uniform color. The first is obtained with the churn, the second from the cows' feed, and the third by the use of butter color.

THE CARE OF COWS.

There are three points I wish to emphasize in the care of cows: Regularity in feeding, watering and milking. As fast as cows become fresh they should be taken under the dairyman's special care. They need but little grain the first week, but after this they should be gradually brought up to a complete ration, and have it with the greatest regularity until they are dry again. She must not be allowed to fall off in her milk from lack of feed, or care, or needless exposure to cold storms or wind. All these things take extra, unnecessary feed and that always means a corresponding decrease in yield of butter-fat as well as profit. Figuratively speaking the cow is an engine; the dairyman the engineer. If he understands his work good results will follow. He supplies fuel and water in proper quantities. At first it may be uncertain how much he shall use of each, but

after a few trials he finds the amount required to produce the best results without waste, and then he is ready to supply this without much variation. This is the feed and water to the cow. Then there are certain parts that need lubricating and packing to prevent friction and loss of power. These must be looked after carefully all the time to see that they are in the best running order, for if any one part is deranged it effects all the other parts. This is the general health and comfort of the cow. Then when feed and water are given and all the parts are lubricated and everything is in perfect working condition, the steam begins to accumulate. The engineer turns on the steam and it is a thing of life. The wheel moves. The belt transmits the power to machinery and it is turned into a source of profit for the use of man. This power from the pent up steam is the cow's milk. Turning on the steam is the milkman drawing from the cow that which is to be utilized for the benefit of man.

Old-Fashioned Skim-Milk Cheese.

The milk after being skimmed should be warmed to within about eight degrees of the temperature for whole cheese, and enough rennet used to cause it to commence coagulating in about 15 minutes. It should be stirred constantly from the time the rennet is put in until ready to whey off. Previous to setting the milk for cheese the cream should be churned and the buttermilk should be raised to the same temperature as the milk and should be added to it as soon as the latter commences to show the casein and stirred constantly until ready to scald, which should be about six degrees less than for whole cheese. Anatto or some other coloring matter should be used to give it a rich color, and about one ounce of saltpeter to make the curd tender to a 35 or 40 pound cheese. In case part of the milk has soured some, a little saleratus or soda should be used to sweeten it. A little less salt should be used than for new milk cheese; otherwise the cheese will be hard. Cheese made in this way should be used when about three weeks old; then they are fully ripe, soft and delicious, and in those days the best judges could not distinguish any difference in the quality, if a three-weeks' skim was tested with a six-weeks' new cheese.—S. O. Cross, Washington Co., N. Y.

THE VINEYARD.

A Twenty-Acre Vineyard in Fresno.

The tendency of the Western man has been for large acreage, either for farms or stock ranches, and variety of occupation has been his terror. For the most part, the Western man is averse to conducting more than one line of business at a time; consequently the 20-acre idea is one he could not embrace at once. Yet my personal experience demonstrates that a man of moderate means may establish a home on 20 acres, and, at the same time, confine himself solely to one kind of work. The figures given below are not an estimate, but are taken from the writer's own ledger, as an accurate expense account has been kept from the date of purchase of the land. The writer, however, did not live upon the place, but had an established business in town, 11 miles distant, so that the living expenses of the family and the expenses of the 20-acre tract were kept as distinct as if under the ownership of different individuals. Owing to this living apart from the land, numerous incidental expenses were caused, which are here mentioned, but which would not have occurred otherwise, and there are also some advantages which might have been derived from actual residence, that were lost by this non-residence.

The writer purchased 20 acres of land in Fresno county, California, on a long-term contract plan, at a fair figure, two miles from railroad depot, and the same distance from packing-house. A water-right for irrigation accompanied the land. The price paid for the land was \$95 per acre, on five and six years' time, with interest only, in advance, at eight per cent per annum. One-half of purchase price, viz., \$95, to be paid at the expiration of five years, the balance one year later. The figures are as follows:

FIRST YEAR'S EXPENSES.

Interest at 8 per cent in advance on \$1900.....	\$152 00
Recording contract for purchase.....	2 20
Deep plowing and some leveling 20 acres at \$3.12 1/2.....	62 50
1000 vines at \$17.50 per M (for 17 1/2 acres).....	75 75
Hire and board of men planting.....	48 50
Wire fencing for share of party fence.....	24 05
Fig and walnut trees, tree seeds, etc., for avenues.....	21 15
Lumber, nails, etc., for head-gate of ditch.....	19 38
Cash and board of man overseeing work.....	28 50
Irrigating and cultivating vines two times at \$3 per acre each time.....	105 00
Drawing and recording assignment.....	2 10
Total for first year.....	\$544 13

The assignment referred to above was the interest of a co-partner, who retired at the end of the first year, the continuing partner paying the actual expense out, and paying for drawing and recording the assignment of the retiring partner's interest. The latter part of the year the country was partially overrun with grasshoppers, and one acre and a half of the first year's planting was destroyed.

SECOND YEAR'S EXPENSE.

Interest at 8 per cent in advance on \$1900.....	\$152 00
Pruning 16 acres and replanting same.....	28 00
Vines for, and planting, 4 acres.....	28 00
Winter plowing 20 acres.....	30 00
Extra ditching, etc.....	4 00
Irrigating and cultivating two times at \$3 per acre.....	\$120 00
Total for second year.....	\$362 00

During the summer it was not thought profitable to gather the crop, as it was light, but there was a sufficient quantity of grapes for domestic use. If trays had been at

hand, enough raisins could have been cured to pay for cultivating during the season.

THIRD YEAR'S EXPENSE.

Interest at 8 per cent in advance on \$1900.....	\$152 00
Winter plowing.....	30 00
Pruning and replanting.....	33 50
Irrigating and cultivating two times.....	120 00
Buggy hire, 3 trips to vineyard.....	7 50
Water assessment.....	12 50
Repairing fences.....	3 25
Total for third year.....	\$358 75

Sold crop on vines to packing house, the packer furnishing trays, sweat-boxes, labor, etc., for the year for \$760. The owner would have saved money by buying sweat-boxes and trays and hiring the crop picked, but the outlay for the same would have been quite large and there would practically have been no income the third year. However, on the other hand, the material purchased would have been on hand, nearly as good as new, for future use.

FOURTH YEAR'S EXPENSES.

Interest at 8 per cent on \$1900.....	\$152 00
Contract for year for care of vines at \$15 per acre.....	300 00
Lumber and labor for small house for tools.....	75 00
Water assessment.....	15 00
Advertising crop for sale.....	2 75
Total for fourth year.....	\$544 75

Sold crop on vines to packing-house for \$1400. Of this amount received cash for \$1000 at end of packing season and \$400 note for balance. Discounted note and received \$380 for it. This experience and these figures bring the 20-acre vineyard up to date, leaving it in good condition, and, if not a "bonanza," at least makes a fair showing for the future. To recapitulate:

Total expense first year.....	\$544 13
Total expense second year.....	362 00
Total expense third year.....	358 75
Total expense fourth year.....	544 75

Expense four years.....\$1,809 63

INCOME.

Sold third year's crop for.....	\$ 760 00
Sold fourth year's crop for (net).....	1,380 00

Receipts.....	\$2,140 00
Net gain.....	\$330 37

The owner can have property cared for annually at an expense of about \$15 per acre, and the fifth year's crop, after paying the interest, water assessment and incidentals, should net not less than \$1250 or \$1500. Taking the smaller amounts as correct, which is indeed a low estimate for five-year-old vines, at ruling prices of the product, the owner will be able to pay off the half of purchase price of land then falling due, viz., \$950, and have \$300 left, which, added to margin of previous year, will leave him \$630.37 ahead. The cost of cultivation the sixth year will not be in excess of the previous years; the interest due will be \$76 instead of \$152, and the balance to be paid on the land will be \$950. The vineyard will, at that time, be in full bearing. At the close of the sixth year a conservative estimate will place the owner entirely free from debt on the property and a bank account of not less than \$1000. The property should be worth at least \$300 per acre. Owing to the terms of the contract there have been no taxes to be paid by contract purchaser until the sixth year. No sulphuring or spraying of vines was necessary till the fourth year, which was included in that year's contract.—T. S. Price in American Agriculturist.

RURAL IMPROVEMENT.

Sprinkling Country Roads.

A committee of the Napa county Board of Supervisors recently visited Alameda, Santa Clara and San Mateo counties for the purpose of investigating methods and cost of sprinkling country roads. The committee found a more complete system in Santa Clara than elsewhere; the part of its report relative to that county is as follows:

"In this (Santa Clara) county, the roads sprinkled are either graveled or macadamized, and what are known as main roads. No public money is spent for sprinkling cross roads; but some are kept watered by subscription.

"Some of the roads near the city of San Jose are sprinkled on both sides; one side in the morning and the other in the afternoon or evening, thereby rendering that portion sprinkled in the morning in good condition for travel in the afternoon, and vice versa; thus keeping the roads smoother than when traveled immediately after being sprinkled.

"Seven hundred and fifty gallon tanks are generally used, and the spread of water from 14 to 16 feet; 750 gallons sprinkle from 1800 to 2000 feet, with team walking at the rate of about three miles an hour.

"Several kinds of pumps are used. One known as the John Stock 7-inch pump made in San Jose, and costs complete, \$60 less plunger rod (wood). Also the Byron Jackson centrifugal pump is used where the water is near the surface. The price of this pump we did not ascertain. Some wells are supplied with horse-power, and others, particularly the deep wells, with gasoline engines. The latter give better satisfaction than the horse-power.

"The wagons and tanks mostly used were built by the San Jose Agricultural Works and the Globe Carriage Works. Width of tire, 4 inches; cost of wagon and tank, \$250 each. They pay for man and team \$70 per month, and as the roads are sprinkled every day, they have steady employment throughout the dry season.

"In company with Supervisor Whitehurst we drove over that portion of the county lying west of San Jose and between Santa Clara, Saratoga and to near the base of the foothills on the Homestead road. This is known as the "dry section," or the part of the county where the wells are very deep, being from 150 to 250 feet in depth.

"On the Homestead road they have 5 1/2 miles of 2-inch pipe laid and 7 tanks of 5000 gallons capacity each. These tanks cost \$85 each, set up on frames 9 feet high. At the

pumping station the water is raised 210 feet with a 6-horse power gasoline engine. The owner of the land dug the well and built the power house and tank therein; the county supplied the engine and all connections; also all material or supplies for engine. The party owning the land does the pumping for the use of water not needed by the county for sprinkling.

"Stevens creek road" is another road similarly managed. Depth of well, 225 feet. From this well about 16,000 gallons are taken daily, the owner of the land giving the use of the water without compensation. This plant has been run two seasons, and has not cost to exceed \$25 in repairs. The running expenses are \$2.25 per day. Length of pipe line, 5 1/2 miles.

"The Saratoga road is piped for several miles, the water being raised from Campbell creek with four water rams. As these places are on high land near the base of the hills, on each road there is a gradual fall in the land from one tank to another, and a constant supply of water is obtained at much less cost to the county than on those roads where pumps are used at each station. It is intended to extend the pipe lines wherever practicable along these roads. The teams sprinkle about eight miles twice a day.

"The rate of taxation for road purposes in this county is 30 cents per \$100, and the amount of assessable property outside of incorporated cities, \$32,709,687. There is no general road fund, so each district, of which there are 17, takes care of its own roads. Weak or impoverished districts are assisted from the "current expense fund" on bridges and culverts.

"Where the county digs wells, the ground is leased for a term of years at a nominal rental of \$1 per year; about 45 feet square being sufficient for horse power; the well being dug on or near the line of the county road. We were informed that they never have any trouble getting the locations, as everybody wants the roads watered during the summer months and cheerfully pay the necessary increase of taxes for that purpose.

"We obtained the following prices on sprinkling wagons from the Studebaker Co. of San Francisco, v z:

"Spring wagon with 750-gallon tank, 3 inch tire, \$500; 4-inch tire, \$510. For steel tank, \$65 extra for 750 gallons, and \$45 extra for 600 gallon tank. Wagon with dead axle, 3-inch tire, 600-gallon tank, \$390.

"We also obtained the following quotations on iron pipe, viz: 2-inch black pipe, dipped, 11 cents per lineal foot delivered on board boat or cars; 10-inch riveted pipe, No. 14 Birmingham gauge, 80 cents per joint of two feet when used double, and \$1 per joint, same length with 6 inch collar riveted on one end.

"We would recommend that wherever practicable the system of gravitation be employed, and at all other stations requiring power to raise water, either a 2-horse-power, or small gasoline engine. If the latter, the same should be placed in charge of some person to insure its safety from destruction by evil-disposed parties.

"And we would further recommend that at present no roads be sprinkled at public expense except such as are known or recognized as main or leading county roads.

Respectfully submitted,
G. W. DEWESE,
C. M. BURGESS,
W. A. TRUBODY,
Committee.

Feeding Experiment.

The following results were obtained at the Kansas Experiment Station in feeding 20 steers, divided into four lots of five each, the difference in weight between the different lots being less than 75 pounds: Lot 1 was fed cornmeal, shorts, bran and oil-meal mixed so as to make a "balanced" ration. Lot 2, cornmeal and corn fodder; lot 3, ear corn and corn fodder, and lot 4, same as lot 3. The feeding began November 30th and was continued till May 30.

The following table shows at a glance the gain, and cost per pound of gain for each lot:

	Average cost of feed.	Av. gain per day.	Av. gain 182 days.	Av. cost per pound of gain.
Lot 1.....	\$30 08	2.39	436	7.16
Lot 2.....	21 10	1.47	268	8.21
Lot 3.....	20 83	1.57	284	7.48
Lot 4.....	25 20	1.71	313	8.05

This shows that the lot fed the "balanced" ration made a much larger gain at a smaller cost per pound than any of the other lots. The more favorable results may not have been altogether due to the food being a "balanced" ration but something ought, in all probability, to be credited to the variety in the feed which frequently becomes a necessity in feeding animals, in order that the best results may be obtained.

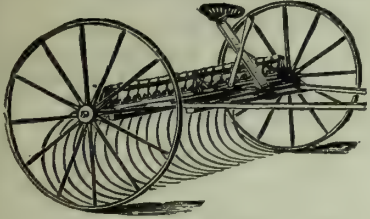
For this season the man who has made a study of feeding animals, without a thought of, or any regard to scientific principles, is often the most successful in bringing animals to perfection of form and ripeness in flesh, because by experience and closely observing the wants—the likes and dislikes—of each animal under his care can humor their individual tastes in the things they seem to relish best, with now an extra handful to one, or again changing from one food to another as their tastes or appetites vary from time to time. It is thus that quick growth is obtained, provided one has the right kind of animals, hardy, thrifty, and well bred for the purpose for which they are intended, be it the production of beef or dairy products.

One striking fact brought out in this experiment was that as the feeding period progresses more feed is required to make a pound of gain. After 56 days of feeding the steers had eaten 7.30 pounds of grain for each pound of gain, the quantity required for one pound of gain gradually increasing, till after 182 days of feeding it required 10 pounds of grain for one of gain.

This does not apply in all cases, however, sometimes a lot of cattle will make the best growth after having been fed for several months; a good deal will depend on the manner in which they have been treated before the beginning of an experiment.



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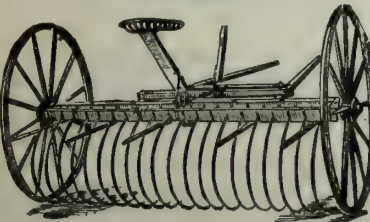
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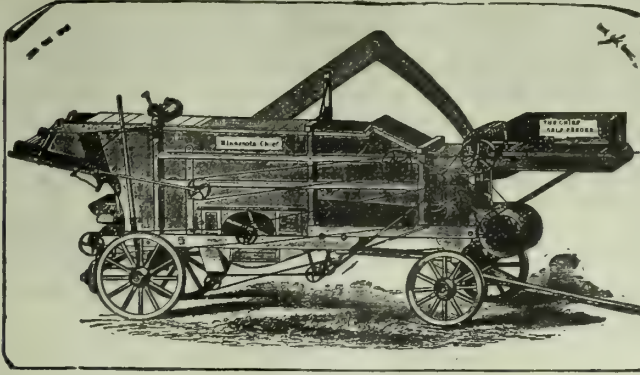
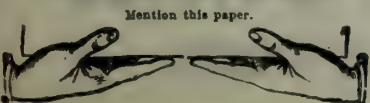


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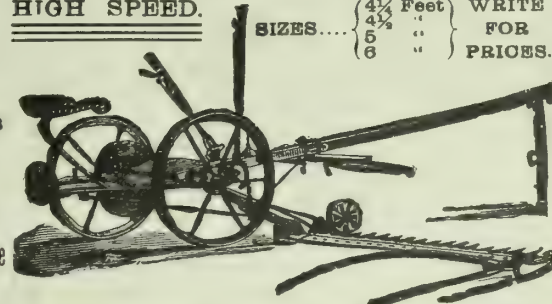
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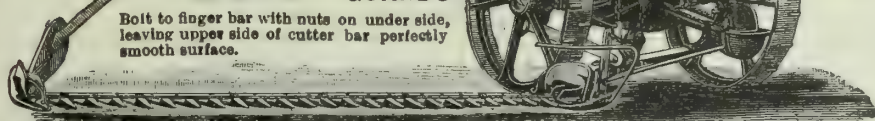
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"My Ruthers."

I'll tell you what I'd rather do—
 If I only had my ruthers—
 I'd rather work when I wanted to
 Than be bossed 'round by others.
 I'd want to kind o' git the swing
 O' what was needed first, by jing!
 Afore I'd sweat at anything,
 If I only had my ruthers.
 In fact, I'd aim to be the same
 With all men as my brothers,
 And they'd be all the same with me,
 If I only had my ruthers.
 The poor 'ud git their dues sometimes—
 If I only had my ruthers—
 And be paid dollars 'stid o' dimes,
 For children, wives and mothers;
 Their boy 'at stokes, their girl 'at sews—
 Fer others, not herself, God knows!
 The grave her only change of clothes
 If I only had my ruthers.
 They'd all have "stuff" and time enough
 To answer one another's
 Appealin' prayer for "lovin' care"—
 If I only had my ruthers.
 They'd be few folk's 'ud ast fer trust—
 If I only had my ruthers—
 And blame few business men to bust
 Theirselves or hearts of others;
 Big guns 'at come here durin' fair
 Week could put up jest anywhere
 And find a full and plenty there,
 If I only had my ruthers;
 The rich and great 'ud 'sociate
 With all their lowly brothers,
 Feelin' we done the honorun—
 If I only had my ruthers.

—JAMES WHITCOMB RILEY.

A Budding Novelist.



A country rectory, in the interior of New York State, lives a small youth of ten years, who is possibly destined to illuminate the literary world.

His latest and most ambitious attempt at literature is a novel in three volumes. Its title is "Bloomfield; or Love's Labor Lost." He explained the title by telling us that the hero, Roger Lindsay, is in love with the heroine, Jane Peabody, who does not return his affection. Therefore, by gifts, he tries to win her love. He is apparently successful at first, but finally she marries another man, and his labor is lost. Here is the preface, verbatim:

"This book is not intended as a hit on any one. However, there are a great many people such as Mr. Lindsay—Foolish, Vain and capable of committing any Atrocity to make ends meet.

"Miss Peabody is not intended for a Representation of the middle classes; she is only intended as a foolish, simple, headstrong girl—a little too given to love affairs and decidedly too loving tordes her suitors. It is to be hoped it will be very interesting and satisfactory to its readers, and very comprehensive to all."

Possibly it may be more "satisfactory and comprehensive to all" if an extract from the opening chapter is given:

"I must explain that Miss Jane Peabody was wholly indifferent to Roger Lindsay, but loved William Marston. Roger knew this, but hoped to win her over to him by presents, kindness and attention.

[The profound knowledge of human nature that our budding novelist displays makes one turn pale. Where will he end?]

"Miss Peabody was sitting in her house at 12:45, at noon, wondering at her lover's prolonged absence. Suddenly the doorbell rang loudly, and it was soon followed by a maid, who appeared at the door, and said in a pleasant voice,

"Roger Lindsay, ma'am."

"Show him in," was the reply, given in an indifferent tone.

"Roger Lindsay lost no time in complying with the request, and politely advanced, with the remark:

"I've brought you a present, Miss Peabody."

"O, you have, have you? Won't you stay to dinner?" was the answer.

"I believe I will, thank you," said Roger, waiting for the burst of praise which would follow the opening of the package.

To his surprise, however, the only remark which followed the revealing was:

"O, only a lace handkerchief!" saying which she politely blew her nose on it, and put it in her pocket, and asked him to sit down to dinner, which was announced just then.

"Roger was vexed. He had paid \$6.50 for a lace handkerchief only for this! Perhaps love might do, so, during dinner, he politely inquired:

"Will you marry me?"

"I am engaged to Mr. William Marston," was Miss Peabody's reply.

"Look out," said Roger. "I can show

you papers that that man marries you for Money. He has been in jail once and in prison three times. You had better not marry him," and he thought with glee of the forged papers that were to prove William Marston's ruin.

"Where are the papers?" said Jane.

"Home," was the reply.

"I would like to see them," said Jane.

"If you will wait a moment, I will bring them."

"Hurry up."

"Yes, I will."

Roger hurried away, and soon returned. He was believed, and from that day rose in the esteem of Miss Peabody.

* * * * *

"Five years passed slowly by. [This is the author's hiatus, not mine.] Roger, by constant attention, had won over Miss Peabody, who consented to marry him if her former lover did not turn up. Roger did not think he would, for no one knew of his whereabouts, or the reason of his absence; and the wedding was to be in two months.

"Roger had spent, in presents, about \$300.75 on Miss Peabody.

"But here an incident occurred that proved Roger Lindsay's RUIN. William Marston came home, and"—

But it is too harrowing a tale to allow of our following the fortunes of this interesting trio further. Let us call it a novel after Mr. James, and the reader may make his own ending.—Atlantic Monthly.

How to Live a Century.

First, live as much as possible out of doors, never letting a day pass without spending at least three or four hours in the open air.

Second, keep all the powers of mind and body occupied in congenial work. The muscles should be developed and the mind kept active.

Third, avoid excesses of all kinds, whether of food, drink, or of whatever nature they may be. Be moderate in all things.

Fourth, never despair. Be cheerful at all times. Never give way to anger. Never let the trials of one day pass over to the next.

The period from fifty to seventy-five should not be passed in idleness or abandonment of all work. Here is where a great many men fall—they resign all care of interest in worldly affairs, and rest of body and mind begins. They throw up their business and retire to private life, which in too many cases proves to be a suicidal policy.

During the next period—the period from seventy-five to one hundred years, while the powers of life are at their lowest ebb—one cannot be too careful about catching cold. Bronchitis is a most prolific cause of death in the aged. During this last period rest should be in abundance.

Anybody who can follow these directions ought to live to be one hundred years old at least. There is always this comfort, however, if we cannot live up to our ideas always, we can at least try our best to do so, and the steady effort will be bringing us constantly nearer them.—Medical Age.

Blond Chinese.

Chinatown boasts of a great rarity in a full-blooded Chinese, who is probably the only red-headed one on the face of the earth. And what is more, the Chinese has a light complexion and blue eyes, and he is cross-eyed. Mish Go, as is the freak's name, was born in China of Chinese parents about 30 years ago, and came to San Francisco a year ago. He is shunned and disliked by the great majority of his countrymen who live in California. "Sheepeye" is one of the nicknames applied to him, because, from the Chinese standpoint, his eyes resemble those of a sheep more than those of a human being. Mich Go lives in one of the dens of Spofford alley, and is never seen in close association with other denizens of Chinatown, excepting when he goes to certain stores to dispose of cheap trinkets, by which means he acquires a living.—San Francisco Examiner.

How a Sunbeam Sounds.

One of the most wonderful discoveries in science that has been made within the last year or two is the fact that a beam of light produces sound. A beam of sunlight is thrown through a lens on a glass vessel that contains lampblack, colored silk or worsted, or other substances. A disc having slits or openings cut in it is made to revolve swiftly in this beam of light so as to cut it up, thus making alternate flashes of light and shadow. On putting the ear to the glass vessel strange sounds are heard so long as the flashing beam is falling on the vessel.

Recently a more wonderful discovery has been made. A beam of sunlight is caused

to pass through a prism so as to produce what is called the solar spectrum, or rainbow. The disk is turned and the color light of the rainbow is made to break through it. Now place the ear to the vessel containing the silk, wool or other material. As the colored lights of the spectrum fall upon it, sounds will be given by different parts of the spectrum, and there will be silence in other parts.

For instance, if the vessel contains red worsted and the light flashes upon it, loud sounds will be heard if the red and blue parts of the rainbow fall upon the vessel, and other colors make no sound at all.

Every kind of material gives more or less sound in different colors and utters no sound in others.—Pearson's Weekly.

The Horse Remembers Kindness.

A very remarkable incident in the history of the original Bush Messenger illustrates that, though abuse may seem to, it does not wholly destroy the better nature, and that one touch of kindness calls into life all the old virtues. Years after he was sold, Mr. Bush determined to see his old favorite, whom he found kept in a pasture surrounded by a fence ten feet high, through a hole in which the food and water were passed to Messenger as if he were "a dangerous convict." Mr. Bush was warned not to enter the inclosure for his very life, but he went in, and, unobserved, concealed himself behind a tree and whistled. With a neigh, the grand old fellow came bounding across the field in search of the well-remembered whistle. The horse raced around the pasture, and when at the height of his run Mr. Bush exposed himself and whistled again, Messenger wheeled and made directly for him, while the out-lookers trembled in terror. But instead of seeking to kill, the horse came up gently and laid his head over his old master's shoulder to receive the customary caress. When Mr. Bush's time for departure had come, he proceeded but a few yards from the inclosure when there was a crash, and out Messenger came, bounding through the strong bars. He followed his former owner to the stable gently, where he was secured by strong ropes, and for a long, long, distance upon the road homeward, Mr. Bush could hear the noble animal neighing, lashing the stall, and struggling to be free and follow.

It is a good thing for a man to be master of his horse, but to be master of his affections is an absolutely noble thing.—Wallace's Monthly.

Things to be Remembered About Sleeping.

Sunlight is good for everything but feathers.

The best number of persons to each bed is—one.

Away with heavy hangings, either above or below the bed.

Beware of a dusty, musty carpet; better sweetness and a bare floor.

Do not fail to provide some means for ventilation during the night.

Keep the head cool while sleeping, but not by a draught of cold air falling upon it.

If a folding bed must be used, contrive some way to keep it aired and wholesome.

Let the pillow be high enough to bring the head in a natural position, no more or less.

Thoroughly air the sleeping-room every day; air the bedding and beds as often as possible.

A dark, out-of-the-way, unwholesome corner is no more fitted for a sleeping-room than for a parlor.

A feather bed which has done service for a generation or two, is hardly a desirable thing upon which to sleep.—Good House-keeping.

Building His Own Coffin.

The late Earl of Essex was buried in a coffin of oak, designed 12 years ago by the deceased nobleman himself, who was a prominent member of the Funeral Reform Association. It had what is called "open trellis work" around it, and was filled with

choice herbs and evergreens. Maybe the originator of the fashion was Lord Nelson, who used to keep standing upright in the cabin of the Victory a coffin that an admirer had presented to him one birthday anniversary, and in this coffin his lordship's remains were at last put to rest.—Atlanta Constitution.

Nineveh, the Paris of Its Age.

During the seventh and eighth centuries before Christ, Nineveh was the greatest and most wicked city of the world. It was situated on the Tigris, and was unequalled for its wealth, its luxury, its sensuality, and the violent cruelty of its rulers and nobles. Like the Paris of two centuries past, it was at once the center where gathered, and the source from which flowed, the most corrupting and destructive influences of every kind. The city was bright, beautiful, gay, the strong capital of the strong nation of that time. Founded by Nimrod (Genesis x:11), it had grown with every age until it reached the immense proportions of sixty miles in circumference.

In the midst of its greatest power and glory, the prophets of Israel—Isaiah, Jonah, Nahum and Zephaniah—began to declare its approaching downfall. So literally were the prophecies fulfilled before the era of careful historical writing, that, outside of the Bible, we have hardly any description of the city that is trustworthy. From about 625 to 600 B. C. we date its downfall, and for nearly twenty-five hundred years its great monuments, its vast libraries, its colossal sculptures, its numberless cylinders and seals, have been buried under the sand, waiting to give their testimony and proof to the correctness of the statements of the Old Testament.

An Unlooked-for Customer.

Theophrastus Esculapius Stubbe, proprietor of the "Universal Life-Everlasting Golden Bitters," was in his office, and about him was gathered an eager group, listening to an account of the wonderful cures he had wrought with his medicine.

By and by a man in somber garb—a thin, pale-faced man, sedate and melancholy—entered the office and inquired for the proprietor.

"I am the man," said Theophrastus Esculapius Stubbe, with dignity.

"You are the proprietor of the 'Universal Life-Everlasting Golden Bitters'?" said the pale visitor.

"I am. How can I help you?"

"I have come to see if I couldn't get you to establish an agency for your bitters in our town. I want you to send a smart man—one who can sell a large quantity of your medicine."

Theophrastus rubbed his hands and smiled exultingly.

"You see," pursued the somber visitor, "my business is getting dull, and I thought with your help we might revive it."

"Can't you take the agency yourself, my friend?" asked the great Stubbe.

"No, no," said the melancholy man, with a shake of the head. "It wouldn't do for me. People might think I was interested."

"Ah! What's your business?"

"I am an undertaker!"

Fiction or Reality

An author engaged a young lady typewriter to take down his novel from dictation. At the passage: "Oh! my adorable angel, accept the confession from my lips that I cannot exist without you! Make me happy; come and share my lot and be mine until death us do part!"—his fair secretary paused and candidly inquired: "Is that to go down with the rest?"

Commercial Value of Mummies.

Even dead men have a commercial value nowadays. From the mummies of ancient Egypt is manufactured a kind of paint called "mummy brown." It can be purchased at any shop where artists' materials are sold. For some time it was alleged that the mummies employed for this purpose were those of birds and beasts, such as cats

Highest of all in Leavening Power.—Latest U. S. Gov't Report.

Royal Baking Powder
 ABSOLUTELY PURE

and ibises, but an osteologist who interested himself in the subject found in some of the raw stuff imported from Egypt certain bones which were unquestionably human.—Boston Transcript.

Putting the Best Face Upon It.

Stiggles was met by an old friend the other day, whom he had not seen for several years.

"Bless me, Stiggles, old boy! I'm glad to see you. You are looking well. How is it with you?"

"Fair to middling," replied Stiggles.

"Married yet?"

"Yes."

"That's good."

"Not so very good. I married a shrew."

"Ah! That's bad."

"Not so very bad. She brought me ten thousand dollars."

"Indeed! That was good fortune."

"Not so good after all, for I laid it out in sheep and they all died of the foot-rot."

"Surely that was most unfortunate."

"Not so very unfortunate, for I sold the pelts for more than the sheep cost me."

"In truth, that made ample amendment."

"Not so much as you may imagine. I laid out the money upon a house, and the house burned down, with all that was in it."

"Bless me! That was lamentable, surely."

"Not so lamentable as it might have been. My wife was in it!"—New York Ledger.

How to Improve the Complexion.

To keep the complexion and spirits good; to preserve grace, strength and agility of motion, there is no exercise more beneficial in results than sweeping, dusting, making beds, washing dishes and the polishing of brass and silver. One year of such muscular effort within doors, together with regular exercise in open air, will do more for a woman's complexion than all the lotions and pomades that were ever invented. Perhaps the reason why housework does so much more for women than games is the fact that exercise which is immediately productive cheers the spirit. It gives women the courage to go on living and make things seem really worth while.

Sympathize with the Children.

There are some people who come into our lives like a gleam of sunshine. We feel unaccountably rested and cheered and refreshed after meeting them. If we go to them in trouble they have time to sit down and listen to the story of our worries and anxieties without fidgeting to get away to something else. They enter into our cares as if they were their own, and in some inexplicable way our burden grows lighter as we tell how heavy it is, and we are comforted. They have the power of substituting "the garment of praise for the spirit of heaviness;" they have the blessed gift of sympathy.—Farm and Fireside.

Boston Prodigies.

The Boston young lady is ready at 11 years of age to use her adjectives with skill, expressiveness and originality. A miss of that age was at the breakfast table the other morning. There was bacon. She had eaten a piece and wanted some more. "Papa," she said, "will you please give me a piece this time that is a little less languid?" That reminded me of another young lady, scarcely older than this one, who had a beautifully colored toadstool pointed out to her in the woods one day. "Yes," she said, "it's rather brilliant, but don't you think it's a trifle morbid?"—Boston Transcript.

Modern Definitions.

Club.—A man's refuge from home.

Church.—A woman's refuge from home.

Gun.—An instrument which kills before and which kicks behind.

Criticism.—The judgment passed by mediocrities upon their superiors.

Jealous Hatred.—The spontaneous tribute which small minds pay to great ones.

Contempt.—A sentiment which we all express for each other and which we most of us feel for ourselves.

A Smart Little Woman.—A young married woman in search of a husband—somebody else's husband.

She Reports Horse-Races.

Ada L. Tims enjoys the distinction of being the only newspaper woman in the world having the turf as a specialty. She is a bright, clever woman of about 20 years, well versed in pedigrees and records, but not at all "horsey" in conversation, and with a womanly dignity which always commands respect at the pool-box, the track or the hotel corridor.—New York Sun.

YOUNG HOLKS' COLUMN.

When Your Mamma Is Sick.

(Tillie's 'Sperience.)

Written for the RURAL PRESS by MARY E. BAMFORD.

TELL you, when your mamma is sick, and she hasn't any other little girls to do things but just you, it's s'prising how many things you don't know! Maybe, sometimes, before she was sick, you thought you knew lots, 'most as much as she did, but, when your mamma's sick, you don't think so any more.

It's awful hard to cook when your mamma's sick! You put on the potatoes to boil, and you don't know any better than to put them down at the bottom of a big iron kettle, and fill the kettle 'way up full of water. I did that way, and my mamma told me afterwards that potatoes never would boil so. And, when I tried to bake potatoes, I couldn't make the fire bake them soft. They would 'most always be 'siderable hard and not done when dinner time came.

But one day the potatoes did really almost bake soft! At least, some of the sides of the potatoes got soft, and I was so glad I clapped my hands, and I ran into the front room where my big brother sat, and I called out, "O Ted, the potatoes are done!" And he only said, "They ought to be," and he didn't seem to know that it was a thing to be glad about, a bit! I wouldn't have s'posed he'd been so ignorant. Why, I was so glad I wanted to hop 'round and 'round! It was s'prising how glad I was! But that's just the way you feel about cooking, when your mamma's sick.

And I guess your papa feels so, too. I didn't know how to make tea very well, but mamma told me, and one noon when I thought the tea was going to be all right, papa came out into the kitchen, and he took the teakettle and filled the teapot clear up full with water, and I knew that wasn't what mamma said, but I didn't like to tell papa so, because he thought he knew how to make tea. But when papa had his cup of tea at the table afterwards that noon, he said, "What makes this tea so weak?" And I knew it was because he put in lots more water after I had made the tea, but I didn't want to tell him so, because it wouldn't be polite.

And papa made another mistake, too, for he tried to make mamma some chicken broth, and he left the gall in, and it made the broth so bitter that mamma couldn't eat it at all. And poor papa was 'siderable mortified, and I was real sorry for him.

And I guess your big brother feels as if he wishes mamma would get well, too, for Ted had a button come off his cuff, and I tried to sew it on, and I thought I sewed it right, but when I was done, Ted tried to button it, and that button just pulled right out, and came off again. And Ted said, "What a sewer you are!" and I was ashamed.

And when your mamma is sick, and a big tangle gets in your hair somehow, you go behind the door and comb, and comb, and comb the tangle, and it hurts lots, and you 'most cry, before you can get the tangle out. And you do just wish your mamma can get well!

I tell you it's nice to have your mamma well again! And you just say to yourself, "I'll wipe all the dishes, and I'll bring in the kindling, and I'll sweep the front piazza, and I'll help mamma all I can, so she won't get sick any more."

And you think what a lot your mamma knows! For the potatoes boil when she wants them to, and they bake soft and mealy when she wants them that way, and the tea is always just right, and Ted's cuff buttons stay on when she sews them, and the tangles come out of your hair just as easy, when she combs it!

And you look at the way your mamma cooks things, and you pay 'tention, so that if she's sick again you'll know how to cook. It's s'prising how you pay 'tention and learn, and your mamma says, "Why, Tillie, you are getting real smart!" and that s'prises you again, because you don't think you are nearly as smart as you thought you were before mamma was sick! And you never think that you know as much as your mamma does, again. I tell you, mamma's are the knowigest people there are!

Presence of Mind.

Some one has wittily said that a better thing than presence of mind in danger is "absence of body." But we cannot always be absent from danger, and fortunate indeed is any one whose friends are present in body

when he is in danger and needs help. I once knew a lady who screamed and wrung her hands when a girl was burning to death before her eyes, and made no effort to put out the flames. Here is an account of how two boys, by presence of mind and rare good sense, saved the life of their father.

In Maine, lately, two boys went out to the woods with their father to see him cut down trees. Through a mistake in calculating how a tree he was cutting would fall, the father was caught and pinned to the ground, the tree lying across his body. At the fearful sight the boys did not lose their presence of mind, but set to work with energy to save their father. Some boys would have exhausted their strength in vain efforts to remove the tree; others would have run and screamed for help, and meantime their father would have died. The boys did neither of these things. They commenced digging a hole immediately under their father, and in a very short time released him from his awful situation. Their coolness and wisdom were the means of saving his life.

DOMESTIC ECONOMY.

Potatoes Galore.

Even that household necessity, the potato, is susceptible of so many changes in cooking that it may be made to seem almost like some other vegetable by deft handling and little, if any, extra trouble, says S. A. Little in the *Rural New Yorker*. It is said that some Western firm has published a book which gives 400 ways for serving this homely, every-day food, but I will content myself by mentioning a few. Whether the potato shall or shall not be deprived of its "jacket" before it is cooked must be decided by individual taste. I will say, however, that if potatoes are scarce, and economy necessary, there is much less waste when they are boiled with their skins on. Another point which has been much discussed is whether the water must boil before the potato is put in. If taken from the water as soon as cooked I can see no difference in whatever way it is employed. Care must be taken to permit the steam to pass off when the potatoes are drained, and if it is necessary to keep them hot for some time a folded towel will prove a very satisfactory cover.

As soup is the first course at dinner, possibly it may be well to give recipes for two appetizing potato soups at the head of my list:

Potato Soup No. 1.—Boil five potatoes until soft; fry one onion in drippings, then add to the potatoes; toast a large slice of bread until brown and put this with the potato and onion and boil. Strain through a colander, put on the fire again with the addition of one pint of rich milk. Season to taste and serve as soon as the milk has heated.

Potato Soup No. 2.—Eight potatoes, three onions, salt, pepper and a little grated nutmeg. Boil the sliced onions with the pepper and nutmeg in a little water until done. Cook the potatoes and mash them fine and mix with the onion and the water in which the onion was cooked. Add two tablespoonfuls of butter, one quart of boiling milk and salt to taste. Strain before serving.

Scalloped Potatoes.—Butter the bottom and sides of a dish. Put in a layer of cold boiled potatoes, sliced; season with pepper, salt and small pieces of butter, and dust with flour. Put in another layer of potatoes in the same way, and when the dish is filled cover the top with a layer of cracker crumbs half an inch thick. Pour a cup of cream over the whole and bake in a moderate oven for half an hour. This may be varied by the use of a seasoning of finely-chopped celery or parsley.

Potato Souffle.—Boil a sufficient amount of nice, mealy potatoes. Put them through the ricer or mash fine, add a cupful of rich cream and three well-beaten eggs. Season with salt and pepper, beat up light and bake until brown in a quick oven. When potatoes are baked, a slice should be cut from the stem end before putting them into the oven. When cooked they should be taken from the oven singly with a napkin and broken partly open to allow the steam to escape.

Stuffed Potatoes.—Bake nice, shapely potatoes until partly done; cut off one end, scrape out the flesh with a spoon, mash it fine, season with butter and salt and some finely-chopped parsley. Fill the shells with the mixture and return them to the oven for a few minutes. These may be varied by adding finely-hashed meat, grated cheese, bread-crumbs, or anything else which the taste may dictate. A vegetable scoop is handy, and though the flavor of potatoes is not improved by its use, their appearance is much better. Cut out balls with the scoop

from raw potatoes and fry in deep fat until brown. Pile high in a dish, sprinkle salt over them and garnish with parsley. Balls cut from cold boiled potatoes are nice warmed in the same way, or they may be dropped into hot white sauce and served when heated through.

Duchesse Potatoes.—Boil, mash and season nice mealy potatoes, add a well-beaten egg and mix thoroughly. Roll out flat on the molding-board, cut in strips an inch wide and three inches long, lay in a buttered tin and brown in the oven.

Stewed Potatoes.—Slice cold boiled potatoes, salt to taste, dredge a little flour on them and half cover them with rich milk. Let them cook three or four minutes briskly, and just before sending to the table stir in a generous piece of butter.

Casserole of Potatoes.—Form an oval pile of mashed potatoes on a dish, make a hole in the center of the size desired; brush the surface with beaten egg and set in the oven until nicely browned. Fill the hole with stewed tomatoes, macaroni, or with any kind of stew.

Potato Croquettes.—Mix nicely-mashed potatoes with beaten egg yolk, season with salt and pepper, with just a hint of nutmeg, grated lemon peel or chopped parsley; form into balls, dip in beaten egg and fry in hot fat. Drain on paper for a minute and serve hot.

Three and One-Half Days to the World's Fair.

We take pleasure in advising the readers of the PACIFIC RURAL PRESS that the UNION PACIFIC is the most direct and quickest line from San Francisco and all points in California to the WORLD'S FAIR.

It is the ONLY LINE running Pullman's latest improved vestibuled Drawing-Room Sleepers and Dining Cars from San Francisco to Chicago without change, and only one change of cars to New York or Boston.

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To the World's Fair!

Will leave on Tuesday, June 20th, under the management of the "Young People's" Society of Christian Endeavor, via Salt Lake, Manitou (Pike's Peak), and Denver. Special features as to stop overs and accommodations! Both Palace and Tourist Sleepers! Secure an itinerary of the trip.

W. A. BISSELL, G. P. A., 650 Market Street, (Chronicle Building), San Francisco, Cal.

San Quentin Jute Mill Grain Bags for Sale.

I am authorized by the State Board of Prison Directors to offer for sale any portion of one million jute bags of the above manufacture at \$57.29 8-10 per thousand, delivered at Jackson-street wharf, San Francisco. Orders for bags must be accompanied by an affidavit signed before a Notary Public or Justice of the Peace, setting forth the number of bags required, and that they are for individual and personal use of the applicant. Ten per cent of the purchase price must accompany each order, the remainder to be paid upon the order for delivery of the goods. Upon application, the undersigned will forward blank order sheet and affidavit.

Address all communications to W. E. HALE, Warden.

ASSESSMENT NOTICE.

GRANGERS' BUSINESS ASSOCIATION, (A CORPORATION).

Principal Place of Business No. 108 Davis Street, in the City and County of San Francisco, State of California.

NOTICE IS HEREBY GIVEN THAT AT A MEETING of the Directors of said Grangers' Business Association (a corporation), held on the 8th day of May, 1893, an assessment of ten (10) per cent, amounting to two dollars and fifty cents (\$2.50) per share, was levied upon the capital stock of the corporation, payable immediately to the Secretary of the corporation, at his office, No. 108 Davis Street, in the City and County of San Francisco, California. Any stock upon which the assessment shall remain unpaid on Thursday, the 8th day of June, 1893, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on WEDNESDAY, the 12th day of July, A. D. 1893, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

CHARLES WOOD, Secretary of Grangers' Business Association. Office, No. 108 Davis Street, San Francisco, California.

SHASTA COUNTY INVESTMENTS

GLEAVES & BALTZELL, Redding, Cal.

PROPRIETORS of the SHASTA COUNTY ABSTRACT BUREAU (Durfee System), have for sale Stock Ranches, Fruit Farms, Timber Lands and Quartz Mines. Surveys and Abstracts furnished at reasonable rates. Write for information and lists.

GLEAVES & BALTZELL, Redding, Cal.

AGRICULTURAL NOTES.

CALIFORNIA.

Amador.

To THE EDITOR:—The cold, wet spring has delayed seeding and planting, so that very little has been done. Usually it is all finished by this time. Farmers are hustling now, in this warm, pleasant weather, to get in their crops. Wheat is looking rather poorly; grass good; fine prospect for a big fruit crop.

Plymouth, May 11, 1898. J. S. TIBBITS.

Butte.

Register: Surveyor McCoy says the best crops he has seen in the western part of the county are those on the slickens land along Dry creek. Where the slickens covered the adobe the grain is very rank and prolific.

Fresno.

Sanger Herald: John Hecker, an enterprising farmer near Sanger, has a half-acre strawberry patch which is paying him well this spring for the little trouble and expense of cultivation. He has already sold about \$60 worth of berries, bringing them into town at odd times when he had business to attend to here. The berries find ready sale at fair prices, and his experience proves that there is money to be made by cultivating small fruits in this vicinity.

Humboldt.

Times: The Sharpley creamery near Ferndale has been very much crowded with work recently. Hanson's creamery near by shut down for one day last week, and as a matter of accommodation Supt. Hawks received the milk from several additional dairymen. This crowded the creamery, which is a small one, but by working overtime the milk was used.

Inyo.

Inyo Independent: About Independence, orchardists report the best prospect for a big crop of apples and pears they have ever seen.

Kern.

Californian: Following is a partial list of cereals, vegetables, bushes, etc., planted at the Land Company's experimental station to date. In addition there is a long list of other vegetables, flowers and ornamental shrubs and plants. With all these, experiments are being tried as to soil, fertilizers, irrigation, etc.:

Wheat.....	24 varieties.
Barley.....	20 "
Spelts.....	4 "
Oats.....	4 "
Rhubarb.....	3 "
Asparagus.....	2 "
Artichokes.....	1 "
Cauliflower.....	4 "
Cabbage.....	8 "
Celery.....	8 "
Peas.....	23 "
Lettuce.....	1 "
Potatoes.....	20 "
Radish.....	1 "
Horseradish.....	1 "
Garlic.....	1 "
Onions.....	2 "
Shallots.....	1 "
Gooseberries.....	8 "
Blackberries.....	5 "
Raspberries.....	11 "
Currants.....	8 "
Strawberries.....	13 "
Apricot pits.....	1 "
Almond pits.....	1 "
Peach pits.....	1 "
Olive trees.....	1 "
Palm trees.....	1 "
Orange trees.....	3 "
Grape cuttings.....	92 "

A full consignment of forage plants and grasses are being planted.

Mendocino.

Sheep-owners in Mendocino county find on getting up their sheep for shearing that fully 50 per cent of all their flocks perished during the past winter, as a result of the severe storms and the ravages of wild animals.

Monterey.

Watsonville Rustler: The people who reside along the road from Freedom to Green Valley, and those who use that thoroughfare, propose to have the same sprinkled this summer. The county has agreed to sink wells and furnish a sprinkling outfit, and the people will pay the expense of a team and driver to keep the road well watered. This is a move in the right direction, and we hope to see the example followed by the people of other sections until all the main thoroughfares of the valley are sprinkled regularly.

Orange.

Orange Post: Later reports from the prune orchards represent the blossoms from dropping badly and one of the horticultural commissioners has discovered thrips on the trees. Prof. Coquillette recommends an ordinary rosin wash for their destruction.

Santa Ana Blade: On Sunday last L. J. Watkins of Silverado found near his place a den of foxes. They were in a small cave and he had to dig through rock some four feet to reach them. The old fox escaped, but he secured three little fellows which, he says, are doing nicely and prove the prettiest pets in the world. He says he will bring them to the city soon and put them on exhibition, so that everybody can see the beauty of a California fox.

San Bernardino.

Chino Champion: The Chino ranch beet fields now present as fine a sight as any agricultural lands in the country can show. For mile after mile almost across the great Chino ranch, the bright foliage of the growing plants will soon almost cover the ground. The stand is generally good, and the fields uniformly clean of weeds or trash. Intensive farming is shown here in its highest state. From many points as far as the eye reaches is beet field after beet

field with their rich promises of an abundant harvest. It is pretty safe to say that, as a whole, the beet crop at present growing gives better prospects than either of the two preceding crops on the Chino ranch.

Chino Champion: W. K. Gird says he will put in the fields this summer a beet harvester, combined topper and puller, that will do its work to perfection. It is already completed. With the different machines being devised by Chino inventive genius, the cost of producing a crop of beets is bound to be very considerably diminished.

Ontario Observer: Never before in the history of Cucamonga has there been such an acreage set to trees as has been the present spring. Between 300 and 400 acres between the Southern Pacific and Santa Fe tracks, which for many years have been covered with sunflowers, are now set in trees, peaches and prunes being the favorites.

Times-Index: R. B. Herron, County Bee Inspector, says that the disease known as "foul brood" attacks and kills the young bees only, before they become mature. Mr. Herron has a new family of bee, called the "Albino," which he claims is superior to the Italian in every way, being more hardy and a much harder worker. He says that one can tell an "Albino" stand any time by looking at the amount of honey gathered. This family derives its name from the fact that it is nearly white. The only stands in this county or in this part of the State, as far as is known, are possessed by Mr. Herron and a neighbor of his, to whom he sold some. These bees were imported from Illinois by Mr. Herron.

San Diego.

San Jacinto Register: E. Mead, Jr., has 1800 acres of the finest grain in the valley. The barley will go at least 15 sacks to the acre. Mrs. Mead says that as soon as harvest is over they intend visiting the World's Fair. Farming in the San Jacinto valley makes such a trip a possibility.

George S. Davis, a capitalist from Detroit, who recently bought large ranches, each in Cajon valley and at Jamacha, left for home today, and on his return will bring some of his fine horses. He has just had work begun on the Jamacha ranch for an 850,000-gallon reservoir, which will take San Diego flume water to irrigate the place. Stakes are being set for a 1000-acre citrus orchard. The plans have been prepared also for a one-mile kite-shaped track on the ranch.

Last week T. Esparza found a coyote at Punta Banda, near San Diego, trapped by an abalone shell. The coyote had evidently been hunting for a fish breakfast, and, finding the abalone only partially clinging to the rock, had inserted his muzzle underneath to detach him, but the abalone closed down on him and kept him a prisoner. Esparza said that when he arrived the coyote had given up struggling and was tired out. A Chinese was trapped by the hand in the same manner some five years ago, near the same place, and was drowned by the rising tide.

San Joaquin.

Stockton Mail, May 19.—Farm produce is coming in well, and the market is stocked with fine vegetables. Prices quoted by wholesalers and commission dealers as those paid to farmers are as follows: For strawberries, 60 to 80 cents a dozen baskets; rhubarb, 75 cents to \$1 a box; asparagus, \$1.25 to \$1.50 per box; new potatoes, \$1.50 to \$1.75 per 100 pounds; green peas, 1 to 2 cents per pound; onions, 75 cents to \$1 per 100 pounds; and cherries, 75 cents to \$1 per box. Poultry is plentiful, and prices are quoted as follows: Old roosters, \$5.50 to \$6 per doz.; hens, \$6 to \$7 per doz.; small broilers, \$3.50 to \$4 per doz.; large broilers, \$4.50 to \$5.50 per doz.; young roosters, \$6.50 to \$9 per doz. Butter is firm at 30 to 35 cents per roll, according to quality. Eggs are taken as offered at 17 cents per dozen for fresh, near-by ranch stock. Country lard, fresh, is quoted at 15 cents per pound and bacon at 12½ cents per pound.

Santa Barbara.

Lompoc Record: There will not be one-fourth the peach crop this season that there was last year; otherwise the fruit crop promises fairly well.

Santa Maria Graphic: Jos. Kaiser informs us that he expects to harvest about 200 tons of prunes from the Kaiser orchard of 40 acres, up the valley this season. He will dry the fruit and will have about 60 or 70 tons of dried fruit from the crop. This will net him all the way from \$5000 to \$10,000 for the 40 acres, according to the market price. This is not a bad yield for an orchard at its second bearing.

Press: Mr. S. F. Shepard, of Rincon, came up to the Press office and left some of the finest strawberries that one could wish to see. It took but a dozen of these large, luscious berries to fill a box. This is a new variety, and is named the "First of the Season." Mr. Shepard finds this variety so choice and prolific that he intends to raise this almost exclusively to supply the market. The "First of the Season" will be in demand.

Sonoma.

Cloverdale Reveille: The first shipment of cherries to the city market from this place was made by Farley Abshire on Friday. The crop will be large and is ripening rapidly.

Solano.

Solano Republican: The Suisun Valley Fruit Association has completed all arrangements for the transaction of fruit shipping business. A large supply of all needed stationery and blank books has been received. Two carloads of boxes arrived on Monday. The first shipment of fruit was made on last Saturday. As we understand the matter, it is not obligatory on the members of the association to consign their fruit to the National Association. We believe an agreement has been entered into by which

the members, after having shipped their fruit through the company's agency here, can consign it to the National, the Earl, or any other fruit agency in the East, as the shipper may desire.

Sutter.

Farmer: That two acres of tomatoes, onions and cucumbers planted recently with the hope of seeing the color of the coin used by the Petaluma Pickle Factory will doubtless reward the doubting gardener. "The blessed rain."

Tehama.

People's Cause: The wool market in Red Bluff closed on Saturday. The highest sum paid was for Mr. L. L. McCoy's, at 15½¢ per lb., and the lowest bought was 12¢. The clip was fine. The prospect of the duty being taken off wool by the present administration was the cause of the low price for wool this season.

Tulare.

Times: Cut worms have done considerable damage in parts of the country. Major Berry informs us that his new method of placing a card around the trees is working to perfection.

Register: J. J. Cairns says that all the grain in the eastern part of the county on red lands will make a fair crop without more rain. That on sedimentary and sandy soil will amount to little or nothing.

Times: The grape crop on the young vineyard on the Visalia Fruit and Land Company's ranch north of town promises to be very large this season. The peach trees may have to be thinned of fruit the second time to prevent them from breaking to pieces with the loads of fruit. This is how things bear at Visalia.

Traver Advocate: E. H. Rieffle showed us a sample of wheat grown by S. Kerr on the Moreland place east of town. The wheat will average 4½ feet in height, is a good stand and is looking healthy. Mr. Kerr sowed it rather late with the intention of cutting it for hay, and he will receive a handsome yield therefrom.

Stanislaus.

Modesto Herald: Water from the Stanislaus river was turned into the Oakdale canal this week for the first time, work on the dam having reached a stage rendering this possible. The completion of the canal system as originally planned will now be prosecuted with renewed vigor, the fact that water is running in the canal as far as Oakdale having imbued the stockholders and others interested with new life. The benefits of irrigation will be practically demonstrated in and around Oakdale this spring and summer. The Herald extends its congratulations to the Irrigation Company and to the people of Oakdale and vicinity upon the practical consummation of the project born of their foresight and enterprise, and predicts a new prosperity for the town and for its people individually.

Ventura.

Democrat: Regarding the cut worm in the Ojai, M. H. Clark, a prominent farmer of that place, stated to a Democrat reporter last Wednesday that the damage was not so great generally from these vicious insects as it might have been. Mr. Clark had about 40 acres of his barley crop cut down by them, and he says that 150 acres will cover all that has been ruined in the Ojai. Another pest has shown itself there in the shape of a worm which resembles the cut worm a great deal and makes its living by eating the buds of the young trees set out this spring, never bothering any trees set out two years ago or longer. They are not doing much damage as yet, but unless watched closely there is no telling what they might do.

Yuba.

Four Corners: Hoop-poles for barrels have been superseded by sacks in the flour trade mostly, but hop-poles are in as great demand as ever around Wheatland, and the hop climbs and clings to them with all the tendril tenacity of an anaconda.

ARIZONA.

A recent issue of the Yuma Times says that the Yuma Heights Experimental Station is making a good showing of early vegetables and fruit. There have been peas all spring and asparagus was ready to cut on February 1st. About March 12th the main crop of strawberries began to ripen, but scattering berries were to be had all winter. Cauliflowers and cabbages were ready in February. Early in April summer squash and wax beans were being marketed and tomatoes are now ripe.

OREGON.

Statesman: R. C. Geer, of Marion county, has sent a portion of a cherry tree to Milwaukee, Or., to be nicely finished for exhibition at Chicago this summer. The tree has quite a history. It was brought across the plains away back in the 40's and planted on the Geer homestead, where it has flourished for a period of 50 years and borne fruit for the family. It will be gazed at by many thousands as quite a notable relic.

Mrs. M. H. Ober,

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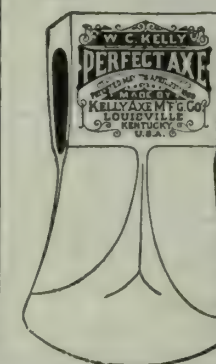
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10, 12 and 14 ft.
Cheaper than any
First-Class Mill in
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Every One

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The simplest mill in

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THE IMPROVED RANDOLPH WITH STOP DRAPER.

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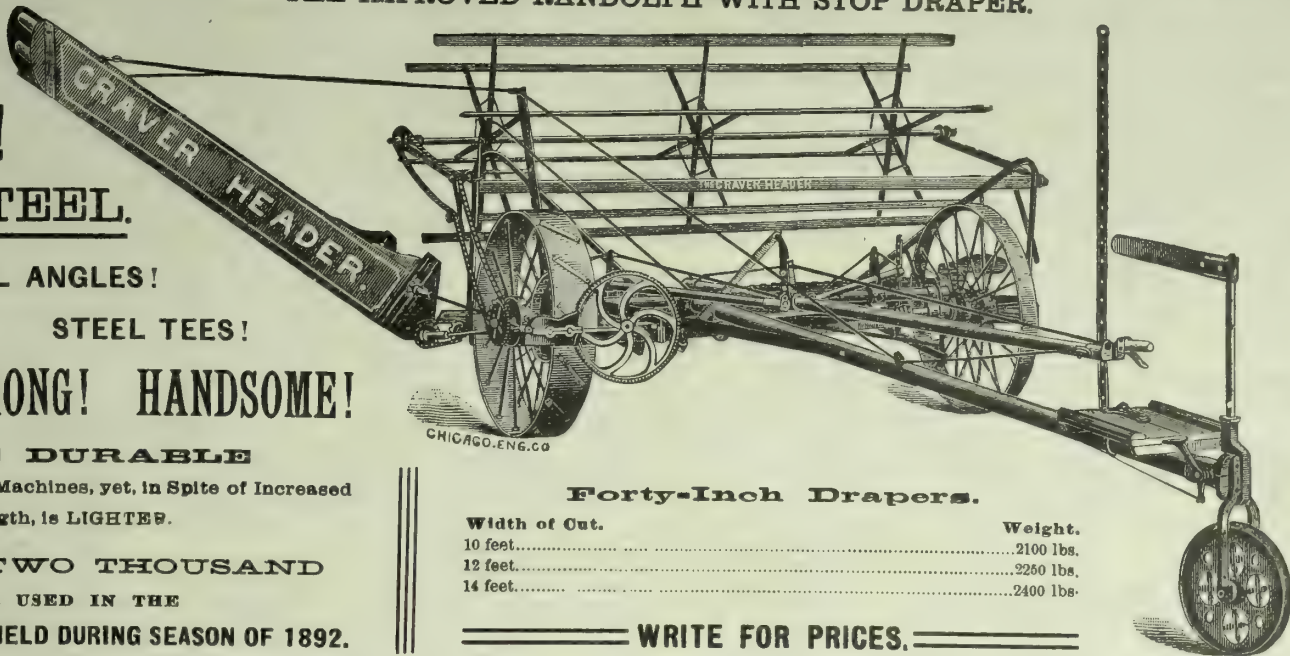
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Than the Old Type of Machines, yet, in Spite of Increased Strength, is LIGHTER.

NEARLY TWO THOUSAND

WERE USED IN THE

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Forty-Inch Drapers.

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Superior Elevation.—The Spout is thoroughly ironed off and is extra long. Having two drapers in it the grain passes between them, making the elevation positive at any desired angle, and entirely prevents the wind blowing grain away as it is being elevated, as is the case with all other machines. Every farmer will recognize that this is a point of superiority and a real grain-saving device, which in windy weather will save enough grain each day to pay for running the machine.

The Reel.—The Reel is driven by a chain gear attached directly to the main drive wheel, doing away with all belts and bevel gears, as used in other machines.

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The Master Gear.—The Master Gear is not fastened to main axle, as in other headers, but bolted securely to main drive wheel itself, making it impossible to disturb axle or get loose in any way.

The Drapers.—The Drapers are 40 inches wide, made of the best quality of Woodbury Duck, extra selected sticks and the best standard belting.

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Chas. F. Craver, the president and general manager of the company which makes the Randolph and Craver Headers, has for many years given the Header business his strict attention, and has studied carefully all the demands of the trade, and was the first to introduce a steel-frame header, which, in a very few years, has practically driven all wood-frame headers from the market. In 1892 the factory built and sold more headers than all the other Eastern factories put together.

There is a very great demand in some parts for a much lighter weight Header than any upon the market, and we will this season furnish, in addition to the "Old Reliable Randolph," the CRAVER HEADER, an entirely new and very light weight machine. All the frame and important parts being made of light angle steel and hollow tubing, makes it possible to get the required strength with the least possible weight, and we take a great deal of pride in introducing this machine as the simplest, strongest, lightest and handsomest Header ever made.

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DANIEL BEST'S NEW STEAM HARVESTER.

AWARDED FIRST PREMIUM AT CALIFORNIA STATE FAIR.

SHOWN AS AT WORK IN THE FIELD.



This Harvester is run in connection with the Best Traction Engine, which I am now building for that purpose, both being combined to run as a Steam Traction Harvester.

An Auxiliary Engine is used on the Harvester, taking steam through a flexible steam pipe from the boiler of the Traction Engine, doing away with all gearing necessary to run the Harvester, the effect being a steady, uniform motion at all times and in all conditions of the grain, and at any speed the Harvester may be running.

For fuel, straw, wood or coal can be used, the straw being taken from the rear of the separator by a conveyor to the furnace door of the engine, making it very convenient to fire.

These Steam Harvesters were run successfully all last harvest, giving entire satisfaction in all ways, in grain in all conditions.

Estimates given for any size of machine desired, from 14 to 40-foot cut. Every machine fully guaranteed, same as the horse-power machines.

I hold patents for conveying steam from the boiler on the Traction Engine through a flexible pipe to the auxiliary engine on the Combined Harvester, making mine the only complete Steam Combined Harvester in the market.

SEND FOR CIRCULARS. ADDRESS:

DANIEL BEST, San Leandro, Cal.

PATRONS OF HUSBANDRY.

From the Worthy Master.

Children's Day has been fixed by the W. M. of the National Grange for any regular meeting in June. I earnestly hope every grange in California will join, with heart and hand, in the proper and joyous celebration of this day. There are parents in every grange, and children within its jurisdiction. Don't turn the children from the grange. On the other hand, turn them to the grange, where they will be socially, morally and intellectually benefited.

The question of keeping the gates of the World's Fair closed on Sunday is provoking much discussion and there seems to be a disposition to return the \$2,500,000 appropriated by Congress on condition that the fair be closed Sundays, and open the gates to the multitude who claim they cannot attend on any other day than Sunday. The question is certainly a serious proportion about this time of day.

Don't be in too big a hurry to go to the World's Fair. Private advice from Bro. Brigham, Master of the National Grange, say: "Tell your friends not to come before June 1st, and even at that time many things will be undone." Of this, patrons of California, "take due notice and govern yourself accordingly."

Bennett Valley and Sacramento Granges offer big inducements for amusement and instruction to those who attend their respective reunions, to be held Saturday, May 27th, 1893.

The following county deputies have been duly commissioned during the past fortnight: For Contra Costa county, H. C. Rapp; for Nevada and Placer counties, W. H. Cunningham; for Sonoma county, John C. Purvine. These brothers have promised to try to bring sheaves to the next session of the State Grange.

Don't forget about the State Grange. The time will soon pass, when we expect to see you at Petaluma. Everything indicates a splendid session—one of much business and with as much "welcome" as any one ever held in California.

Those longest connected with the grange see more of promise for the order just now than at any time in years past.

School elections are to be held in every school district in California next week, June 2nd, for the selection of school trustees. See to it that none but worthy and competent persons are chosen. The grange must look out for the little, red schoolhouse as well as for the grange hall. Under the law, ladies are eligible to the office of school trustee. If the men are too busy, or too indifferent, to attend to the needs of your school, select some intelligent mother for school trustee. My word for it, she will make a useful and an attentive trustee.

Washington State Grange convenes June 6th, and Oregon State Grange May 23d, 1893. Both bodies have live men at the head and it is safe to predict good work and plenty of it. We shall await a copy of the journal of proceedings with much anxiety.

How would it do for Uncle Sam, if he has to issue bonds, to sell them in lots of \$100 to \$1000 and thus make some of the common financiers of the land bond-holders? Don't you know, it might not help Wall street, but it might help some of our boys and girls of the farm. It is too true that not enough of our boys have the \$100, but there are a few who have it and others are numerous who could soon earn the money. Uncle Sam, give your boys a chance. They are your best friends when an army is wanted. You know the martyred Lincoln had a million of them once upon a time. Millionaires don't make good soldiers, and they ought not to hold so many of Uncle Sam's bonds. Let these bonds go to the people who help to pay them and who are ever ready to defend their country. "Give the boys a chance."

It is a source of great gratification to the writer, as it must be to thousands of the RURAL's readers, to see so much good news from the subordinate granges. Surely those who have thought the grange slumbering are now convinced that they were mistaken, and they must in all fairness admit that there are competent writers and eloquent speakers in the granges of California. Let this good work of news-getting and of thought-sending be continued, and, like the leaven in the flour, new loaves will soon be the result. The farmer, the thoughtful farmer who is the reader and thinker, must soon see that unless he is a member of the grange, he is "not in it." It is the grange—the order of Patrons of Husbandry—that is fitting the farmer to see his rights and to know how he is abused. It is the grange that is helping soil-tillers to be and to become more and still more independent. The evidence of kinship on the farm, as shown by the grange correspondence, is most gratifying to the Master. He feels fully satisfied that it is his duty to "call a halt" on pen-work, and let others, who can do better, occupy the space. Then to the work, fellow patrons. Doff your hat and dip your pen in behalf of the grandest of farmers' orders—the grange.

Discussion of Live Subjects at Danville.

TO THE EDITOR:—Last month Danville Grange, acting upon your suggestion, selected a regular correspondent to the RURAL PRESS.

Though our grange has not increased in membership, our meetings are regular (1st and 3d Saturday of every month), and are made interesting with discussions on practical subjects, music and literary selections. At our last meeting, "Remunerative industries on the farm other than the raising of cereals" was discussed at some length, bringing forth much experience and many ideas of practical benefit to farmers on fruit, cattle, sheep, hog and poultry raising, as carried on in connection with the cultivation of cereals, the general opinion being that in this section of the State all these industries are profitable, proper care being taken not to overstock the farm, and that it is equally necessary not to exhaust the strength of the soil by planting the same ground year after year with wheat, barley, etc.

Most of the valley lands on the south and west of Mt. Diablo are being planted to fruit trees, as suitable soil is found for every variety of fruit grown in a temperate climate and much that will raise good

oranges and lemons. The grain this spring is quite backward and there will be a light crop of both almonds and pears, but apples, prunes, cherries and peaches promise a fairly good yield. Haying has just commenced and some farmers have been caught with a light rain, which is falling at the present writing, though not heavy enough to do any damage.

Not being able to attend the picnic at Concord last Saturday, I can give no account of it, but hope to hear from it through your columns from some one who was there. Fraternally,
Danville, May 15, 1893. S. E. WOOD.

Another Good Letter from Pescadero.

TO THE EDITOR:—We are so far from the world that we are barely known, unless some one reads with, we hope, an indulgent eye, our letters which appear from time to time in the RURAL PRESS.

By these letters, we hope to show that, though sleeping, we are not dead, and that we do not blame ourselves for sleeping, as we have had no work given us to do. Our sleep is like that of a faithful dog, with one eye open.

We watch with interest the progress of our order. Its movements seem, at times, slow, and its enthusiasm doubtful. But we recognize among our brothers and sisters some who have kept themselves abreast of the times—brothers who realize the power we are to be if we put forth our strength.

We are, in Pescadero, a purely social order. We aim at nothing beyond amusing, and, in a modest degree, instructing each other. Few discussions of any moment take place. We are either too much afraid to speak out our true ideas, or think it useless. We are aimless and consequently useless. Like a man without ambition, we will never attain a worthy end unless we aspire to it. We are willing to follow when we see a worthy object and have enthusiastic leaders—for instance, when we see the National Grange wake up and use its strength to protect the farmer from the encroachment of the middle men and government; when we hear the call to do battle for our rights—then we will be there. We will stand firm to our colors and will crown our victory with a grange temple to Agriculture, at Washington.

Let those in the high places show their enthusiasm and prove their truth, and we, subordinate in all things, will joyfully follow. We will follow in all things that lead to the glory of our order and the advancement of the farmer. But let us take heed that a temple built now does not prove the monument of an order that once was, rather than a power that is.

The times demand some radical movement on our part. It is time we discussed the question, "To be or not to be." We have or should have enemies. All good and great men have, and it is the same with orders. But thus far the "hayseeds" are little feared. Yet we do not lack intelligence. We know we produce the wealth of the world. We know that year by year the farmer becomes a poorer man. These facts have aroused us to action, but as yet we have failed to do any great good. It is not because we are ignorant, for we can compare favorably with any class in the United States in intelligence. It is because we, who have the cause of justice and right on our side, have used too mild a course for the present age. We have been smitten on one cheek, and have tamely turned the other to the smiter. This is a weak policy. It leads to our own ruin and keeps alive drones in the hive who might better be dead than go on with their vampire feast. It is very well to be modest and quiet—sometimes. We have prided ourselves on doing everything we have done in a quiet manner. But in the present age of electricity and steam, when man lives faster than in years gone by, we must arise and assert ourselves, for, in the bustling activity of the age, anything shy or modest is overlooked if not despised.

"Man cannot live by bread alone" is very true. The grange has been an instrument of good in providing society and pleasure. It has done this and done it well. But its power could be greater than that. It can provide the bread so that we can go on enjoying its pleasures.

As has just been said, the farmer is not an ignorant man. If he has appeared so through his seeming indifference to the tramping mass of politicians, he will be bright enough to see the true star when it rises and follow its lead. When the right measures for his good are taken, he will know it and respond in the whole-hearted manner known only to farmers.

Therefore let those in authority over us move in an assured manner to inspire our confidence; and let them treat us with a trust which we will prove not misplaced. And many, seeing their good works and our firm faith, will join us in the cause of right and justice.

May 19, 1893.

The Secretary's Column.

By A. T. DWYER, Secretary State Grange of California.

DISCUSSIONS RECOMMENDED FOR JUNE, JULY AND AUGUST.

Better attendance can be secured in nearly every grange in this State if it is made known in advance that some profitable discussion is to be held at the meetings. Before the grange was organized in California, thirty odd farmers' clubs were thriving through the apparent advantages of discussions pertaining to the welfare of agriculturists. The publication of the best views exchanged at one club meeting proved of interest to all others, as well as to numerous farmers in places where no clubs were held.

Thus may it be to-day if each grange will select in advance appropriate questions to be discussed, and make due efforts to have the debate supported by its best speakers, and the best points brought out furnished in brief and convenient form for the local papers and grange and agricultural press to publish.

The due reporting of these discussions is important for their success, for the reason that the best speakers do not care to spend valuable time to produce carefully-prepared information to be presented to a dozen or two only of really interested persons, while they would be willing to spare their time for the ultimate profit and pleasure of hundreds and thousands of readers.

It is neither necessary or best to bring forward subjects which will create hard feelings on the part of any who differ on them in our order. There are plenty of other questions which will interest, instruct

and promote the harmony and growth of the grange.

In the absence of any official provision for a uniform program for discussions in the grange, we recommend the following subjects as likely to draw out an exchange of hints, experiences and views of patrons at the seasons proposed for debate:

FOR JUNE.—"Harvesting and the purchase, care and use of agricultural machinery."

JULY.—"The marketing, storing and transportation of grain and other crops."

AUGUST.—"Plowing, seeding and cultivation of crops."

We would recommend that carefully-written reports of all discussions be tendered the local press early, and not just before the hour of publication, when the editor's copy-book is usually crowded. Also, a printed proof, or more complete MS. copy, be sent to the Secretary of the State Grange for compiling and publishing an epitome at least of what seems the best report of the thoughts and suggestions of all the granges combined for the use and reading of all patrons and farmers.

We will ask each grange, at the close of its first debate, to recommend and forward to us questions for discussion in September, October, November and December. In that way selections can be made to accord with the general desire of more granges perhaps than in any other manner.

We would recommend that discussions generally be held on the first and regular meeting in the month, and, when feasible, early announced in the local and official press.

TULARE GRANGE.

The subjects discussed at the recent session of the Farmers' Institute, under the auspices of Tulare Grange, were of a miscellaneous character and much information was gained. The experience of Prof. Wickson is of peculiar value in drawing out of people what they know, and sometimes making it equally apparent what we do not know.

I notice Sacramento Grange is claiming the honor of first holding a Farmers' Institute under Grange auspices. We are willing that Sacramento should be duly honored, but Sacramento, as well as the State, will have to rise early to be ahead of Tulare. We—Tulare Grange—claim that honor. Not only that, but Tulare took the first step in that

direction after the State Grange recommended such action by granges. In the RURAL PRESS of Nov. 8, 1890, page 394, will be found the action of Tulare Grange on Oct. 18, 1890. The grange took advantage of the Tulare County Alliance quarterly meeting and held Institute meetings at the close of the session, but after a two-days' session of Alliance business Institute matters dragged and were finally dropped; so at the beginning of this year it was revived on an independent basis, with no entanglements, and we look for nothing now but success.

Last Saturday Tulare Alliance gave the picnic of the season at Mooney's Grove, near Visalia. M. W. Wilkins, of the Fresno National Spectator, was the orator of the day, followed briefly but brilliantly by the State President, F. L. Gilbert.

J. W. MACKIE.

WHAT shall be the forward steps taken at the next State Grange session? Let each Grange discuss and in a more than usually perfect way present new plans and propositions for the advancement of the order and its members, so that intelligent action can be taken without unnecessary delay.

MAKE the grange more generally and favorably known by its good and useful ways and doings. Then more live men, women and young folks will wish to join it. Monthly discussions is one plan. Who will suggest others?

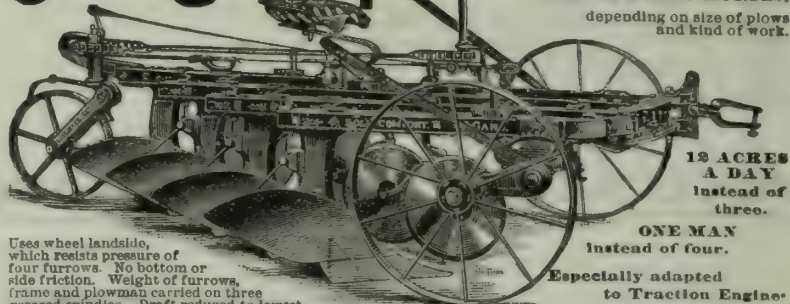
POTTER VALLEY GRANGE.—Secretary W. V. Kilbourne writes, May 17th: "Miss Rose Sides was selected as correspondent to the RURAL PRESS. We have received much-needed rain the past two days, seventy-five hundredths of an inch having fallen. The outlook is for good crops of grain. Peaches are short; prune, apple and pear trees loaded. I have the promise for two new subscribers to the RURAL."

W. H. CUNNINGHAM has been appointed deputy for Placer and Nevada counties by Master Davis.

Now Let Us Hear From Mr. Purvine.

Mr. Holman, DEAR SIR:—At a regular meeting of Two Rock Grange, No. 152, Mr. J. C. Purvine was elected as correspondent to the RURAL PRESS from this Grange. Yours truly,
Petaluma, May 18, 1893. GEO. W. GASTON.

SOLID COMFORT THE "WONDER ON WHEELS"



Use wheel landside, which resists pressure of four furrows. No bottom or side friction. Weight of furrows, frame and plowman carried on three greased spindles. Draft reduced to lowest possible limit. Foot brake prevents Gang running on team. Lovers and turning device within easy reach. Drying, Straight Furrows, and Adjustable frames—can be narrowed or widened at will. Made with stubble, sod and stubble, or breaker bottoms. Ten or twelve inch cut.

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THIS leading "time tried and fire tested" company makes a specialty of farm insurance on favorable and satisfactory terms to the farmers. Specially trained farm inspectors in every county.

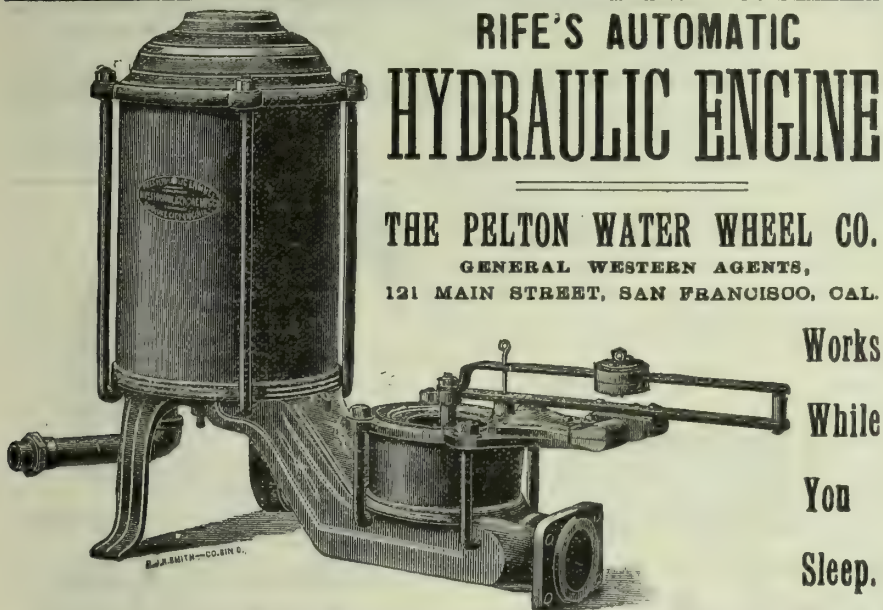
THE DAIRYMAN who is doing business for Profit must use the IMPERIAL RUSSIAN CREAM SEPARATOR. This machine is Perfection. The Best and the Cheapest of all. No Engine and No Engineer required. Simple and Safe. If you do Not use it you are Losing Money with every pound of milk. Capacity of different sizes from 500 to 2500 gallons per hour. Duplicate parts of Sharpless Separators kept on hand. Balancing Bowls and general repairs of Separators a Specialty. Send for Catalogue to A. J. VAN DRAKE, Pacific Coast Agent, 203 Fremont St., S. F.

STEVEN'S FRUIT CASE!

A notable invention of the Columbian year, for transporting California's fresh fruit to market. Look into it! It is worthy of trial! Its advantages truly stated are: Fruit can be picked later and riper; requires no wrappers; no decay from pressure, bruising or rubbing; the ventilation is absolute and positive; it grades and counts the fruit in the carrier; fruit all open to inspection; no handling or repacking at destination; no skilled labor for packing. Gives the grower all the advantage arising by arrival of his fruits in markets ripe, sound, luscious and attractive, instead of half ripe, bruised or decaying. It isolates each piece of fruit by double, elastic walls, with air spaces between, over and around it. It is not an untried quantity. Messrs. Brown & Wells, of California Market, San Francisco, say: "We have made shipments of green fruit in it to Honolulu, Panama, Boston, New York, Philadelphia, Australia and Arizona, and have received report to the effect that the fruit arrived in perfect condition. We believe it is surely destined to become in the near future the universal package for short or long distance shipments." Nothing to equal it for fine apricots, peaches, plums and pears. Will carry fresh figs successfully. Carriers now ready for delivery for apricots. Send in early orders to insure supply.

PRICE (for ordinary standard package) \$15.00 per hundred, including outside and inside cases. Call on us or send for circulars.

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General Agents for the Pacific Coast.

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HYDRAULIC ENGINE

THE PELTON WATER WHEEL CO.
GENERAL WESTERN AGENTS,
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Works
While
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THE RIFE HYDRAULIC ENGINE is the most simple and efficient machine yet devised for elevating water for irrigation, filling railroad tanks, supplying mills, factories, dairies, stock yards, country residences, small towns, and for various other purposes. This ram is self-operating, constant in action, and is not only much more efficient than anything of the kind ever put upon the market, but from absence of wearing parts, more durable and every way reliable. Many may be referred to that have run for years, elevating water in some cases from 100 to 300 feet without any attention or expense in the way of repairs.

These machines have already come largely into use in all parts of the country, and are rapidly superceding every other device for the purpose. They will work effectively under a head as low as two feet and for every foot of fall will elevate 20 feet. By means of an adjusting lever the capacity of any of the various sizes can be reduced 50 per cent or more, as may be desired, to provide for a variation in water supply, without disadvantage or loss in efficiency.

WATER RAISED AND WASTE.—The fall from the spring, stream or other source of supply to the engine determines the height of which the water can be elevated, as well as the relative proportion between the water raised and wasted, the quantity raised varying according to the height it is carried and the distance conveyed. For ordinary purposes it is sufficient to say that with a discharge pipe 1000 feet in length, one-sixth of the water can be raised and discharged at an elevation five times the height of fall or one-twelfth ten times the height of fall.

Parties writing for information should give the quantity of water that can be supplied to the engine, either in gallons, cubic feet or miners' inches; the head or fall from source of supply to point where the engine is to be located, length of drive pipe, height to which the water is to be raised, distance from engine to place of discharge and the quantity of water it is desired to elevate. No reliable information can be afforded without an explicit answer to these inquiries.

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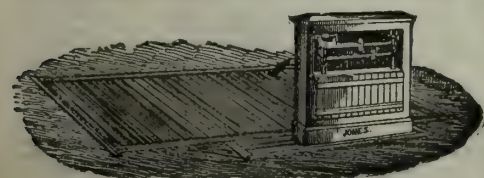
GEM STEEL WIND MILL
WITH GRAPHITE BOXES.

Never Requires Oiling or Climbing of Towers.

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United States.

These Scales have STEEL BEARINGS, Not Wood—
BEAR THIS IN MIND.

From 25 to 50 per cent cheaper than any other
Scales of like quality. All sizes and kinds
of Scales always in stock.

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For Sale! A Bargain!
DRIVER
COMBINED HARVESTER.

14-FOOT OUT. 32-INCH CYLINDER.

This Harvester has been used a short time one season. It has been thoroughly and carefully overhauled and repaired and is offered and guaranteed

GOOD AS NEW.

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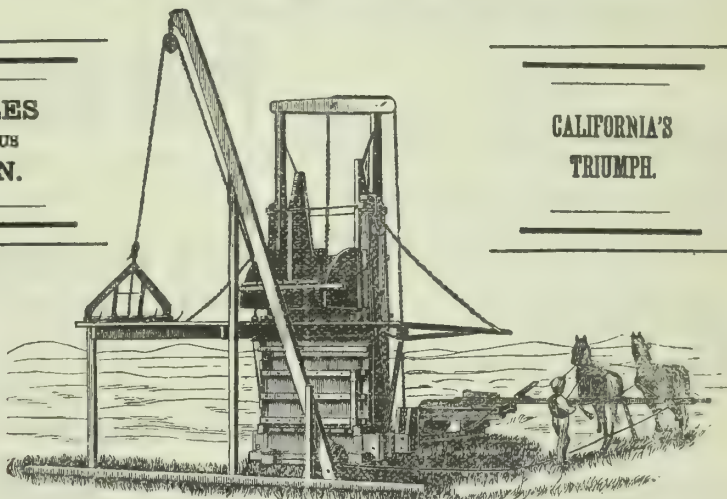
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Capacity 44 Tons or 343 Bales per Day.

AWARDED FIRST PREMIUM BY THE CALIFORNIA STATE AGRICULTURAL
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CALIFORNIA'S
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No tramping. No forking from the Stack. No cutting of Stacks Necessary. You can sit at a hundred-foot stack and bale it without a move. It makes the best bale in the market. You can put 10 tons in a car. The forking from the stack is all done by the horses. The baler can turn out more hay in less time and in better style than any other press.

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HAS PROVED FOR FIVE YEARS AN ABSOLUTE
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WHITE LEGHORN FARM, Trenton, Cal. Eggs, \$1 per 13; for incubators, 5c each.

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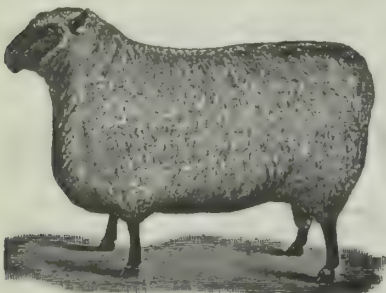
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W. A. SHAFOR, Middletown, Ohio,
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Is prepared to quote prices on the best stock of Oxford Down Sheep to be had in England. Parties wanting first-class stock should write for particulars and induce their neighbors to join them. Import will arrive in June. Write at once.

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FROM 8 TO 20 MONTHS OLD; GOOD COLORS;
from good milk strain; are eligible to the Record.
Sired by Duke of Wild Flower No. 102,963. Address
P. H. MURPHY.

Perkins.....Sacramento county, Cal.

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Two 3-year-old Imported Shire Mares in foal. Also Imported English Coach Stallion. Address W. W. RUSHMORE, Importer and Breeder of Draft and Coach Stallions. P. O. Box 88, Stable, Broadway and 32d St., Oakland, Cal.



THE ONLY PERFECT BINDER.

ROHNREVILLE, CAL., Jan. 28, 1892.

MESSES. FRANK BROTHERS, San Francisco.

DEAR SIR:—In regard to your binder I would say it is the only perfect binder that I have ever seen; the elevation cannot be excelled by any machine. The first time that the binder bought by Mr. A. Leach was hitched up, we took it into oats as high as my head and very heavy; it went right along without a skip. There were three men beside myself and they all said that it was the only binder that they had ever seen run in such growth; we went through the oats all right and then Mr. Leach took us into a piece of wheat that was very heavy and full of big mustard; some of the mustard stalks were one inch through and there were lots of them. I thought when we got into that mess it would be all day with the binder, but it walked right through just as well as could be and they all said it beat anything in a machine they ever saw.

Yours truly,

C. H. BARNES.

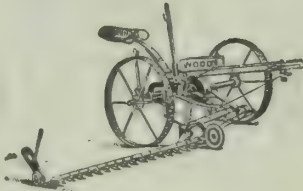
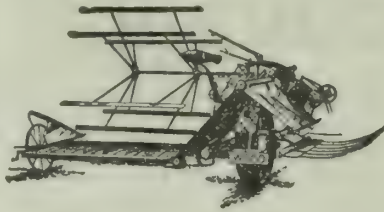
CHOKING IS OUT OF THE QUESTION.

BAY POINT, CAL., Feb. 6, 1892.

FRANK BROTHERS, San Francisco.

DEAR SIR:—I bought one of Walter A. Wood's Mowers from your agent last season. I can recommend the machine to any farmer who wants a good Mower that will do the work in every particular; would also say it is the lightest running mower I have ever hitched a team to, and choking it down is out of the question. Yours truly,

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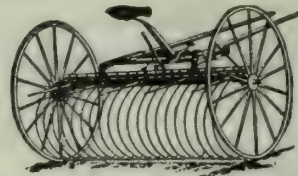
Frank Brothers,

33 & 35 MAIN ST., SAN FRANCISCO

Walter A. Wood Harvester Co.,

290 & 292 WATER ST., E. S.,
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Factories at Hoosic Falls and St. Paul Minn.



ARE YOU A Hay Baler? If so, do you use our Patent Steel Wire CROSS HEAD Bale Ties?

IF NOT, WHY NOT?



—MADE ONLY BY—

THE WASHBURN & MOEN MFG. CO.

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.....BEST MODERN STRAINS OF.....

POLAND-CHINA

.....PIGS FOR SALE.....

SIRRED BY FIRST CLASS IMPORTED MALES. My Brood Sows, imported from the East, are the admiration of everybody, being fine individuals and, like the Boars, rich in such blood as Tecumseh, the most famous hog that ever lived, King Tecumseh, his greatest son, Tom Corwin 2d, whose owner refused \$1000 for him. Cora Schellenger, whose produce sold for \$3300 before she died, and other prize winners at Eastern State Fairs. Inspection invited and correspondence solicited. Parties giving timely notice will be met at station. Ranch one mile from station.

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Short-Horn BULLS

Calves, Yearlings and 2-year-olds

FOR SALE.

ROBERT ASHBURNER,

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NO HATCHER MADE

Can show better results

Over 60 in successful operation at Decatur, Ill., alone. The greatest hatch ever accomplished, 238 chicks hatched at one time, with a 20 capacity Reliable Incubator. Hundreds of testimonials. Inclose 4 cents in stamps for new illustrated catalogue. RELIABLE INCUBATOR & BROODER CO., QUINCY, ILL.



The Kansas City Veterinary College

Incorporated by the State.

FOR catalogue address J. H. WATKINS, D. V. S. 210 East Twelfth Street.

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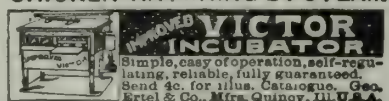
S. C. BROWN LEGHORNS.

S. C. WHITE LEGHORNS.

EGGS \$2.50 per setting; \$4 for two settings; \$5 for three settings. White Leghorn pen headed by "Volante," score 95; Brown Leghorn pen headed by "Imperial," score 93. Send for circular. Satisfaction guaranteed to all.

FRANK A. BRUSH,
Care Santa Rosa National Bank.....SANTA ROSA, CAL.

CHICKEN-HATCHING BY STEAM



Simple, easy of operation, self-regulating, reliable, fully guaranteed. Send 4c. for illus. Catalogue. Geo. Ertel & Co., Mfrs. Quincy, ILL.

—THE—

HALSTED INCUBATOR

COMPANY,
1312 Myrtle Street, Oakland, Cal.
Send Stamp for Circular.

Farmers! — Cows!

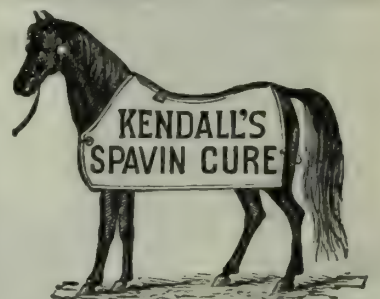
DO YOU WISH TO LEARN HOW TO MAKE CHEESE by a new and easy process? Write to W. T. ARMSTRONG, Lardo, Kern County, Cal.



RUSHFORD FARM WAGONS LIGHTEST DRAFT WAGONS IN THE WORLD.

EVERY ONE GUARANTEED.

TRUMAN, HOOKER & CO.,
SAN FRANCISCO AND FRESNO.



The Most Successful Remedy ever discovered as it is certain in its effects and does not blister. Read proof below.

KENDALL'S SPAVIN CURE.

STAR, LAKE CO., OREGON, Feb. 8th, 1892.

DR. B. J. KENDALL CO.,

DEAR SIR:—I have used your KENDALL'S SPAVIN CURE for the last twelve years never being without it but a few weeks in that time and I have made several wonderful cures with it. I cured a Carab of long standing. Then I had a four year old colt badly spavined; tried every thing without any benefit, so I tried your liniment, and in a few weeks he was well and his shoulder filled up all right, and the other, a four year old that had a Thoroughpin and Hood Spavin on the same joint, and to-day no one can tell which leg it was on. These statements can be proven, if necessary; the four year olds are now seven and can be seen any day at Cottage Grove, Or.

S. Z. FAYTON.

—Price \$1.00 per bottle.—

DR. B. J. KENDALL CO.,

Enosburgh Falls, Vermont.

SOLD BY ALL DRUGGISTS.

HOW TO RAISE TURKEYS!



The numerous diseases that are usually prevalent among very Young Turkeys may be prevented by the use of

CARY'S PILLS.

Send for Circular

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MONEY "HOW CAN I Make Some?"

By using the Pacific Incubator and Breeder, which will hatch any kind of eggs better than a hen. In universal use. Gold Medal wherever exhibited. Thoroughbred Poultry and Poultry Appliances. Send 8 cts. In stamps for 32-page catalogue, with 30 full-sized colored cuts of thoroughbred fowls, to Pacific Incubator Co. 1207 Castro St. Oakland, Cal.

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BACK FILES OF THE PACIFIC RURAL PRESS (unbound) can be had for \$2.50 per volume of six months. Per year (two volumes) \$4. Inserted in Dewey's patent binder 50 cents additional per volume.

S. F. MARKET REPORT

Market Review.

SAN FRANCISCO, May 24, 1893.

As the season advances, and the conditions of the grain crop are further developed, it is more than ever apparent that a considerable shortage will occur in this year's production of California grains. It seemed for a time that the surplus production of the upper San Joaquin and the counties of southern California would come somewhere near balancing the deficit in the northern part of the State; but weather conditions have been such that the grains have suffered to a greater or less degree in all parts of the State. Common talk in northern California is now of half a crop, while southern California and the San Joaquin will be less than average. The "half-crop" cry we are not at present disposed to accept as fully justified by circumstances, though the shortage will be very heavy. Stanislaus, one of the heavy producing counties of the south, reports that the crop will probably be 115,000 tons, about the same as last year, and in Merced a full crop is reported. In Ventura and San Benito it is said that the wheat and barley crop are much better than last year. Tulare expects to have the same as in 1892. Fresno and Kern expect to yield heavily, and San Luis Obispo is light. San Joaquin county expects a crop slightly larger than last year. Glenn and Colusa look for a half crop, though conditions have lately improved. Sacramento makes a very bad report, and so do Butte, Yuba and Sutter. Taking these things all together, it seems fair to expect that the total wheat production of the State will be in the neighborhood of 30,000,000 bushels—a decrease from last year of over 8,000,000 bushels.

During the week the RURAL PRESS was requested by the Associated Press to furnish a statement of grain crop conditions in California. The following was prepared and sent East by telegraph:

"Reports of the growing grain crop of California indicate material damage from unfavorable weather conditions. Early in the season excessive rains and floods in the northern part of the State washed out and destroyed much new-sown grain and reduced the usual acreage planted in wheat in that section at least 30 per cent. There was promise, however, of an enormous yield in upper San Joaquin valley and southern California and there was good reason to expect that the production in the State, as a whole, would be average. Continued drouth, however, has heavily reduced the prospect of full yield. All crops sown early last fall are now doing fairly well, but late-sown grain is in many places in a precarious condition. Some grain in the lower San Joaquin is beyond redemption and must be cut for hay. The PACIFIC RURAL PRESS estimates that the wheat yield will be from 27,500,000 to 32,500,000 bushels, a decrease from previous estimates of about 8,000,000 bushels."

Local markets during the week have presented no phases of interest. Transactions have been limited in volume and the tendency has been downward. There is absence in speculation on the Produce Exchange.

Other Grains.

Barley maintains the even tenor of its way, and the market altogether is in fairly satisfactory condition. Futures have declined slightly during the week, but May has advanced. The export demand is good, and local demand is steady. Sellers are not particularly anxious to part with their holdings, as they believe further improvement will occur.

Oats rule firm, and we are able to quote an advance over last week's figures. The market is altogether in favor of owners, and seems likely to continue in that comfortable condition.

White corn is firm, and quotations are marked up.

Oranges and Other Fruits.

Navel oranges have nearly all been forwarded from southern California to the East. Fruit remaining is mostly seedlings, Mediterranean Sweeties and Valencia. The Mediterranean Sweeties, having good keeping qualities, are being held back until the seedlings are out of the way. There are still plenty of seedlings on the trees. In fact, there were on May 15 more than twice the quantity of oranges remaining on the trees than ever before. A favorable circumstance in the fruit situation is that the deciduous fruit crop East and North is late this year, which will give the orange almost exclusive possession of the market for a few more weeks. In Chicago the Earl Fruit Company realized the following prices for California fruit sold yesterday: Black cherries, \$2.50; white, \$1.75@2.15; fancy navel, \$3.50@4.25; fancy seedlings, \$2.50@3. The market would appear to be improving. Locally, conditions are about the same as they have been for some time. Fancy varieties sell very easily; common are slow.

Green apples from Vacaville have appeared in the market, but they do not sell very readily. Strawberries are arriving in large quantities and sell to canners below quoted figures. Cherries are plentiful and the tendency is downward. Raspberries are quickly disposed of at favorable prices. Apples are very scarce and quotations are nominal. Currants are in the market.

In dried fruits the prospects for the new season continues good. The probability that the prune output will not be so heavy as was early predicted improves the chance that good prices will prevail.

Vegetables.

The potato market continues active and firm, though old stock is being rapidly replaced by new. Old-crop Oregon Burbanks have advanced again, while good prices are realized for new California. New onions are coming in freely and prices are down. Quotations for old are largely nominal, there being little or no trade. Choice green peas are in good demand. Beans are in fairly satisfactory demand.

Wool.

The slump in the wool market has resulted in lifelessness and little or no trade. Quotations are nominal. Thomas Denig'n, Son & Co. say: "The figures quoted are low as compared with the ruling rates in April, but things are so intensely dull, both at the East and here, that we doubt if business could be done on the basis named. A lot here and there might find a buyer at quotations if selection were given, but for the time being no reduction in prices

would stimulate buying. The several warehouses are pretty well filled up, and, as a rule, both buyers and sellers express indifference, and seem to be willing for the time to let bad enough alone."

Poultry and Eggs.

Poultry has been in lighter receipt for the past three or four days, and, in consequence, quotations have advanced. A strong tone pervades the market and there is no present prospect of decided weakness. Dressed turkeys are out of the market. Eggs are inactive, receipts of overland being heavy.

Butter and Cheese.

The better feeling in butter, recently noted, has not kept up with the steadiness that might have been wished. Advanced askings are said to have checked custom to some extent, and a return to former figures became necessary to allow dealers to dispose of their supplies. A shipment of 1000 ten-pound tubs of butter from Eureka to Peoria, Ill., was a feature of the week's business. It will probably be sent to Chicago for use during the World's Fair. Cheese is dull and transactions are small.

Honey.

Expectation that the honey yield will be large has started the new season with somewhat lower quotations. Arrivals of the new crop have not been large as yet. Consignments so far have mostly been of extracted, but liberal receipts of comb can be expected in the near future.

Miscellaneous.

Lamb is weaker and has declined. Other meats hold their own.

Beans are inactive and business is small.

There is nothing doing in hops.

Warm weather has caused a better demand for lemons and lemons.

New oat hay came in yesterday from Antioch. Prices for all grades are steady, and choice commands a better figure than has been recently given. Flour is steady and unchanged.

A ship cleared for England yesterday with a large quantity of tallow.

The Hop Trade.

In April the shipments of hops from the State by rail, so far as reported by the Southern Pacific Company, were as follows:

From—	Pounds.
San Francisco.....	66,000
Sacramento and East.....	162,000

Total.....228,000

January.....	488,000
February.....	124,000
March.....	158,000
Since January 1st.....	994,000

The shipments by sea and rail compare as follows:

Four months—	1893.	1892.
By rail, lbs.....	994,000	620,000
Sea.....	75,891	28,618

Totals.....1,069,891 648,618

Showing a comparative increase of 424,273 pounds for the past four months. The total by sea and rail for the same time in 1891 was 444,974 pounds.

Wool.

The shipments of wool from San Francisco by sea in April comprised 95,820 pounds to Massachusetts and 249,441 pounds to New York.

The shipments East by the Southern Pacific Company's lines were as follows in April:

From San Francisco—	Pounds.
Grease.....	1,936,000
Pulled.....	32,000
Scoured.....	456,000

Total.....	2,424,000
From Oakland, grease.....	24,000
From Sacramento, grease.....	96,000

Total by rail.....2,544,000

By sea.....345,264

Total April.....	2,889,264
January.....	1,521,699
February.....	895,865
March.....	786,665

Since January 1st.....6,042,893

The above statement does not include shipments, if any, from the southern part of the State, the Southern Pacific Company declining to make any report of such. During the first four months of 1892 the shipments by rail (omitting "Los Angeles and South") and sea were 7,256,622 pounds.

There has been a comparative decrease this year of 1,213,729 pounds.

Australian Wool Clip.

Wool is the principal agricultural staple of Australia. The clip for 1892-93 is estimated at 1,800,000 bales, or about 700,000,000 lbs. The market value of this wool is \$21,500,000. In 1888-89, or four years ago, the market value of the wool clip was fixed at the same figure for only 1,400,000 bales. The comparison shows the terrible shrinkage which has taken place during the interval. As will be seen, it amounts to nearly 25 per cent from the most favorable standpoint. It may not turn even as well as that, for it is shown that the average prices at the leading stations have declined from 12½¢ to 7¼¢ per lb for good greasy descriptions. The importance of this staple is realized when we look at the above figures. In American money, Australia's wool is worth over \$100,000,000. The entire agricultural products of all soils in California do not amount to much more than that sum, says the Bulletin. With such a resource of wealth, in connection with many others that might be named, the colonies ought soon to be able to recover from the existing depression.

Australian Wheat Crop.

Statistics of the wheat crop of Australia for 1892-93 are now at hand. The acreage and crop were as follows:

	Acrea.	Bushels.
South Australia.....	1,710,000	11,453,000
In Victoria.....	1,375,000	16,471,000
New South Wales.....	429,000	7,176,000

Total.....3,514,000 35,100,000

In 1891-92.....3,240,000 24,078,000

Deducting seed requirements and consumption in the above colonies, as well as Queensland and Western Australia, there is a surplus of about 12,600,000 bushels for export. This wheat is being shipped to England, and will net \$3,000,000 to \$9,000,000. This is quite a gain over the previous year, and may help to ameliorate the financial distress of the colonies to some extent. Wheat culture in Australia is not a very profitable business. In South Australia the average yield of 1892-93 was 6.63 bushels, against 4.15 bushels for the previous year. In Victoria, 11.98 and 10.26 bushels respectively and in New South Wales, 16.72 and 11.11 bushels respectively. The average for all three colonies is about 10 bushels, against 7.40

bushels in 1891-92. California does much better than that when she has any kind of a show.

Grain Futures.

Liverpool.

The following are the closing prices paid for wheat options per cwt. for the past week:

	May.	June.	July.	Aug.	Sept.	Oct.
Thursday.....	5s10d	5s9½d	5s10d	5s11d	6s00d	6s00d
Friday.....	5s8½d	5s10d	5s11d	5s11d	6s00d	6s01d
Saturday.....	5s8½d	5s10d	5s11d	5s11d	6s00d	6s01d
Monday.....	5s8½d	5s10d	5s11d	5s11d	6s00d	6s01d
Tuesday.....	5s8½d	5s10d	5s11d	5s11d	6s00d	6s01d

The following are the prices for California cargoes for off coast, nearly due and prompt shipments for the past week:

	O. C.	P. S.	N. D.	Market for P. S.
Thursday.....	3s10d	3s10d	3s10d	Very slow
Friday.....	3s10d	3s10d	3s10d	Dull
Saturday.....	3s10d	3s10d	3s10d	Quiet
Monday.....	3s10d	3s10d	3s10d	Quiet
Tuesday.....	3s10d	3s10d	3s10d	Quiet

To-day's cablegram is as follows:

LIVERPOOL, May 24.—Wheat—Steady. California spot lots, 6s; off coast, 3s; just shipped, 30s 9d; nearly due, 3s; cargoes off coast, very quiet; on passage, rather easier; Mark Lane wheat, rather easier; wheat in Paris, slow; flour, quiet.

Eastern Markets.

The following shows the closing prices per bushel of wheat for the past week at

New York.

Day.	May.	July.	Sept.
Thursday.....	76½	78½	81½
Friday.....	76½	78½	81½
Saturday.....	76½	78½	81½
Monday.....	76½	78½	81½
Tuesday.....	76½	78½	81½

The following is to-day's telegram—per bushel:

NEW YORK, May 24.—May, 76; July, 78½; Sept., 81½.

Chicago.

Day.	May.	July.	Sept.
Thursday.....	70½	72½	76½
Friday.....	71½	74½	77½
Saturday.....	71½	74½	77½
Monday.....	71½	74½	77½
Tuesday.....	71½	74½	77½

The following is to-day's telegram—per bushel:

CHICAGO, May 24.—May, 70½; July, 73½; Sept., 76½.

Local Markets.

WHEAT.

	May.	Dec.
Thursday, highest.....	\$1 33½	\$1 41½
"lowest.....	1 31½	1 40½
Friday, highest.....	1 31½	1 42½
"lowest.....	1 31½	1 41½
Saturday, highest.....	1 33½	1 44½
"lowest.....	1 31½	1 42½
Monday, highest.....	1 31½	1 40½
"lowest.....	1 31½	1 39½
Tuesday, highest.....	1 29½	1 39½
"lowest.....	1 28½	1 38½

*New. †Milling.

The following are to-day's recorded sales on Call:

Wheat—Morning—Informal Session—December: 870 tons, \$1 38½; 100, \$1 38½; 900, \$1 38½; 300, \$1 37½ per cwt. Regular Session—December: 100 tons, \$1 38½; 1000, \$1 38½. Seller 1893, new: 100 tons, \$1 37½ per cwt. Afternoon—December: 400 tons, \$1 38½; 100, \$1 38½; 100, \$1 38½; 200, \$1 38½; 300, \$1 38½; 400, \$1 38½. May: 200 tons, \$1 29½. Seller 1893, new: 400 tons, \$1 31½; 100, \$1 31½ per cwt.

BARLEY.

	May.	Dec.
Thursday, highest.....	94½	98½
"lowest.....	92½	96½
Friday, highest.....	95	98½
"lowest.....	90	97
Saturday, highest.....	96½	98½
"lowest.....	90	96½
Monday, highest.....	90	95½
"lowest.....	91½	95½
Tuesday, highest.....	91½	95½
"lowest.....	90	94½

The following are to-day's recorded sales on Call:

Barley—Regular Session—December: 100 tons, 94½; 100, 94½; 200, 94½. Seller 1893, new: 200 tons, 83½; 300, 83½ per cwt. Afternoon—May: 100 tons, 91½. Seller 1893, new: 300 tons, 89½; 30, 89½; 100, 89½. December: 100 tons, 91½; 100, 95¢ per cwt.

Markets by Telegraph.

Visible Supply of Grain.

NEW YORK, May 22.—The visible supply of grain is as follows: Wheat, 71,526,000 bushels, a decrease of 1,156,000 bushels; corn, 6,046,000 bushels, a decrease of 1,784,000; oats, 8,184,000 bushels, a decrease of 349,000; rye, 576,000 bushels, a decrease of 53,000; barley, 500,000 bushels, a decrease of 43,000 bushels.

California Products in the East.

NEW YORK, May 21.—Nothing of an encouraging aspect has been developed. New York badly misses the wholesale spring spurts which have commonly oozed trade. The best grocery houses are simply drawing goods from first hands in lots rather than in invoices. The unsettled tariff, concern about the silver problem and the tremor which succeeds the recent financial shaking up are unfavorable to all dealings beyond prompt requirements. Fortunately for most coast table supplies, there remains a good seasonable term for use before the new crop appears, but, in the present situation, holders here would cheerfully shade most things to lighten up the stocks.

In canned fruits no business can be done above \$1.50 for Standard Crawford peaches, \$1.65 for Lemon Clings, \$1.65 for pears and \$1.35 for apricots. Pie peaches and three-pound Yellow Seconds are offering low in Baltimore; the latter grade is quoted at \$1.15@1.20 and all Yellow Standards were quoted Saturday at \$1.25.

Prunes—Quiet and weak, quoted at 10½¢@11¢ for the three single sizes up to fifths.

Peaches—Evaporated quoted at 9¢ at several Eastern points.

Raisins are held with confidence at 4¼¢@4½¢ for two-crown bags, 5½¢@5½¢ for prime to choice three-crown. It is claimed that the stock east of the Alleghenys does not exceed 150 carloads.

Almonds are going out well at 14¢@16¢ for common to best.

Wool—Business has run light at all seaboard points. At New York a line of California Spring was the chief sale. Boston exhibits unusually small dealings. Receipts show some volume. They are mainly consigned with the rest, belonging to a few mills which have taken special clips. Thus far limited interior purchases have not had their customary price-forming influence. Manufacturers state that there have

been no important cancellation of orders, but, as expected, duplications have not appeared. Their purchases of material for a time will be merely for absolute wants. As speculation is out of the question, with owners' present views considered, prices are likely to rule weak as shearings seek a market.

Sales at New York, 181,000 pounds domestic, including 95,000 Spring California at 17¢@18¢; also 429,000 pounds foreign.

Sales at Boston, 629,100 pounds domestic and 628,500 pounds foreign, including 256,000 Australian.

Philadelphia re-ports a moderate showing of new wool and weak prices.

Lima Beans—Steady for moderate use at \$2.15@2.20 for spot.

Beeswax—California, 26½¢@27¢ for good quality.

Hops—Continue in the same uninteresting rut. Brewers are taking a few of the cheaper grades, and the interior combine are holding at restrictive prices. Choice spot California and State, 21¢; others, 15¢@20¢.

Fruits and Vegetables.

Choice selected, in good packages fetch an advance on the quotations, while very poor grades sell less than the lower quotations.

	May 24, 1893.
Strawberries.....	50 @ 100
Longworth.....	50 @ 100
Sharpless.....	50 @ 100
Good-b rries, lb.....	2½ @ 5
Raspberries.....	75 @ 90
Cherries, box.....	75 @ 125
Black.....	40 @ 75
White.....	37 @ 40
Limes, box.....	75 @ 100
Do Cal.....	200 @ 350
Lemons, box.....	50 @ 55
Do Sicily choice.....	35 @ 65
Apples.....	75 @ 125
Do Good.....	150 @ 200
Do Extra choice.....	50 @ 100
Persimmo.....	50 @ 100
Oranges, pr bx.....	2 50 @ 3 00
Naves, River'de.....	1 25 @ 1 50
"eed'g, River'de.....	1 25 @ 1 50
Do, Fresno.....	1 25 @ 1 50
Extra choice fruit for special purposes sells at an advance on outside quotations.....	per lb..... 9 @ 10
Beets, sk.....	40 @ 50
Carrots, sk.....	15 @ 20
Okra, dry, lb.....	1 50 @ 2 00
Pumpkins, ct.....	5 @ —
Peppers, dry, lb.....	50 @ 60
Peas, common, per sack.....	75 @ 1 00
Peas, sweet, sk.....	40 @ 50
Turnips, ct.....	80 @ 90
Cabbage, 100 lbs.....	1 @ —
Garlic, # lb.....	50 @ 65
Onionflower.....	50 @ 60
Tomatoes, box.....	— @ —
String Beans.....	4 @ 10
Rhubarb, bx.....	25 @ 1 00
Asparagus, box.....	25 @ 1 25
Cucumbers, doz.....	50 @ 60
New Potatoes.....	1½ @ 2½
Artichoke, doz.....	50 @ 60
Eggplant, lb.....	15 @ 20
Summer squash, per lb.....	9 @ 10

Live Stock.

BEEF.

	May 24, 1893.
Stall fed.....	6½ @ —
Grass fed, extra.....	6½ @ —
First quality.....	6 @ 6½
Second quality.....	5 @ 6
Third quality.....	4½ @ 5
Bulls and thin Cows.....	2 @ —
VEAL.....	4 @ 6
Range, heavy.....	6 @ 7
Do light.....	6 @ 7
Dairy.....	6 @ 7

MUTTON.

	May 24, 1893.
Wethers.....	6 @ —
Ewes.....	6 @ —
Do Spring.....	7 @ 8
HOGS.....	6½ @ —
Light, # lb.....	7 @ —
Medium.....	7 @ —
Heavy.....	7 @ —</

General Produce.

Extra choice in good packages fetch an advance on top quotations, while very poor grades sell less than the lower quotations.

BEANS AND PEAS.		BAGS.	
Bayo, cts.	2 30 @ 2 30	Standard Calc Grain.	6 @ 64
Butter.	2 75 @ 3 00	Spot.	6 @ 64
Pea.	2 60 @ 2 70	June & July delivery	64 @ 15
Red.	2 75 @ 3 00	Potatoes, gunnies.	14 @ 15
Pink.	2 80 @ 2 90	Wool, 34 lb.	30 @ 15
Small White.	2 60 @ 2 70	Wool, 4 lb.	34 @ 15
Large White.	2 60 @ 2 70		
Lima.	2 30 @ 3 00		
BUTTER.		HOPS.	
Cal., poor to	15 @	1892, fair.	15 @
fair, lb.	16 @	Good.	17 @
Do g'd to choice	16 @ 17	Choice.	18 @
Do Giltedged.	19 @		
Do Creamery.	20 @	FLOUR.	
Do do Giltedge.	20 @	Extra, city mills	4 10 @
East-rn, lad.	19 @ 16	Do country m's.	4 10 @
Cal. Pickled.	19 @	Superfine.	2 90 @ 3 00
Cal. Keg.	18 @		
East-rn Cr.	18 @		
CHEESE.		NUTS—JOBBER.	
Cal. choice	9 @ 10	Walnuts, hard	8 @ 9
cream.	9 @ 10	Do soft shell.	12 @ 13
Do fair to good.	8 @ 10	Do paper-shell.	12 @ 13
Do Giltedged.	11 @	Almonds, soft.	15 @ 16
Do Skim.	8 @	Paper shell.	15 @ 16
Young America.	10 @ 11	Hard shell.	7 @ 8
EGGS.		Pecans, small.	8 @ 10
Cal. "as is," doz.	— @	Do large.	10 @ 12
Do shaly.	10 @	Peanuts.	10 @ 12
Do candied.	19 @	Flowers.	10 @ 12
Do choice.	19 @	Hickory.	7 @ 8
Do fresh laid.	— @	Chestnuts.	5 @ 10
Do do laid white.	— @		
Do selected.	— @	ONIONS.	
Outside prices for selected		Silverskin.	3 00 @ 3 50
large eggs and inside prices		New California.	75 @ 90
for mixed sizes—small eggs		POTATOES.	
are hard to sell.		River Reds.	1 60 @ 1 75
FEED.		Early Rose, cts.	1 75 @ 2 00
Bran, ton.	17 00 @ 17 50	Peerless.	1 60 @ 1 75
Feedmeal.	25 00 @ 26 00	Do do Oregon.	1 60 @ 2 00
Gr'd Barley.	21 00 @ 23 00	Oregon Burbank.	2 40 @ 2 70
Middlings.	21 00 @ 23 00	New.	1 25 @ 2 25
Oil Cake Meal.	— @ 35 00	Extra choice sell for more	
HAY.		money.	
Compressed.	7 00 @ 11 00	POULTRY.	
Wheat, per ton.	9 00 @	Hens, doz.	7 00 @ 8 50
Do choice.	— @ 14 00	Roosters, old.	6 50 @ 7 50
Wheat and oats.	8 00 @ 12 00	Do young.	10 00 @ 12 00
Wild Oats.	7 00 @ 9 00	Broilers, small.	4 00 @ 5 00
Cultivated do.	7 00 @ 10 00	Do large.	7 00 @ 8 00
Barley.	7 00 @ 10 00	Fryers.	7 50 @ 8 00
Alfalfa.	8 00 @ 11 00	Young Ducks.	4 00 @ 5 00
Clover.	8 00 @ 9 00	Old Ducks.	4 00 @ 5 00
GRAIN, ETC.		Geese, pair.	1 50 @ 1 75
Barley, feed, cts.	80 @	Turkeys, goblr.	18 @ 20
Do good.	82 @	Turkeys, hens.	18 @ 19
Do choice.	85 @	All kinds of poultry, if poor	
Do brewing.	90 @ 1 00	or small, sell at less than	
Do Oatmeal.	90 @	quoted; if large and in good	
Do do Giltedge.	1 15 @	condition, they sell for more	
Buckwheat.	1 75 @ 2 00	than quoted.	
Corn, white.	1 15 @ 1 20	Manhattan Egg	— @
Yellow, large.	1 07 @ 1 10	Do do (Red Seal)	— @
Do small.	1 10 @ 1 12	Brand in 100-	
Oats, milling.	1 60 @ 1 70	b. Cabinets.	— @ 11 50
Feed, choice.	1 50 @ 1 65	PROVISIONS.	
Do good.	1 30 @	Cal. bacon,	— @ 134
Do fair.	1 30 @	heavy, per lb.	— @ 14
Do common.	1 25 @	Medium.	— @ 14
Surprise.	1 65 @	Light.	144 @ 17
Black feed.	1 25 @ 1 30	Lard.	9 @ 14
Gray.	1 25 @ 1 30	Calumet beef.	10 @ 11
Rye.	1 07 @ 1 10	Hams, Cal.	— @ 16
Wheat, milling.	1 30 @ 1 32	Do Eastern.	— @ 17
Giltedged.	1 30 @ 1 32	SEEDS.	
Shipping, choice.	1 27 @ 1 30	Alfalfa.	10 @ 103
Off Grades.	1 25 @ 1 28	Clover, Red.	15 @
Sonora.	1 20 @ 1 30	White.	30 @
WOOL.		Flaxseed.	24 @ 3
Nevada, per lb.	14 @ 15c	Hemp.	4 @
Do Poor.	12 @ 13c	Do brown.	5 @ 54
San Joaquin and		HONEY.	
Southern, year's	10 @ 11c	White comb.	— @
Short Wool.	12 @ 13c	2-lb frame.	— @
Do do very poor and	10 @ 12c	Do do 1-lb frame.	— @
shrinky.	10 @ 12c	White extracted	74 @
Footbill, good to		Amber do.	7 @
choice.	13 @ 16c	Dark do.	64 @
		Beeswax, lb.	25 @ 27

Insuring Growing Crops.

For many years the firm of BROWN, CRAIG & Co., Insurance Agents (whose notice appears in our advertising columns this week), have supplied a large proportion of the policies written for the protection of farmers on their growing crops on this coast. They have done a large business, and, representing as they do first-class companies, much satisfaction has been expressed concerning their extensive dealings. This firm has recently moved to Nos. 407 and 409 Montgomery street, where they occupy very convenient and spacious quarters.

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One of the most powerful harvesting machines sold here this year is the Minneapolis Binder, manufactured by the Walter A. Wood factory. It has a 40-inch steel drive-wheel, some four inches larger than is usually used, and is built throughout in the same thorough way. It is the only binder that is tripped by its packer arms, an absolute safeguard against choking. Full information regarding the "Minne" may be had by addressing Frank Bros., S.F.

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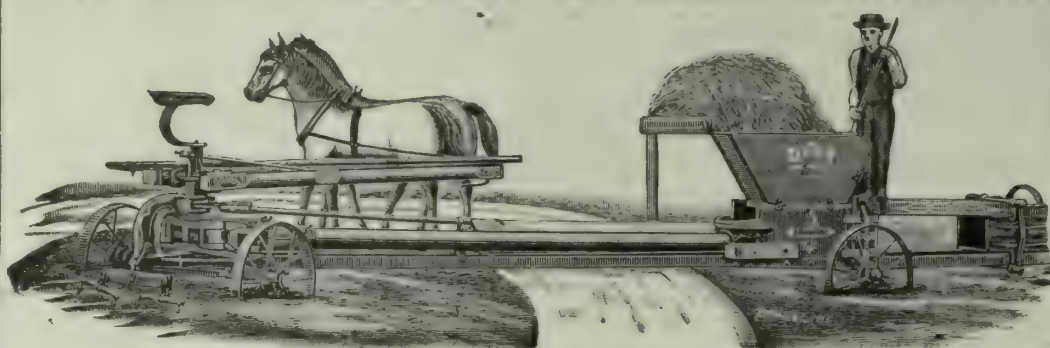
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SPECIAL ANNOUNCEMENT.

We have made arrangements with Dr. B. J. Kendall Co., publishers of "A Treatise on the Horse and his Diseases," which will enable all our subscribers to obtain a copy of that valuable work free by sending their address (enclosing a two-cent stamp for mailing same) to Dr. B. J. KENDALL CO., ENOSBURGH FALLS, VT. This book is now recognized as standard authority upon all diseases of the horse, as its phenomenal sale attests, over four million copies having been sold in the past ten years, a sale never before reached by any publication in the same period of time. We feel confident that our patrons will appreciate the work, and be glad to avail themselves of this opportunity of obtaining a valuable book.

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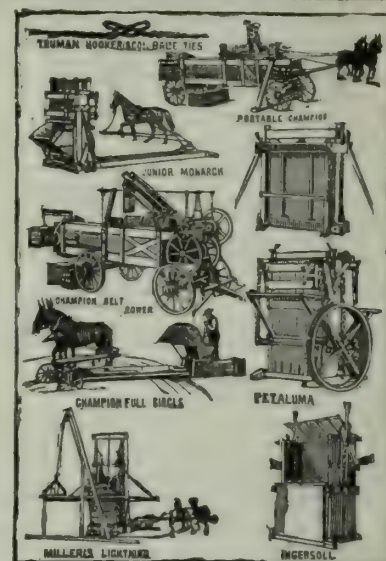
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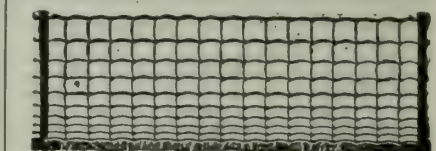


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Dividends paid to Stockholders.... 720,000

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Bills of Exchange bought and sold.
Loans on what and country produce a specialty.
January 1, 1893. A. MONTPELLIER, Manager.

The American Bee Journal,

(Established 1861.)

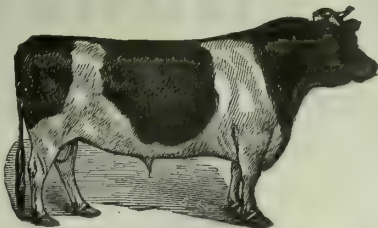
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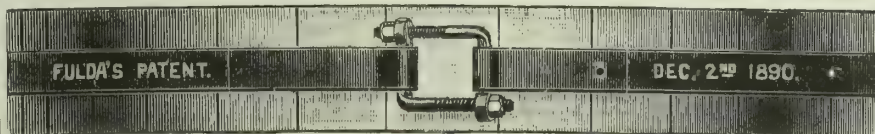
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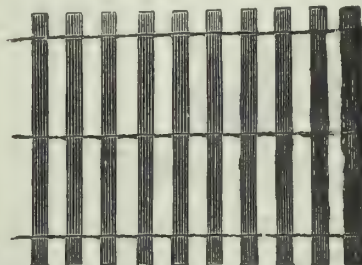
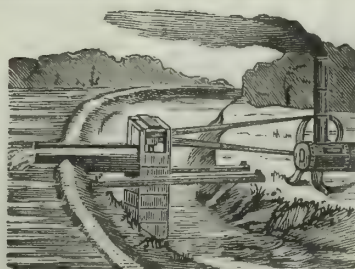
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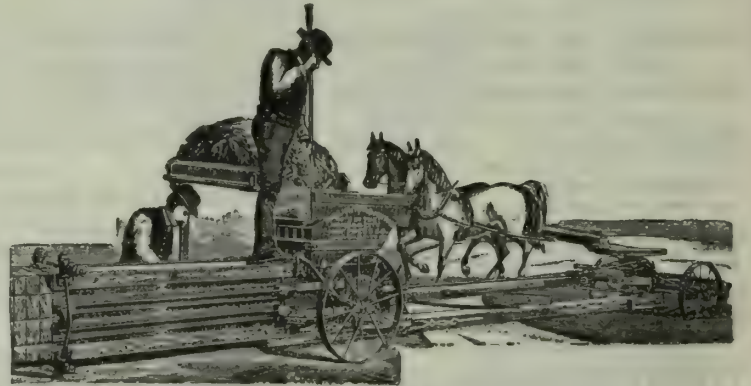
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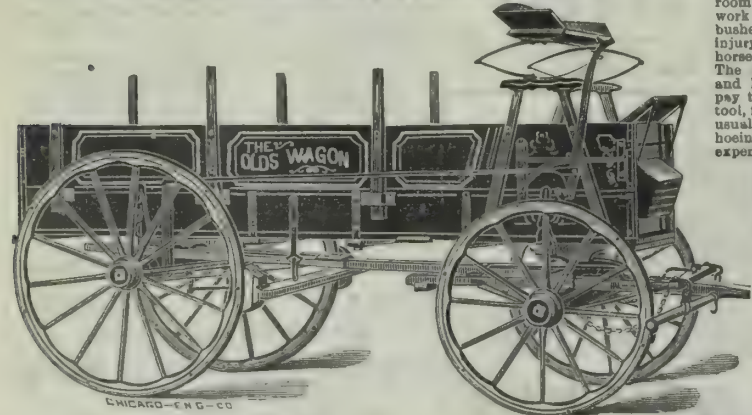
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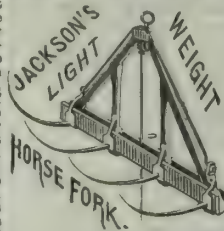
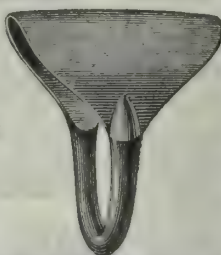
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FRUIT GROWERS! Examine these Great Labor-Saving Tools.

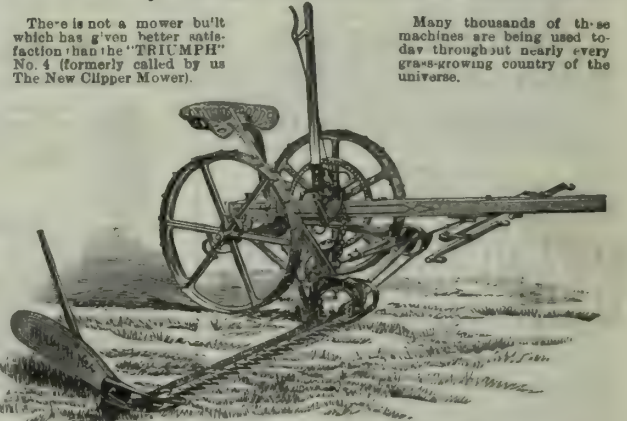
THE TRIUMPH GRAPE HOE is one of the greatest labor-saving tools ever invented for use in culture of Orchards, and is especially adapted to Vineyard work. After cultivating between the rows, the Triumph Grape Hoe will take out all grass and weeds and will thoroughly stir the soil close to the vine or tree.

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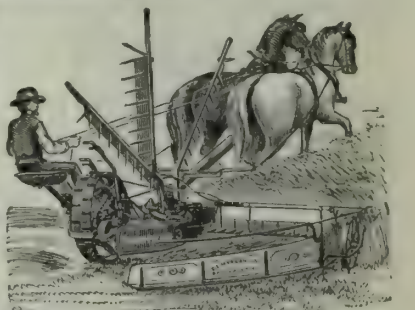
There is not a mower built which has given better satisfaction than the "TRIUMPH" No. 4 (formerly called by us The New Clipper Mower).

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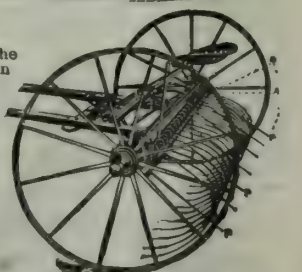


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We are Agents for the Rock Island Hay Loader. Please send for Circulars.



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WHY IT IS THE BEST RAKE IN THE WORLD.

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SEND FOR CATALOGUES AND CIRCULARS
OF ALL ARTICLES HEREIN SHOWN.



Vol. XLV. No. 22.

SAN FRANCISCO, SATURDAY, JUNE 3, 1893.

THE DEWEY PUBLISHING CO.
Office, 220 Market St.

Mirror Lake.

Few localities are as famous the world over for beauty and sublimity of scenery as the Yosemite valley. Description and illustration inadequately picture the scenes. It seems as if nature outdid herself in forming this retreat of rare beauty. Without attempting any description of the valley in general, it will be sufficient to speak of Mirror lake, which is so beautifully pictured in the illustration on this page. Some distance from El Capitan up the canyon of the Tenaya is the lake called "Mirror lake," an expansion of the Tenaya fork, which flows down the canyon of the same name. The lake is small and deep, and lies in one of the grandest spots of the valley, at the foot of the fine rounded precipice called the Washington Column. From the reflections in the still waters of this and other great heights in its vicinity, such as the North and South Domes, and particularly Mt. Watkins, it has been called the Mirror lake. The proper time to see the reflections is early in the morning, when the sun makes its first appearance in the valley over the crest of Mt. Watkins.

The lake is imbedded among the wildest scenery possible. In the rocky sides of the mountains opposite and overhanging the lake can be seen, by an exercise of the imagination, contortions and crevices much resembling an eagle, a lion and a crane. Among other curious formations on the face of the mountain may be seen an elephant without his trunk, a pig without legs, the head of a second elephant on one part of the cliff and its hind quarters and tail on another portion of the cliff; an engine and two carriages turned upside down on the mountain, but right side up when seen reflected in the water, with the addition of a station into which the train was on the point of entering; a clothes-line with three articles of wearing apparel depending from it; a cross, a man's head with a braid, an angel supposed to be flying, but without wings, a rooster, a cow with half a head, a sheep, and a bottle lying on its side pouring liquid on to George Washington's head, the part of his physiognomy besprinkled being his left cheek. Two lovers are also pointed out to the visitor. They were supposed to be standing and gazing into each other's faces.

To a spectator viewing the reflections from a boat in the lake, when the sun is brilliant, the glare becomes very blinding. By degrees, however, one becomes accustomed to the light, and the longer one looks into the water the clearer become the objects reflected in it. All the surrounding heights are lit up in a remarkable manner; every tree comes out in the reflection most marvelously clear. Were it not for the fact that the objects are reversed in the water, it would be very difficult to tell which one looks at—the original or its reflection.

The visitor may amuse and interest himself in the vicinity of Mirror lake for many hours. No one who

visits the Yosemite valley should fail seeing this wonderful little body of water. No doubt before the advent of the white man this valley was visited frequently by the Indians.

LAST WEEK by preconcerted arrangement, a number of Kansas towns in the same district and at the same time began bombardment of the heavens with cannon. "As a result," says a veracious chronicler, "the clouds opened

THE PRESS of Butte county is vigorously agitating the question of roads. It is noticed that from \$35,000 to \$40,000 is spent annually by the county in repair of roads, and they seem to get no better. The fact is slowly impressing itself on the public that it will be cheaper to construct a complete system of solid, permanent, durable roads in the first instance and pay less for repairs afterwards. The actual money outlay will not be more. The county can be bonded at a low rate of interest and the future generation can help pay the principal. It will be so immensely benefited by construction of fine thoroughfares now that it cannot object to bearing a part of the expense. Good roads mean higher land values, cheap and easy transportation, sleek horses, long-lived wagons, accessible markets for farm products the year 'round, ready communication with neighbors and the town and postoffice; and, in brief, an existence vastly more satisfactory and profitable. There is scarcely a valid argument against construction of good roads.

THE PEOPLE of Kern county have averted a threatened grasshopper pest in an ingenious manner. Last year two sections of worthless mesa land were found to be full of grasshoppers and eggs. A sheet of No. 16 iron, sixteen feet long and six wide, was so arranged that it could be drawn by two horses. Chains were fixed in front of the iron sheet, forcing the grasshoppers to jump in the iron or be crushed, when drawn over their habitat. On the sheet was a two-inch layer of liquid asphaltum, and woe betide the unlucky hopper that alighted thereon. This sheet was dragged over the mesa land industriously for twenty days, and now comes the report that scarcely a grasshopper is to be found in that section. The cost was about \$1.25 per acre. But the people of Kern county remembered Kansas and acted.

AN IMPORTANT POINT relative to fruit shipments has been settled by the Superior Court of Solano county. Last summer Captain Chinn shipped 700 crates of grapes to Chicago by the Vacaville and Winters Fruit Company. They sent them to New Orleans and Omaha. Captain Chinn claimed to have lost money thereby and sought to recover damages

through the courts. Judge Buckles decided that the fruit companies should pay Captain Chinn for any losses he may have sustained by having his grapes diverted from Chicago. The next thing the captain must establish is as to his losses. He may have difficulty in securing satisfactory legal proof.

THE PAST TWO WEEKS have still further reduced the early probabilities of an enormous prune yield. Reports from the Santa Clara valley—where two-thirds of California's prunes are produced—are now not at all encouraging for a large crop. All of which goes to show once more that it is not well to count chickens before they are hatched or prunes from the number of blooms.



MIRROR LAKE, YOSEMITE VALLEY.

their reservoirs, and drenched the earth, the rain continuing four hours." While rain-making experiments generally have been uncertain of results it is a pretty well established fact that if the heavens are cannonaded long enough and hard enough rain will follow. It has been noticed likewise, that if one whistles long enough and hard enough, a drouth will be ended sooner or later. It is a pretty good idea in either case to watch the wind and clouds, and begin a season of cannonading or whistling when the skies look a trifle black. Such precaution may save much powder and breath. It may be added that rain fell all over Kansas, while the cannonading took place in a limited district.

NEW APPLES are in the market, coming from Vacaville.

PACIFIC RURAL PRESS.

By THE DEWEY PUBLISHING CO.

Office, 220 Market St.; Elevator, 12 Front St., San Francisco, Cal.

ANNUAL SUBSCRIPTION RATE THREE DOLLARS a year. While this notice appears, all subscribers paying \$3 in advance will receive 15 months' (one year and 15 weeks) credit. For \$2 in advance, 10 months. For \$1 in advance, five months. Trial subscriptions for twelve weeks, paid in advance, each 50 cents.

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	1 Week.	1 Month.	3 Months.	1 Year.
Per Line (agate).....	\$.25	\$.50	\$ 1.20	\$ 4.00
Half Inch (4 square).....	1.00	2.50	6.50	22.00
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Large advertisements at favorable rates. Special or reading notices, legal advertisements, notices appearing in extraordinary type, or in particular parts of the paper, at special rates. Four insertions are rated in a month.

Our latest forms go to press Wednesday evening.

Registered at S. F. Post Office as second-class mail matter.

ANY subscriber sending an inquiry on any subject to the RURAL PRESS, with a postage stamp, will receive a reply, either through the columns of the paper or by personal letter. The answer will be given as promptly as practicable.

ALFRED HOLMAN.....General Manager

San Francisco, June 3, 1893.

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The Week.

This week brings us past the portals of June into the outing season. We celebrate the event with a glimpse of Mirror lake on the first page of this week's issue. Thus we show our good will to the great natural wonder of California, the Yosemite valley. We imagine the peerless gorge will have to revel this summer in its own solitary grandeur, for Californians are too busy thinking of Chicago to hunt charms elsewhere. It has been counted that California would enjoy the patronage of European globe-trotters who tire of the World's Fair and yearn for natural beauties. It seems, however, something of a question whether any one will escape Chicago plunderers with funds enough to go anywhere, and even the European may have to walk home via Alaska and Siberia. But the natural scenery of California will keep for coming generations. It is a consoling thought that it will be the priceless heritage of our children.

What To Do With Apricots.

Apricots will take care of themselves this year pretty well. Something in the air thinned out the bloom last winter so that the growers as a rule had little occasion for finger thinning and what fruit there is will be large and fine and probably in quick demand. Canners do not disclose much appetite for any kind of fruit this year because the visible supply at the east has prevented advance orders to our canners and yet in view of the short apricot crop we imagine canners' buyers will soon be going through the country and they do not usually travel for their health. Growers who have a supply of 'cots should realize well this year and yet it is not advisable from any point of view to put a prohibitory price upon them. A good paying figure is good enough for the grower, both for present results and for future prosperity.

But every year will not be as this year. We shall have plenty of years in which the growers' interest will require the movement and disposition of the greatest possible quantity of apricots, and for this reason it is advisable even now to do everything possible to show the people at large what can be done with apricots. The apricot has

only partly made its way as a kitchen fruit even in California. The local demand in our cities and towns is only a fraction of what it ought to be, and of what it would be if our cooks and housewives knew what delicious confections and desserts could be built upon an apricot foundation. And if California only knows the apricot under pier-crust and in jars and bottles, what can be said of the eastern ignorance of the apricot. It is not remarkable that the easterner who tries to enjoy a "raw" specimen of California apricots, which have been picked too early in the ripening to stand transportation, should conclude that the fruit was rather poor fodder. It takes a perfectly ripened apricot to be toothsome, either by itself or smothered with cream. In the nature of things our distant customers cannot have the apricot in its richest, and there is all the more reason that they should know the deliciousness of the apricot when stove heat is wisely used as a substitute for the finishing work of California sunshine. If they are taught this, and better distribution and cheaper freights bring the California apricots to the Eastern kitchens in ample quantity at fair prices, there need never be any apprehension that possibly California has too many acres of apricots. Free use of the fresh fruit during its season, coupled with an all-the-year consumption of canned and dried apricots, will assure us the benefits which should accrue to us from having a country in which the apricot needs neither warm walls nor frost covers, but grows to the proportions of a forest tree, and apparently will endure, in generous bearing, for generations if set on good soil and wisely treated. The new country to the southeast of us will probably share with us the benefits of apricot production, but when it is remembered that not even all the fruit regions of California suit the apricot, the monopoly which a narrow portion of Uncle Sam's domain enjoys is apparent.

For such considerations as these we make prominent this week a comprehensive article prepared by one of our contributors and which may be found on page 489 of this issue under the title "The Glorified Apricot." The writer gives her own experience in the uses of the fruit and compiles from sources, out of the reach of most readers, the culinary history of the apricot. We have no idea that the statement exhausts the subject. We would regard it rather as introductory and hope that the hundreds of California housewives who read it may be prompted to send us accounts of their own inventions or borrowings with reference to the food fixings in which the apricot is a prime factor. If we can bring before the public all available information on this subject it may be quite easy to secure some publication in the interest of California apricot-growers which can be used as a missionary in all parts of the world where we desire to popularize the California apricot. Therefore, friends, give us your experience in using the apricot for public benefit.

It is quite desirable for each to state preferences for different varieties of the apricot for different purposes, but the one who reads with the idea of planting must remember that varieties must be chosen with reference to local adaptations. For example the Large Early, which our correspondent prefers for canning and jellies, is a variety which will not prove satisfactory in central California situations. Many growers who have tried it will assure you that it is neither early nor large and that in the matter of bearing it is shy even to barrenness. But even this may be true of a variety in the wrong place and its local value in other places notable. The Royal comes the nearest to being an all-around variety perhaps than any other and the Moorpark the most exacting of all in its conditions, unless recent claims of harder pruning as a promoter of fruiting be widely substantiated. Let each grower then, in connection with his or her experience in the use of the apricots, mention the varieties found most satisfactory both in the kitchen and the orchard.

We shall be pleased to add to the glory of the apricot. The most beautiful of all deciduous fruit trees, the most vigorous in growth, one of the freest from pest and disease and as a rule one of the most generous in its fruiting, it deserves well of Californians to whose horticultural prosperity it is so substantial a contributor.

Special Dried Fruit Edition.

We have in preparation a special edition devoted to the fruit-drying industry, for which we invite contributions from all who have interesting experiences or observations to set forth for the edification of our readers. We intend to present the subject of fruit-drying under several leading divisions, in each of which authoritative data will be set forth and the policies and methods of those most successful in the business described. Appliances, facilities and systems of work will be sketched with the idea of aiding all with a knowledge of the results of the ingenuity and experience of others. Even the most successful can usually learn something from the successes and failures of

others, and to the beginner such an introduction to practical methods will be of great value.

We invite all to write us, either briefly or at length, of their own methods which yield best results, for, in addition to a number of stated papers which we shall present, we desire a full showing of volunteer correspondence on the great and little things in fruit drying which possibly might be otherwise overlooked. Please write soon that the facts can be set forth early enough to be of value this season and before your own busy season compels you to lay down the pen and take up the cutting-knife.

E. C. PRIEBER of the Napa Valley Wine Co. takes a hopeful view of the wine situation, in that some of the obstacles to the progress of the product are disappearing. In a letter to the *Wine and Spirit Review*, Mr. Priber says:

The greatest danger at present comes from large cellars with an accumulation of different vintages; the indiscriminate ageing of entire crops has produced, naturally, a heavy stock of badly handled or neglected wines. As long as the producer does not understand personally how to select the wines which will best stand and improve by ageing, he should sell his entire crop or stock of wine every year. As long as the jobber fears to buy old wines, as frequently is now the case, the industry will never pay well. Only good wines, well aged, will bring fancy prices, and all other goods must be sold quickly at the market value.

But the crisis is nearing the end, nearly each month sees one of the large cellars, with its three or four different vintages, disappear in the gigantic vaults of the city merchant, and in a very short time it will not be so easy to gather a million gallons as it has been in the last four years.

This seems to accord with the declarations of other wise men, that carelessly made and handled wine has been one of the chief causes of disappointment. The idea that anyone could make good wine anywhere and with meager appliances and facilities has cost our people a lot of money.

REPORTS FROM SACRAMENTO and vicinity are that hops never looked better at this season of the year, although, in some instances, they are a little backward. Trellis work is almost all up now, and the young plants are high enough up from the ground to warrant the growers in believing that there are prospects for a good crop, providing there is nothing to set them back. The high winds have somewhat damaged some of those who had not yet done their first tying, but the damage is not so much that a little attention at once will not remedy it. The plants look strong and healthy, and some of the yards on high ground are ready for the second tying and are beginning to arm out in splendid shape. Reports from other sections of the State and coast are not so favorable. Washington growers are having much trouble with the louse, and the bearing in Sonoma County is likely to be reduced from various causes. With decreased production, it would seem that the outlook is favorable for greater activity in the market.

IT MAY BE OBSERVED that reports of Director Barwick of the State Weather Bureau, and of the State Horticultural Society, both published in this issue, relative to the probable prune output of Santa Clara valley are in direct conflict. One anticipates a large yield, the other a partial failure in some important localities. The report to the Horticultural Society was made by Mr. J. L. Mosher, of San Jose, who said he had just completed an extensive tour of the prune district and whose opportunities for observation were therefore first-class. The Weather Bureau report is a generalization and not specific, like Mr. Mosher's. In this instance we are disposed to accept the latter's statement in preference to the former. Here again we have a perfect illustration of the difficulty of getting a reliable crop report simply because men's opinions differ even with the same facilities for information and with the same facts from which to draw conclusions.

A SENSIBLE REFORM in the distribution of seeds is about to be inaugurated by Secretary of Agriculture Morton. He thinks it useless to issue seeds to Representatives in Congress from city districts. Hereafter no seeds will be issued to city Congressmen, while those to rural Representatives will be reduced in quantity, and the seeds that would have been supplied them will be sent to the several agricultural experiment stations to be distributed by them. Only those seeds will be sent to the different stations that are peculiarly adapted to the soil and climate of the locality. Thus tobacco seed will be sent to the Maryland station and beet seed to the Berkeley (Cal.) station.

E. F. SMITH, Secretary of the State Board of Agriculture, has been reappointed Statistical Agent of the United States Department of Agriculture. Mr. Smith's services in the past have been the basis of reappointment, which must be counted as a reward of merit. We have not yet heard of the designation of other agents in this State.

THE STATE FLORAL SOCIETY is undertaking a series of out-door meetings at various points of horticultural interest

in the bay region. On Saturday of last week the members assembled in Berkeley, and spent the greater part of the day in the experimental grounds and botanical gardens of the State University. This week it is planned to go to Sherwood Hall Nurseries at Menlo Park. These open air meetings afford a fine opportunity for field study and observation, as well as for social enjoyment and recreation. Probably the practice of the State Society may be acceptable to other floral organizations.

THE STATE BOARD OF HORTICULTURE is collating statistics with a view of showing the average cost of producing an orchard and vineyard four years old in the various parts of the State. It is designed further to learn the actual cost per pound for production of fruits of all kinds in California that such an array of facts may be presented to Congress next winter as to prevent removal of the duty on imported products. The matter is of the utmost importance to all producers in the State, and the board should be afforded every facility for prosecuting its work.

THE FRUIT-GROWERS' ASSOCIATION of Napa county has practically decided to purchase the East Napa fruit-drying establishment and operate it in their own interest. There has been incorporated in Napa also the "Fruit-Dryers' Association" which will (we understand) work in connection with the fruit-growers and for their mutual interests. It is to be known as the "Napa Fruit-Drying Company." The fruitmen of Napa county are just as wide awake and intelligent as fruit-growers anywhere, and they are very likely to make a success of their attempt to co-operate.

IT IS THE PRETTY GENERAL testimony of all who follow the situation closely that the apple crop in the middle west this year will be light. Late frosts, hard storms and adverse weather are responsible for the damage to the crop. While the California apple product will not be called upon directly to supply the shortage we are likely to be benefited by the decrease of the dried apple output. Besides, if apples—the great staple fruit of the middle west—are scarce and high in price, our other fruits are likely to be in better demand.

THE LAST ITEM in the California exhibit of the World's Fair was packed in Sacramento and is now en route to Chicago. It consists of the entire Shasta county exhibit and a few boxes of delayed goods from exhibitors throughout the State. The Shasta county exhibit, which has been delayed until the present time notwithstanding the continual urging of the California World's Fair Commission, consists of several cross-sections of trees and various articles tending to show the products and growth of the northern section of the State.

THE STATE WORLD'S FAIR COMMISSION is actively completing its plan for making successive exhibits of green fruits and vegetables at the World's Fair. Offers of fruit and vegetables are coming in from all over the State, notably from Alameda county and San Jose. The former county is short of money, having already overdrawn its appropriation by \$2700, but expects in a few days to receive an additional amount of \$10,000, part of which will be devoted to the fresh fruit and vegetable exhibit.

MR. R. P. LATHROP, secretary of the Farmers' Hay Company, at San Benito, warns farmers against making their hay too heavy in the bale, as the small dealers say they are too heavy for the retail trade, and that hay in light bales will bring the producer more money. Mr. Lathrop also says that from present indications the hay crop will be light in many sections of the State, but the prices will be better than last year.

OBJECT LESSONS are best of all and the Sutter County Horticultural Society is to have a charming one at its meeting in Yuba City the third week in June. The subject will be fruit packing and Mr. Kells volunteered to have some girls on hand to illustrate the most approved processes of packing. Front seats will be especially reserved for young men.

A PRESS DISPATCH from Martinez states that one of the principal nurserymen in Contra Costa county offered for the crop of 40 acres of five-year-old apricot trees \$200 per acre; also for the crop on 50 acres of almonds \$200 per acre. The trees are six years old. The offer was not accepted.

WE UNDERSTAND that Governor Markham has appointed Mr. Christopher Green of Sacramento to fill a vacancy on the State Board of Horticulture, occasioned by the resignation of Mr. Gamble. Mr. Green has served long and acceptably on the State Board in earlier years, and his friends will be pleased at his being again called into service.

THE way to co-operate is to co-operate.

From an Independent Standpoint.

A convention of fruit-growers will soon be held in this city to consider the relations of the tariff to our orchard industry. It is proposed to mass the facts bearing upon the matter at issue; and to give Congress not alone the formal opinions of our people, but the information and the arguments upon which these opinions are based. Our fruit-growers expect to show the necessity and to demonstrate the justice of protecting our fruit industry so long as the conditions of the market are what they are, and so long as protection shall remain a feature of American policy.

The exhibit of fact, now in preparation will show all the conditions of the fruit industry here—including value of land, cost of labor, conditions of life among laborers, etc.—in contrast with the corresponding conditions in Europe. Such a statement has never been formulated; and it is believed that it will afford an argument for the retention of the tariff duties, absolutely unanswerable.

The convention will occur at a time when the market question will be uppermost in the minds of producers, and this fact, taken in connection with the special subject under consideration, will give the meeting exceptional character. Former conventions of fruit men have been devoted chiefly to discussions of methods of production—this convention will consider methods of marketing. We look for excellent results, entirely independent of the primary motive of the meeting.

There is in our judgment small danger of damage to our interests by tariff tinkering; and our faith in the matter is based upon the financial situation of the Government. The whole income of the Government is now required to meet its expenses, and, if any part of this income shall be cut off by changes in the tariff, then some other way must be devised to raise money. It would be easy enough to do this by putting a tax upon sugar, tea or coffee or by increasing the revenue taxes upon tobacco and spirits, but the party in power knows that this would be fatal as a matter of politics. They will not increase the revenue taxes nor will they restore the tariff on sugar, etc.; and since they must have money to carry on the Government, the tariff will be left practically where it is now. There will be changes in the tariff list here and there of course, but we venture the judgment that there will be nothing like the wholesale abolition of duties concerning which the country is so fearful.

It has been suggested that the new administration may, by economizing the funds of the Government, be able to get along with a reduced income; but this is not probable. Recent history does not justify much hope on this score. When the last Republican Congress appropriated in two years between nine hundred and one thousand millions of dollars, the opposition made a big howl about the "Billion-Dollar Congress," and it was shouted from every Democratic stump that Democratic ascendancy was needed to save the country from ruin. The election—two years ago—gave the Democrats full control of that branch of Congress which holds the strings of the money-bags, and what was the result? Another billion dollars was appropriated! Nor was this the fault of the Democratic Congress. As somebody has wittily said, This is a billion-dollar Government, and it takes money to keep the wheels greased.

Our national expenses have grown vastly within the past few years, but they do not approach the vast sum of a "billion dollars" in two years. Between one-third and one-half of the national appropriations goes not for ordinary charges of government but for pensions. Last year something like one hundred and thirty-two millions of dollars went for pensions; this year it takes a hundred and fifty millions; next year nearly two hundred millions will be required. It is this large demand that makes a huge national income a necessity, and there is no use talking about running the Government cheaply so long as this charge has to be met. It is this heavy charge, bear it in mind, that affords security for the tariff system, for, the tariff system is a necessity for raising the money to meet it.

While the fruit men are in session, they ought to devise methods of marketing that would be beneficial all round. We now have successful local co-operation; what is wanted is the application of the same principle to the whole fruit-growing interest of the State. The convention should devise ways and means of opening new markets for our products; and in this connection it would be well to take up the suggestion made before the Board of Trade last year by Mr. W. H. Mills. Mr. M. pointed out that there are thousands of communities east of the Mississippi river able and willing to buy our fresh fruits, but unable to do so because we have no arrangements by which anything less than a carload

can be supplied. Our fruit, he said, was often sent in a glut to be sold cheap in Chicago, when towns all around would gladly take it at full prices if they could get it in such quantities as they could handle. Oysters are supplied fresh to all these little places by an easy system of shipment, and there seems no reason why California fruit could not be supplied in the same way. The convention ought to find a way to apply this system to fruit shipping from this State, or devise a better system.

In the case of a Chinaman brought before the United States Court in New York last week charged with being unlawfully in the country under the terms of the Geary act, the judge pronounced the defendant guilty and sentenced him to deportation "when ways and means shall be provided." There being no "ways and means" in sight the Chinaman was given his liberty. Thus matters relating to the Geary law rest. The law has been declared constitutional and the courts will, unquestionably, convict and sentence to deportation all unregistered Chinamen brought before them. But to sentence a man to be "deported" without providing him with a steamer ticket is like calling spirits from the vasty deep. Before the deportation part of the programme can be enforced Congress must supply the funds. As a matter of fact this will never be done. More time will be allowed the Chinese in which to register and now that they know the law to be a valid one, they will make haste to comply with its terms. By this course, all that the Geary measure proposed will be carried out and no injustice will be done.

The Eastern sentimentalists who loudly proclaim that the requirement of registration is cruel and outrageous, forget that American citizens have to submit to a rule very similar before they can exercise the right of franchise. Surely there can be nothing very cruel in requiring an alien to do what is required of our own people.

California Oranges in Florida.

The following from the *Minneapolis Produce Bulletin* will be found very interesting reading in this state, inasmuch as it relates to a gentleman who has been pretty widely advertised as a devoted friend of California and California fruits:

Recently some of the principal orange-growers of Florida met E. L. Goodsell, the New York fruit merchant, by invitation at Jacksonville. The object of the meeting was one of "endeavor to derive mutual benefit through harmonious action, and also to devise some means by which the present freight rates on shipments of Florida fruits might be reduced."

Mr. Goodsell addressed the meeting and gave interesting descriptions of orange culture in various parts of the world. He had brought with him one box of California oranges and one of Sicily oranges that all might see how superior is the Florida fruit to that which is in competition to it.

Mr. Goodsell proposes to erect a large packing-house in Jacksonville for the benefit of the smaller growers, and will be ready to handle next year's crop. He has already engaged two experienced Sicilians and will be prepared to do either fancy or plain packing.

There is no doubt, says Mr. Goodsell, but that Florida fruit is greatly preferred in English markets to any other, and he sails for Great Britain next week, and will charter two fast freight steamers, which will be loaded at Fernandina at the first of next season and consigned to British ports.

The growers decided to combine with Mr. Goodsell in the effort to secure a better rate of freight, and to that end will make him their agent at Jacksonville, in so far as he will determine over what route their produce is to be shipped, though they consign direct to whom they please. By this method of concentrating shipments a much lower tariff can be secured.

The meeting was well attended and highly interesting to all, and adjourned at 12 o'clock to partake of a bountiful lunch spread in the rear of the hall by Mr. Goodsell.

Byron Notes.

TO THE EDITOR—The above is a railroad town of about 400 inhabitants situated in Contra Costa County on the west side of the San Joaquin valley.

The large farms have been cut up in this vicinity and they claim the yield per acre is larger per acre than in any other portions of the San Joaquin where one man controls farms that run up into the thousands of acres.

The prevailing rent is one-fourth and the renter furnishes everything; or one-half when the owner furnishes seed, horses and in fact everything. Farms are in demand here, and anyone owning land has no trouble in leasing. Wheat is pastured here every second fall—summer fallowed one year and pastured and sowed in wheat the next year. The land has been farmed steadily since 1868. When the land was new a field of eighty acres at Eaton Plains threshed eighty bushels of barley per acre. Apricots, peaches and most fruits do well.

The climate is fairly well adapted to oranges, the frost not being severe; though, but in certain locations is the soil suitable. Mrs. Frances Wilder, who has a fine farm east of town, was the first to give them a trial. Four years ago she planted forty two-year-old trees and about the same number of yearlings. The past season they raised oranges that weighed from eight to fifteen ounces each, and of good

flavor. She has enough young trees to plant five acres and intends to give orange culture a fair test. The trees which are of the Beecher and Washington Navel varieties look healthy and thrifty. ED. ROBERTSON.

Vegetation Between Orchard Trees.

[A paper read before Danville Grange, May 17, 1893, by Wm. Ed. Cook of Alamo, Cal.]

In view of the fact that so great a diversity of opinion exists regarding the influence that growing crops between the rows of orchard trees exert in the harboring and propagation of insects injurious to the ripening and already ripe fruit (to say nothing of the trees themselves), it would almost seem a waste of time to call your attention to a subject that is undoubtedly of vital and paramount importance to all those engaged in growing a first-class article of fruit for market.

Almost any kind of vegetable has its own particular insect to shelter and feed itself upon, and any one may see for himself that some plants have quite a number. Some of these plants may be, and doubtless are, very palatable to the little pests that prey upon them; but they have not the tenth part of the charm and luscious fascination that a prime peach, a plum or an apricot, or a golden-yellow and juicy, mellow pear can present for their delicate and fastidious appetites. If you cultivate these plants between your trees, you also cultivate the insects which feed upon them. Corn is undoubtedly one of the worst things that can be planted among rows of trees.

It creates long, narrow passages, which are full of hot air during the daytime. These channels of hot air, together with the impenetrable foliage of the trees, and the rough, imperfectly pulverized surface of the ground, are a very important factor in the creation of the filthy and disgustingly repulsive scale, which it is so easy to become the possessor of, and which calls for a purse with mighty long strings to eradicate.

This fact is more noticeable in orchards surrounded by ornamental shade and willow trees. Besides, it prevents the thorough circulation of that free current of air, along and above the surface of the soil, so essential to the present and future welfare of a healthy tree.

Your trees are not old enough to be fruitful; you feel that you cannot spare so much ground in idleness; the temptation to plant something there is irresistible. You are unconsciously propagating a future enemy that will appear by the tens of thousands to stock your neighborhood for an unknown period. Does it pay? Ask your neighbor. You shear your trees. It is not pruning. The majority of the work of this class lacks the first principles of pruning. The foliage is allowed to grow so thick that God Almighty's sunshine, with all its power and glory, cannot penetrate to the center of the tree to where the insects are living in riotous revelry. They then become a first-class rendezvous for the myriads of moths that are looking for such daylight haunts, there to dispose of their eggs for some future occasion.

This is more noticeable in some localities than in others, and with some trees than others. Pears to a great extent are the victims of this misfortune. You then spray their surface; you may continue the operation at pleasure. It is bad enough to encourage them in that manner, without propagating them with vegetation upon the surface of the soil.

A man don't want the trouble of growing three grades of fruit. He should have the best. He requires one grade. (A corresponding grade of insects would be a blessing.) It is possible to do this if you know how. Having done so, one does not want insects to be the only consumers of his high-grade article.

Imagine the profit (it is all imagination) in drying a third-grade peach or apricot for sale, with nothing but pit and skin! When they won't sell, you say there is nothing in fruit. It is not fruit, it is misery.

Allowing a liberal margin for excuses and prejudices and unavoidable personal interests, it cannot be denied that a tendency to discourage the growing and cultivation of vegetation between rows of trees is to be commended. And the man who gives it his sanction and support becomes not only a benefactor to his neighbor, but he is helping to smooth the rough road for himself which leads to that goal without a conscience; viz., the public fruit market.

We do not wish ourselves to be understood as being alarmists in this connection. On the contrary, these are hard facts, and like the insects themselves are very persistent.

Summer Spraying of Deciduous Trees.

The Sutter County Board of Horticultural Commissioners recommend the whale oil soap and sulphide of potash wash for the summer spraying of deciduous trees, infected with the pernicious scale, yellow mite, red spider, etc. The following is Prof. Hilgard's formula, and is used throughout the State, being not only cheap but easily mixed for summer spraying. To accomplish the best results this wash should be applied after the scale or yellow mites are hatched, and while they are crawling on the trees. It is impossible to state the date when this occurs, as it varies according to the season and weather, but it is usually about the first of June in this part of the State. All infected trees should be often examined and when, with the aid of a magnifying glass, the young scale or mites can be seen crawling on the tree, no time should be lost in applying the remedy.

WHALE OIL AND SULPHIDE OF POTASH REMEDY.

Whale oil soap (80 per cent strength).....	20 lbs
Sulphur.....	3 lbs
Caustic soda (98 per cent strength).....	1 lb
Commercial potash.....	1 lb
Water to make 100 gallons.....	

Place the sulphur, caustic soda and potash together in about two gallons of water and boil for at least an hour, or

until thoroughly dissolved. Dissolve the soap in the water boiling; mix the two and boil them for a short time; use at 130 deg. F. in vessel.

Professor Hilgard recommends, in bad cases of scale and in fighting yellow mites, an addition of kerosene in the form of an emulsion, to the above wash:

Kerosene.....	1 gallon
Whale oil soap.....	1/2 gallon
Water.....	1/2 gallon

Dissolve the soap in the water and when boiling hot add the kerosene. Churn the mixture for five or ten minutes with a hand spray pump until it forms an emulsion. If the emulsion is perfect it will be of a creamy nature, no oil appearing on the surface. Add this to 100 gallons of spraying material.

The sulphide of potash and kerosene emulsion are often made up in large quantities and the proper amount added to the whale oil soap as required. Keep this wash well stirred when using.

It is very important that the whale oil soap used should be at least of 80 per cent strength. To test the soap, spread five or ten ounces of it on a tin plate counterpoised on a pair of upright scales reading to ounces and then dry the whole by setting it on top of a pot of boiling water. The loss in drying will indicate the amount of water in the soap. Thus, if five ounces were taken and one ounce was lost in drying, the soap would be 80 per cent strength.

R. C. KELLS.

J. C. GRAY.

H. P. STABLER.

Horticultural Commissioners, Sutter county.

Thin Fruit for Drying.

Showing How You Get Paid Six Times for the Work.

TO THE EDITOR—While the importance of thinning fruit designed for shipment is generally understood, and was ably set forth in *RURAL* of April 29, there are still many who think it does not pay to put any extra labor upon what will only be dried fruit at best. Even in Vacaville, which is the home of the fruit shippers, we understand that a few who have stuck to fruit drying, and given it the same care devoted by their neighbors to that shipped green, have as good bank accounts as most of those who have given their attention to the more attractive and hazardous branch of the business.

Now for the six ways that they get pay for thinning peaches, nectarines or apricots designed for drying:

1st. It Pays in Picking.

You can thin off half the fruit when small quicker than you could pick it when large, and when mature the time required to fill a basket depends mainly upon the number of peaches it holds.

2d. You Get Pay in Cutting.

As it takes just as long to cut and spread a small peach as a large one. It takes longer to cut eight peaches that will weigh a pound than to cut three and pick off five when they are little.

3d. You are Paid in Yield of Cured Fruit.

If peaches run six to the pound the weight of pits will not vary much from that of the cured fruit. If they run three to the pound they will weigh not much over half. Many of us have never taken pains to see that a ton of large peaches is as likely to yield 400 pounds of dried as a ton of small fruit of the same variety to yield 300 pounds. It means a difference of about \$8 per ton in the value of the fresh fruit to the dryer.

Does any man estimate that it will cost over \$1 to thin a heavily laden peach orchard in a way to make that difference?

4th. You Save your Trees from Breaking.

Granted that you leave fruit to reach the same weight at maturity, still you leave it along the body and in places on the limbs where the weight has no breaking leverage and take it off the ends where it may get sun-burned and is almost sure to break the tree.

5th. You Save Vigor of Tree and Soil.

It is a well-known law of vegetable economy that the vitality drawn from the plant is in proportion to the number of seeds matured. The pulp cuts little figure. The same rule holds good as to strength taken from the soil. It is hard to estimate how much more than pay for our work comes from this source, but no thoroughly posted fruit man will be likely to think it less.

6th. We get Pay again in Extra Price.

It is not much of a market nor much of a salesman where fruit dried from peaches that went three to the pound only brings one cent a pound more than that from those of half that size. Two cents would more accurately measure the difference in value. Still, the smaller figure is enough to meet whole cost of picking and hauling or of cutting and drying in any well-managed establishment.

The pits on stone fruits will soon begin to harden, and it is very important that immediate attention be given to such work as must be done now, if ever, and will pay six times over. When pits have hardened, it is too late to prevent loss of vigor of tree or soil, but not too late to reap several other advantages from thinning.

Taking above six points into consideration, it is no wonder that so experienced a grower as Sol Runyon should remark: "No work done on my place pays so well as thinning fruit."

FRANK S. CHAPIN.

MORMON POTATOES have been imported into the San Joaquin valley to supply the local demand. Here is a very good subject for discussion at a farmers' institute.

NORTH CAROLINA CHERRIES beat California into the New York market just two days. Our late season was the cause of the universal tardiness.

Gleanings.

THE WHEAT HARVEST was announced to begin in Kern county last Monday morning on the ranch of E. M. Coe.

ALBERT JOHNSON, at Parkfield, Monterey county, is 6 feet 8 1/2 inches in height, and thinks he is the tallest man in the State.

TULARE COUNTY has been divided, the vote on the question resulting, 1150 for, 450 against. Hanford is the county seat of the new Kings county.

A ONE-HUNDRED-ACRE ORANGE GROVE on the Wekiva river, in Florida, known as the "Markham" grove, is reported to have yielded a net profit this season of \$23,000.

ALFALFA HAS BEEN USED as a forage plant for 2300 years, yet there are some farmers who have not learned that it will yield more hay or feed to the acre than any other grass that can be grown, says an exchange.

WHAT IS GENERALLY BELIEVED to be the oldest pear tree in New England is on a farm at Danvers, Massachusetts. The tree was planted by the late Governor Endicott in 1630. Over a bushel of fruit was harvested from the tree last year.

JOAQUIN MILLER, THE POET, is hunting Evans and Sontag. We commend the example of Mr. Miller to some others who think they are afflicted with the divine afflatus, as the very best means of thinning out an over-abundant crop of rhyme-tinkers.

IN MALTA AND NAPLES 15,000 oranges have frequently been picked from a single tree, and one case is recorded of a tree in the Sandwich Islands which bore 20,000 oranges, while in two instances in southern Europe 38,000 were picked from one tree.

THE PENNSYLVANIA *Grocer* announces the arrival of 63 carloads of California oranges in Pittsburg during two weeks lately, which is 200 per cent more than arrived during an equal period last year. California fruit is rapidly becoming popular in Pittsburg, and a very large consumption of good fruit may be looked for at that point.

THE SUPERVISORS of Napa county do not propose to have dust thrown in the eyes of people of that county this year. They will sprinkle the roads. Wagons have been ordered, the matter of water supply is being looked into, and before another moon a system of county-road sprinkling will have been inaugurated in Napa county.

IT IS TIME to call a halt on trying to get rich on raising wheat, says the *Oroville Register*. Let farmers raise fruit, hay, vegetables, corn, alfalfa, hogs, try dairying, raise chickens, or put their land to almost any other use that can be named, and they will make more money than in growing wheat at the prices which have prevailed for the past four or five years.

IT IS HARD TO TELL, but it looks like a lower rate to the World's Fair will prevail before the exposition closes. One or more transcontinental roads already manifest a disposition to go back on the agreement, and, if passenger traffic does not hold up better than it starts out, a cut-rate war seems reasonably certain to ensue—a consummation most devoutly to be wished.

THE VACAVILLE *Reporter* has a head long enough to stick through a rail fence and nibble grass. (This is meant to be complimentary.) The paper offers \$2.50 in cash for the best box of Tartarian cherries brought in before June 1st. Of course everybody thinks he raises the best cherries and everybody will compete, and there won't be room in the *Reporter* office for anything but the offerings of competitors for that prize.

DEHORNING IS BECOMING UNIVERSAL and it is proper, says the *Alton Our Paper*. If you have an animal that "wears" horns you should have them removed. It may be the means of saving some one's life, or at least protect the brute creation from many "stripes." We saw a two-year-old with horns make an animal of many a hard-fought battle, which had been dehorned, leave his feed one day this week. It takes the fight out of him.

Two young men of an interior town have created quite a sensation by signing an agreement before Justice Kelshaw to abstain from liquors of any sort for a specified length of time, the penalty for touching the stuff being perjury and a \$50 suit of clothes. "If this kind of thing would be made universal," says an exchange, "we would have those who indulge either in jail for perjury, or sober men." And doubtless tailoring would be the most lucrative of occupations.

ONE OF THE GREAT metropolitan dailies of this city published in its telegraph columns a gruesome tale of an awful murder at Woodland, Yolo county. The dead body of Mr. T. H. O'Mascot was found in a back street, with a frightful wound in the side. Little was known about Mr. T. H. O'Mascot in Woodland, except that he had "long gray whiskers" and was wont to "pry about dark alleys at night." It is evident that the great daily was imposed on and the victim of the blood-congealing murder was Thomascot—only that and nothing more.

TULARE COUNTY REPORTS a very fine growth of peach orchard. Charles S. Riley, superintendent of the Giant Oak Fruit Company's ranch, near Farmersville, had a photograph taken of one of the largest peach trees on the ranch, and a horse and buggy were depicted for the purpose of showing the relative size of the tree and vehicle. The peach trees on the Giant Oak fruit ranch are 26 months old. The height of the tree photographed is 16 feet and 6 1/2 inches from the ground to the top limb, and it is 14 feet in diameter. Over 1000 peaches were picked from the tree, and all the trees bore heavily.

THE HEALDSBURG *Tribune* takes rather a cheerless view of it. It says: "The season for 'camping out' is at hand, and now we robe ourselves in an old, back-number straw-bat and shoes that have stood guard in the back closet all winter, and start for the camp-ground. We spend a week or ten days roaming over a hot, dusty, barren country, sweating, puffing and swearing, keeping one eye on the snakes and with the other trying to find some enjoyment in an Indian mode of life, eating dirt by the peck and sleeping on a downy bed of ten or a dozen boulders that gouge great holes in your back at every turn, and, at the end of the ten days of untold torture, we return, dirty, sunburnt, tired and disgusted, yet stoutly maintaining that the past ten days have formed an oasis in the great desert of life that can only be equaled by a repetition of the occasion the following summer. Strange what peculiar things life's pleasures are made up of."

Sulphur for Fruit Bleaching.

To use just enough sulphur in preparation of fruit for drying and to regulate the exposure according to the kind of fruit or condition thereof, have been among the most perplexing problems of fruit-drying. There has often been a call for some way of indicating uniform amounts of sulphur and insuring its complete vaporization. Mr. J. H. Wheeler, who has done so much for the agriculturist in his carbon-bisulphid squirrel business, has now put upon the market what he calls "sulphur wicks." They look like a brood lamp wick filled and coated with melted sulphur. They are handy and clean and may be handled like kindling wood, with no dust to lodge on the fruit, stain the hands and clothes or to irritate the eyes or person. The wicks ignite readily with a match, burning long and continuously till all is consumed. The combustion being regular and perfect the degree of bleaching or effect is determined accurately without weighing by the number of wicks burned in the bleacher. Mr. Wheeler has an announcement in our advertising columns this week. We have no doubt all will be interested to give this new form of sulphur a trial.

HORTICULTURE.

The State Horticultural Society.

The regular monthly meeting of the State Horticultural Society was held in this city Friday, May 26th. Reports as to fruit prospects from several parts of the State were as follows:

Tulare county.—*Visalia*—Apricots are expected to yield about one-third crop; nectarines full; prunes and plums very heavy; grapes heavy, and as much grain as ever.

Napa county.—North winds have done considerable damage, further thinning fruit already thinned.

Alameda county.—Cherries heavy around Niles; other places not so full; prunes very good; peaches have dropped a good deal; apricots short; pears and apples poor.

Solano.—Fruit crop short around Winters; apricots particularly light, though very good as to quality.

San Mateo.—Prunes good.

Sutter.—Few apricots; prunes heavy; nectarines profuse.

Fresno.—Mr. Maslin said he had just seen two gentlemen from Fresno, one of whom said the vineyard crop would be excellent; the other declared there would be only half a crop. He gave this instance for the purpose of illustrating the difficulty of securing an accurate crop report.

Santa Cruz.—*Mountain View*—Pear crop a failure; apricots one-half; prunes three-quarters; black cherries light; peaches good.

Santa Clara.—In some localities the prune crop is short. Around Saratoga and Stevens Creek it will be one-third. Very hard to tell now what the yield of the entire valley will be. Some prunes that looked well two weeks ago are now yellow.

Placer.—Fruits good except apricots.

Mr. L. W. Buck, manager of the California Fruit Union, reported that, so far as he could judge from his advices, the entire fruit crop of the State would be good, except apricots. "I do not think," said Mr. Buck, "that there will be any lack of fruits this year, and I look for fairly good prices." Asked about the fruit prospect East, Mr. Buck reported that the Atlantic coast promised a good yield in all lines, from apples to grapes. Along the Mississippi, however, the fruit is either poor or light, or badly injured by frosts. This product cuts little or no figure in competition with California. The June crop of peaches on the Atlantic this year will be very late, and it will be June 20th before it is definitely known whether there will be a large yield or not.

An interesting feature of the session was the presence of Mr. Fred C. Smith, agent of the Australian Government, who explained that his mission to California was to study fruits, fruit pests, methods of fruit cultivation and preservation in all phases. A display of canned Australian fruits and wines was made by Mr. Smith, and the opinion of horticulturists present asked as to their merits and demerits.

The chief business of the session was the reading and discussion of a paper by Mr. A. L. Bancroft of San Francisco and Contra Costa, on methods of fruit sales and shipments. The paper was as follows:

A CALIFORNIA FRUIT-DISTRIBUTING COMMITTEE.

At the present time there are three or four prominent fruit-shipping associations or companies, besides probably eight or ten smaller local organizations, all shipping fresh California fruits out of the State, each working independently of the others, and all to a greater or less extent competing for the same market. I am informed that some of them, at times, even go so far as to do things of this kind: When it appears that a particular competitor has sent a full supply into a certain market, they at once consign more fruit on top of it. Thus the market is broken and the goods realize less than cost to the grower. We, the fruit-growers, are made to suffer this loss in order that our shippers may carry on a fight between themselves to secure for themselves a larger amount of fruit to handle and make more commissions out of us.

The fruit interests of California have become very large and are increasing. It will be slow and difficult to centralize them all under one association. The recent break in the prices of oranges as they were handled by the Riverside Fruit Exchange will probably retard, but we hope not for long, the movement started at the same place to sell California deciduous fruits in the same way, namely, f. o. b. in California.

Under the existing circumstances, is there anything that California fruit-growers can do to help themselves in obtaining better results in the handling and marketing of their crops?

There is one thing, provided the shippers have not already a mortgage upon us, that it seems possible to do to reduce the waste from the bad distribution of our fruits and the loss resulting from bad handling of them to a minimum. It is even possible to do it this season if prompt action is taken.

It is for all the fruit-growers to insist that the houses or associations through which their fruit is shipped shall have a representation in and be governed by the decisions of a committee which shall sit each day in Sacramento or elsewhere and decide how the fruits going forward each day shall be distributed.

The grower could request that his fruit be sent to a specified market, which request ought to be complied with unless there were good reasons in the minds of the committee why the request should not be granted.

Each association in the State should be represented in this California Fruit Distributing Committee. The local associations at a long distance from the place where this committee meets need not necessarily have a representative to devote his exclusive time to this business. One man could represent several or even all of them. There should be one good man who should represent the fruit-growers at large in this committee, and perhaps at the same time represent the distant associations. It should be his duty to see that the plans and aims of the growers were faithfully carried out. He should keep a record of all the fruit shipped each day and how distributed and have this information published each day.

What a plan of this kind should accomplish would be to have all the available markets supplied with such fruits as they could take at fair prices. There should be no glutted markets and no markets bare of fruit. This would prevent a great waste. How much I could hardly venture to estimate, but I think that from \$50,000 to \$100,000 or possibly even \$250,000 would not be too much. Two representative men among the shippers have admitted, not a great while ago, that if our fruit could all be placed by one man or one management, it would make a difference of 25 per cent in the receipts to the fruit-grower. This plan should accomplish this very thing.

The existence of such a committee need not work against the interests of any honest company or association shipping fruit. They could be just as active in securing business and in executing it as ever. I don't see how the plan should cost them a dollar, and at the same time I think I can see how it should benefit the grower immensely.

Among other documents and exhibits submitted by Mr.

Bancroft in support of his suggestions was the following from Mr. E. L. Goodsell, the well-known commission man:

A. L. Bancroft, Esq.—DEAR SIR:—Referring to your questions regarding a proper method for distributing California's fruit products, I would say that, speaking personally and also for the National Fruit Association, I am in hearty accord with your views as to the necessities of a radical change in the present system. I believe that a committee of three, elected by the growers, should have the power to properly distribute and designate the destination of all carload shipments of deciduous fruits, excepting where individual growers prefer to assume that burden and care. I believe that such action would in no way interfere with the best interests of the producer, shipper, seller and jobber, but to the contrary, result in better markets and more money for the grower, and hence to the shipper, higher commissions for the seller and greater profits for the jobber. As a positive proof that the National Fruit Association has been formed to benefit the grower as well as the merchant, we are ready to accept this method for the management of this part of our business, providing others engaged in the marketing of the crop will do likewise. I consider you have struck the keynote of financial success for the fruit-grower in the proposition, and all having the producers' best interests at heart must agree with you and act on your suggestion. Failing to do this is evidence that selfish motives control their business policy. Very truly,

E. L. GOODSSELL.

L. W. Buck, manager of the California Fruit Union, had been invited to be present and assist in the discussion of Mr. Bancroft's paper. Mr. Buck spoke at some length. Mr. Buck's views have often been presented to the public and it is sufficient here to indicate the chief points only of his address. They were:

"Very heavy shipments of fruit East are not advisable."

"The Eastern market should be sought largely as a means of relieving the home market. If a reasonable profit can be secured at home, the East should not be sought."

"Canners of fruit are forced to pay better prices when they know the producer has an Eastern outlet."

"Sell only to reliable buyers."

"The California Fruit Union deserves the support of every fruit-grower in the State."

"If all the fruit of California could be sold by one management it would bring much more money; but I believe it is impossible to effect such an organization. To do it you must control both buyers and growers. Even if it were possible to organize the latter, the former will never work in union."

"The day of selling poor fruit at paying prices is gone. Fruit must be in good condition to invite buyers."

"The Fruit Union has sold several carloads of cherries at prices ranging from \$1.20 to \$2.75 for 10-lb. boxes; \$1.85 to \$2.75 for black, and \$2 and upwards for Tartarians."

"Peaches do not need to be graded for quality. I would pack the larger by themselves and mark them 'A;' the smaller in other boxes marked 'B,' and so on. But all should be first-class."

"The Eastern buyer soon learns the brand of a shipper."

"I have failed to find a case where fruit of mixed sizes brought as good prices as when uniform, whether large or small. Grade for size, not variety."

A colloquy ensued between Mr. Bancroft and Mr. Buck as to the management of a fruit association. Mr. Buck was very decided in his views that one man would more effectually manage such an organization than a committee. Mr. Bancroft claimed the people of the various sections would be better satisfied if all were represented. Mr. Buck, continuing, said among other things:

"Local organizations are always beneficial."

"The Riverside association failed this year because it fixed a price without knowledge of market conditions."

"Florin, in Sacramento county, has shipped two carloads of strawberries East—the first ever sent out of the State in this manner. It relieved the local market, and to that extent was a benefit, even if nothing had been made on the shipments."

The following paper was read by Mr. John Markley, of Geyserville, Sonoma county:

SOUTHERN APPLES IN CALIFORNIA.

Some years since it was suggested by the Pomologist of the Department of Agriculture at Washington that it was possible that apples of the Southern States, which grow to perfection in that climate, the summers being long, hot and dry, and are also good winter keepers, might grow well in California and prove to be good keepers, the summers here being long and dry, but as a rule not so hot.

Being in the Southern States, and acting on this suggestion, I obtained scions of some of the leading southern apples, principally the Shockley, a native of Georgia, a handsome, medium-sized red apple with a strong and pleasant perfume, it being the principal winter apple in Georgia and South Carolina; the Howards and Calasaga of North Carolina; the Arkansas Black of Arkansas, and some other seedlings the name thereof I cannot now call to mind, including a May apple from Georgia. These scions I grafted into bearing trees in my orchard near Geyserville, Sonoma county.

Some of these grafts have borne and some have not, but those that did bear did give fruit enough to enable me to tell much about their keeping qualities. The grafts generally did not make a good growth; they appeared to be subject to blight and injured by fog and damp in the summer. I think the dry, warm foothill climate better suited to them than the coast counties.

I had some good specimens of Shockley and Langford that keep very well to about the middle of February. I got the best results from the Missouri Pippin. The tree is not a strong grower, is an early bearer, with a tendency to overbear. One of my trees, four years old, bore 32 pounds of apples, medium size, firm, red color; about half of them kept until April.

My observation and limited experience inclines me to the opinion that the amount of land especially adapted to apple-growing in California, on account of soil, climatic conditions and cheap transportation facilities; is limited, and any person having such land cannot make a better investment than to plant an orchard of good winter apples.

The best apples I have seen in California were grown in the foothills of the Sierra Nevada mountains. While there is much of this kind of land in the State, at present only a very limited area thereof enjoys transportation facilities.

Rich sandy loam bottoms, along the rivers and creeks in the coast counties, that have good drainage, are sheltered from strong winds and have plenty of fog, grow good apples, and if transportation is convenient and cheap an apple orchard thus situated would be a paying investment.

Value of a Brand.

In a letter to Mr. E. L. Goodsell, Mr. A. T. Hatch, the fruit-grower, says as to the value of a brand:

"DEAR SIR:—In answer to your asking my opinion as to the value of a brand, will say that my brand is worth thousands of dollars to me every year, as it procures for

me ready sales at the highest prices. Other goods of similar quality and kind that have no established brands, often bringing 20 to 30 per cent less same day, same market and sold by the same men to the same customers. The reason is, the buyer becomes satisfied after several tests that they can depend on finding the goods on a certain brand to be what they are represented to be, and when they see the brand that has borne the test, they look no further, except at a lower price."

The Glorified Apricot.

TO THE EDITOR:—I wonder if any of my readers remember the Mrs. Adams, whose visit to Miss Hetty, on apricot learning bent, I wrote of last year. She is here again. Boston will know her no more for some time, and the World's Fair will not be honored by her presence till the 'cot season hereabout is over. For, as Mrs. Adams sagely remarks, "the World's Fair will be better for keeping, but to miss a California apricot season out of my life—now I know what it is—never."

"Cots will be 'cots this year, you better believe," says Miss Hetty, "and a mighty slim crop." Mrs. Adams thinks so too, as she drives about observantly; thinks she will more than ever cherish her jars of jam, marmalade, and incipient compotes; for, as last year, she is going to "put up" her fruit "on the spot."

There is in Mrs. Adams' "set" in Boston, an organization known as "The Ladies' Saturday Morning Club"—a rather large club, subdivided into smaller ones of congenial pursuits. One of these is called a "cooking class." It is really practical. They invited Mrs. Adams last year, on her return East, to meet with them and "talk apricot confessions." She consented to do so. I have seen her notes and collection of recipes, and have permission to copy and condense therefrom.

She suited her promised discourse to her audience in many ways. The practical part is introduced by remarks on the origin and meaning of the word apricot; reflections and statements, botanical and historical, from Dioscorides and Arabian authorities to the English prime minister who originated a famous apricot at "Moorpark," one of his estates, during a retirement for political reasons. Owing to the source of much of her information, she called her essay "Miss Hetty on Apricots."

And now for the matter in hand. Apricots, though a beautiful, rich fruit, have a certain property in the skin that is best avoided, specially in the raw fruit. Some recommend a hot lye water for "slipping" the skin, but hot boiling water facilitates the matter just as well. The lye water may do if you wish the skins left on, as it extracts in a great measure a disagreeable taste there is in the skin—an astringent acid that I don't believe is good for any one's stomach. (I write in the first person, but it is Miss Hetty talking.) Besides, it takes less sugar. But hot water will do this. Lye leaves a taste, I think.

If you wish to put up your fruit cooked in the bottles, you do not really need to dip them if they are very ripe. The way to do this is to have your boiler with a false wooden bottom; a syrup of sugar and water, measure for measure; fill your bottles with ripe fruit as full as you can, and with syrup to the neck; close without the rubber; set in cold water to their necks; bring to a boil and boil about 20 minutes. You can try when they are done with a fork; lift out, set on a damp cloth [have your room shut up—no drafts while doing this]; fill with hot syrup, and cap. Be sure rubber and tops are thoroughly scalded. This is the weak spot in lots of canning.

This makes a fine fruit—whole, lovely fruit, clear syrup, and lots of it. But it takes time, too much bottle room, an too large a scale for a small family, I think. I have given it up.

By the way, if you see your bottles [apricots should never be put in tin] are not full when cold, don't open and fill with more juice, as a neighbor of mine did, and then wonder why your fruit spoiled. A fool is more abhorred by nature than a vacuum any day.

My ideal of good apricot sauce (I call only pound for pound preserves) is to peel the fruit, ripe but fresh and firm, cook in a syrup of one-half a pound of sugar to a pound of fruit and about half a teacup of water—more or less juice to your taste. Cook carefully and dip carefully from the boiling center of your dish as soon as fruit is done. I always use "Lightning Jars," standing them in a tin with a little water in to equalize the temperature so they will not crack while pouring the hot sauce in. Avoid draft while bottling.

I prefer a white apricot for canning and jellies—the "Large Early." For marmalade, jams, spiced apricots and preserves the Moorparks are nice, especially that very rare and shy bearer, the late Moorpark.

For jellies I take my fruit when fully swelled, just at the stage when they are hard, but the pit has become nearly loose. This is a peculiar point with the apricot. My lightest, green jelly is made with some of the fruit so green I have to cut the stone out. I put water on the fruit, hardly enough to cover, and boil slowly until it is cooked—a straw can go through it. Then I let it stand several hours. You are more sure of extracting the jelly principle this way. Then I strain through a three-cornered bag made of coarse, strong domestic; measure my sugar, measure for measure, warm it in oven while I boil my juice for a few minutes, then put in sugar, boil about ten minutes and strain into my jars or glasses. I set an "herb-strainer" on the jar or glass, a little square of cheese-cloth laid on it, and slowly pour the liquid jelly through. The glass is, of course, set in water or on a wet towel to prevent breakage.

When I want a darker jelly I have a little riper fruit, mixed in and boiled longer after the sugar is in; or I put a few of the red apricots in. Apricot jelly can be made all shades from green or amber to dark red; and, rightly made, it is the king of jellies, rivaling guava and currant. I make my marmalade after English and German recipes—don't wash or grind any

fruit except when using over or very ripe fruit, and then I call it *butter* and generally spice it to go with meat.

A friend sends me the *American Grocer*. I saw the foreign marmalades praised over the native, and apricot mentioned as making the most delicious of all marmalades, so I studied up on apricot recipes. American cook-books, if they mention apricots at all, have very few ways of preparing them. I've really had to find out for myself. When I began I found no one I know knew how to make the jelly or anything else, and I made apricot short-cake before I had ever heard of it.

But the simplest, nicest way to prepare the fresh apricots for dessert, I think, is this: Melt a little butter in your pudding dish; spread rather thin slices of bread with butter liberally, and sprinkle with cinnamon and cover the bottom of the pudding dish. Spread on this a layer of peeled and halved apricots, convex side up, sugar, sprinkle with cinnamon and bits of butter. Repeat this, though only have two layers in a dish. Put rather more butter and sugar on the top layer. This is nice alone, but if you wish it specially presentable add a meringue.

When I make several kinds of ice cream in my freezer (which I do by taking out the frozen cream, dividing it in parts and adding, by beating in, what I wish to each, as coffee, chocolate, flavorings, fruit, etc., then putting back to set) I make my apricot cream by having my peeled, thinly-sliced apricots, heavily sugared, letting stand 20 minutes before I put them into the cream.

There are many delicious ways of preparing apricots for dessert, where wines and liquors are used, I will not mention here. I suppose you know there is a liquor made from apricot kernels. Apricots are very harmonious with certain other fruits, being sweet and not so pronounced in flavor as bananas.

And now for some recipes, direct from certain cook-books, with now and then, perhaps, comments from Miss Hetty's lips.

Here is a recipe from an English cook-book, of unknown antiquity—the ss are all fs. It is in a section on drying and candying.

"Dried Apricots.—Take as many apricots as will amount to about a pound weight, pare and stone them, and then put them into a preserving pan. Pound and sift half a pound of double-refined sugar [of course we use fine granulated now]; strew a little among them, and lay the rest over them. When they have been 24 hours in this state, turn them three or four times in the syrup, and then boil them pretty quick till they look clean. When they are cold take them out and lay them on glasses [or plates]. Then put them into a stove [coolish oven] and turn them the first day every half hour, the second day every hour, and so on till they are perfectly dry. Put them into boxes covered, and set them by for use."

Here is another from the same book:

"Apricot Jam.—Get some of the ripest apricots you can. Pare and cut them thin, and then infuse [let stand on back of stove or in open oven to dry down] them in an earthen pan till tender and dry. To every pound and a half of apricots put a pound of double-refined sugar and three spoonfuls of water. Boil your sugar to a candy height [snap in cold water], and then put it upon your apricots. Stir them over a slow fire till they look clear and thick, but be careful they do not boil; then pour them into your glasses."

Here are some recipes from German cookery. The first I consider makes about the nicest preserve possible:

"Aprikosen.—They must be quite ripe. Peel them carefully [I don't though, especially if I use Moorpark], halve them and take out the stones; then weigh the fruit, and to every pound allow three-quarters of powdered loaf sugar [granulated here, of course]. Put the fruit in an earthen or enameled preserving pan [I use agate ware] in layers, with the hollow side upwards, and sprinkle the sugar over each layer. Set it aside till next day; then set the pan over a clear, slow fire till the apricots are scalding hot, but not long enough to soften them. Take out the fruit with a perforated ladle, and carefully lay them to drain; boil the syrup till it thickens. Meantime break the stones and scald and blanch the kernels. Lay the fruit in preserve glasses with the kernels sprinkled between them; pour over the syrup and cover with bladder. Apricots may be preserved whole in the same manner."

[Of course I don't use a bladder—rubber and tops.]

"Aprikosen Marmalade.—Proceed as above until the boiling of the fruit; then throw in the blanched kernels and gently boil the whole, keeping it stirred until the fruit is dissolved and clear and the color gets a shade darker. Fill glasses and jars and cover them air-tight."

"Aprikosen Mus [Jam].—Four pounds of apricots, two pounds of sugar, a wineglass full of white-wine vinegar and a quarter of an ounce of stick cinnamon. Clarify the sugar, peel and stone the fruit; put this with the blanched kernels, the vinegar and cinnamon all together into the boiling syrup, and simmer slowly till it becomes a smooth jelly."

"Aprikosen in Essig [in Vinegar].—Four pounds of apricots, ripe, but firm, a pound and a half of sugar, a pint and a half of white-wine vinegar, a quarter of an ounce of bruised clover, and the same of cinnamon. Prepare the apricots as directed for preserving. Boil the sugar and vinegar till clarified; then take this syrup from the fire and put in the fruit, which must be nearly scalded, and then taken out to drain before softening. Lay the fruit in preserve glasses with the blanched kernels between. Boil down the syrup with the spices till it is thick; when cold pour it over the fruit."

I never put in over one-quarter of the kernels of the fruit I use, for, though I love the flavor they give, I don't want so much, quite, as the recipes call for. Here are two more pretty dessert dishes from the German housewives.

"Compote von Aprikosen.—Peel and cut in halves. Break the stones and blanch the kernels. Boil a clear syrup of sugar and water with the kernels in it; then lay in the fruit to simmer for a minute or two. Pile up the fruit in a glass dish, and pour over the syrup, leaving in the kernels."

"Aprikosen Kalteschale.—Skin the apricots and take

out the stones, break these and boil the kernels with the fruit, in sufficient water and sugar, till soft. Put half of it in a bowl, and strain the other half through a sieve. Add to this an equal quantity of white wine, sweeten to the taste, and add it to the fruit. Let it get cold, and serve with rusks or sponge cake. A stick of cinnamon might be boiled with the fruit."

If you can't get this wine, use a thin claret. Sherry has too distinct a flavor.

And now for some recipes from one of Mrs. Beeton's cookery books—that celebrated English authority.

"Apricot Cream.—Ingredients.—Twelve to sixteen apricots, one-half pound of sugar, one and one-half pint of milk, the yolks of eight eggs, one ounce of isinglass. Mode.—Divide the apricots, take out the stones, and boil them in a syrup made of one-fourth pound sugar and one-fourth pint water, until they form a thin marmalade, which rub through a sieve. Boil the milk with the other one-fourth pound of sugar, let it cool a little, then mix it with the yolks of eggs which have been previously well beaten; put this mixture into a jug, place this jug in boiling water [can use double boiler], and stir it one way over the fire until it thickens, but on no account let it boil. Strain through a sieve, add the isinglass, previously boiled with a small quantity of water, and keep stirring it until nearly cold; then mix the cream with the apricots; stir well, put it into an oiled mold, and, if convenient, set it on ice; at any rate, in a very cool place. It should turn out on the dish without any difficulty. In winter-time, when fresh apricots are not obtainable, a little jam may be substituted for them."

"Apricot Jam, or Marmalade.—Ingredients.—To every pound of ripe apricots, weighed after being skinned and stoned, allow one pound of sugar. Mode.—Pare the apricots, which should be ripe, as thinly as possible; break them in half, and remove the stones. Weigh the fruit, and to every pound allow the same proportion of loaf sugar [granulated with us]. Pound the sugar very finely in a mortar [of course I don't with our sugar], strew it over the apricots, which should be placed on dishes, and let them remain 12 hours. Break the stones, blanch the kernels, and put them with the sugar and fruit into a preserving-pan. Let these simmer very gently until clear; take out the pieces of apricots singly as they become so, and, as fast as the skum rises, carefully remove it. Put the apricots into small jars, pour over them the syrup and kernels, cover the jam with pieces of paper dipped in the purest salad oil, and stretch over the top of the jars tissue paper, cut about two inches larger and brushed over with the white of an egg; when dry it will be perfectly hard and air-tight."

There, now, I want you to note about the covering. Some folks are so shiftless, or so ignorant, when it comes to covering jams and jellies. I recommend salad oil—our nice California olive oil—to every one, or paraffine. This is so easy. But, above all, cover quickly. Some investigation by a celebrated chemist about fungi that grow on jams and jellies proves some of them very poisonous. The air is apt to be laden with their spores or germs. But folks leave their jellies around so long, out in the sun, too, "setting," before they cover. I read in the *Rural Californian* the other day an article by a man-writer recommending not to cover jellies at all; just set on a shelf where the air can have "free access to the top of the jelly," as he said. There are some folks "shoot off" their pens, as well as their mouths, when they'd best keep quiet. Why, this scientific article I read said one of the more poisonous of these fungi was invisible, and would grow all through the jelly! Mysterious cases of poisoning could be accounted for in this way. I wish when men folk try to talk about cookery, they'd learn something first. I can generally tell when a man with a pair of scissors edits a household department. Why, in the *RURAL PRESS* even, once, in the Domestic department, there's a recipe for cocoanut creams which begins, "Pinch off a piece of the 'dough,' and knead the grated cocoanut into it," etc., but there'd been nothing about "dough," and no one who didn't know about "fondant" and candy-making would know but they meant bread dough. Yes, one can tell when the hardware editor snips in. But to go on with some more of Mrs. Beeton's delicious recipes:

"Apricot Pudding (baked).—Ingredients.—Twelve large apricots, three-fourths pint of bread crumbs, one pint of milk, three ounces of sugar, the yolks of four eggs, one glass of sherry. Mode.—Make the milk boiling hot, and pour it on the bread crumbs; when half cold, add the sugar, the well-whisked yolks of the eggs, and the sherry. Divide the apricots in half, scald them until they are soft, and break them up with a spoon, adding a few of the kernels, which should be well pounded in a mortar; then mix the fruit and other ingredients together, put a border of paste round the dish, fill with the mixture, and bake the pudding from one-half to three-fourths of an hour."

Now in this recipe you can use sweetened water, or a thin lemonade in place of the sherry if you object to the wine. The whites of the eggs may make a meringue for top of pudding, or used for some white cake or for a batch of meringues to be filled with apricot jam and used in an elaborate dessert or at a "high tea."

Here's the last I'll give you from Mrs. Beeton:

"Apricot Tart.—Ingredients.—Twelve or fourteen apricots, sugar to taste, puff-paste or short crust. Mode.—Break the apricots in half, take out the stones and put them into a pie-dish, in the center of which place a very small cup or jar, bottom uppermost; sweeten with good, moist sugar, but add no water. Line the edge of the dish with paste, put on the cover, and ornament the pie in any of the usual modes. Bake from one-half to three-fourths of an hour, according to size; and if puff-paste is used, glaze it about ten minutes before the pie is done, and put it into the oven again to set the glaze. Short crust merely requires a little sifted [pulverized] sugar sprinkled over it before being sent to table. Green apricots make very good tarts, but they should be boiled with a little sugar and water before they are covered with the crust."

We would call this a pudding. I make it and call it a "duff," but I use a rich biscuit crust made with sweet milk and baking powder. "Puff-paste" takes a professional to

do well, and even the English "short crust" is no easy trick to make to perfection. It is a lovely, flaky pie-crust.

Mrs. Beeton has many "crust" recipes, but here is one she recommends for "fruit tarts:"

"To every pound of flour allow one-half or three-fourths pound of butter, one tablespoonful of sifted sugar and one-third pint of water. Rub the butter into the flour, after having ascertained that the latter is perfectly dry; add the sugar and mix the whole into a stiff paste with about one-third pint of water. Roll it out two or three times, folding the paste over each time, and it will be ready for use."

A very delicious dish is *apricot fritters*. I never heard of them or saw them anywhere but on my own table. It took little ingenuity to get them up, as I selected any of the many fritter batters I preferred, and used with the apricots. Fresh apricots I slice thin and stir into my fritter batter, and then drop from a spoon when frying; but canned apricots I use whole, dipping in the batter carefully with a fork. After draining the fritters on a piece of paper—I use my brown wrapping paper—I sprinkle cinnamon and sugar on them before serving.

The foregoing is the gist of Miss Hetty's talk and the best of Mrs. Adams' collected recipes for fresh apricot confections. I hope the reader is not too confused telling "which from 'other," but will have been helped and interested.

There is a great deal left to be said as to the use of dried apricots in cookery. This has been a field of experiments with California cooks. I may write about it another time. I have material for so doing. Indeed, I have been trying many curious Arabian recipes with good results.

Mrs. Adams has engaged a quantity of dried apricots directly of a certain fruit-drier who dries his own fruit, and which she expects to freight East, with her precious apricot marmalades, jellies, etc. Miss Hetty has promised to give her practical lessons in cooking dried apricots.

From the tree in bloom to the drying-yards, Mrs. Adams has watched the apricot, and has a portfolio of sketches in pencil and water-colors. More than this, she is preparing a surprise for her "set" when she returns to her beloved Boston after the eccentricity of a summer in California. She had been told by a friend who knew that no one could judge fairly of California till he or she had summered as well as wintered there. Indeed, that the summer was the pleasantest of all in California, Mrs. Adams is going to avow this herself the coming season at some of the dainty "apricot teas" she intends giving, and for which she is already painting "sweet little favors" and designing sketches for "menu" and "invitation" cards. The last thing I heard Mrs. Adams say is this:

"Why do not some of you Californians specially interested in the marketing of apricots have a pamphlet or leaflet printed containing instructions in regard to the cooking of apricots, specially dried apricots, and have them distributed with your fruit? There is little, if any, knowledge on the matter East. Dried apricots would become much more popular, I think, if people understood how to prepare them." Is not this a sensible suggestion?

AUGUSTA E. TOWNER.

Sphinx Moth Caterpillars at Fresno.

The Fresno vineyardists seem to be undergoing another affliction of the great grape caterpillar or larva of the sphinx moth which is occasionally very troublesome to vines in different parts of the State. A writer of the *Expositor* gives the following treatments which are being followed:

Nobody seems to know what course to pursue in fighting the pest. Where the moths have operated the thickest some of the vineyardists have gone after them with paddles and sacks knocking them into the open sacks until filled, then carrying them away to destroy them.

This is a very slow way, and whether it will amount to much good is doubtful. It will take a good deal of spanking and paddling to kill all the moths, and as long as a moth is alive it will lay its eggs and breed new worms by the thousand.

Some of the people on the White's Bridge road are resorting to a method which promises local relief. They are buying up all the turkeys and ducks they can get and are turning the birds into the vineyards. They take the vines row at a time, and nip off the worms, both great and small, and wherever they go they keep the pest within bounds.

Other persons intend to set Chinamen to work, each armed with a pair of scissors, and let them cut the worms in two. This will be a slow process, but it will answer the purpose so far as it can be made to go.

Spraying the vines with Paris green at the rate of one pound to 200 gallons of water and keeping the material well stirred while spraying, is commended by Alexander Crow, State Quarantine Officer.

THE FIELD.

The Sugar Beet in California.

One of the great advantages derived by the beet-grower and sugar-manufacturer from the favorable conditions and climate of southern California is that the length of the season will enable the beets to ripen much earlier than in Europe, or the north temperate portions of the United States. This gives a much longer season for harvesting and manufacturing, thereby enabling a factory of a given capacity to produce a corresponding output of sugar for the capital invested, and the farmer to harvest his beets without danger or rain or frost and the many climatic disadvantages and annoyances that affect the industry in colder regions. Moreover, here the beets can be worked up direct from the fields into the factory, giving much better results and saving all the expense and trouble of siloing and handling which has to be done in the cold climates of Europe and the north temperate zone of the United States.

Appended are certain statistics which will show that Cali-

formia can build and maintain 300 factories of the capacity of the one at Chino—600 tons of beets per day—and what they would add to the revenue of the State:

The annual consumption of sugar in the United States being 3,575,000,000 pounds, would warrant the erection of some 300 factories like the one at Chino, estimating the output of that at 12,000,000 pounds. This would represent the investment of about \$150,000,000 of permanent capital on this coast, with a saving to the country of over that amount in cash sent abroad for the purchase of foreign sugar, and a distribution among our farmers, laborers and mechanics of an amount equal in value to the quantity of sugar manufactured, probably \$140,000,000. The beet-sugar industry would thus become the most important agricultural interest on the Pacific Coast.

I add some further sugar statistics that may be of interest to those contemplating interesting themselves in the beet-sugar industry:

The annual amount of sugar consumed in the United States has increased from 26 pounds in the year 1851, to 55 pounds at the present time. At present 90,000 tons of sugar per annum are used on the Pacific Coast, or about 70 pounds per capita, the existing factories only supplying one-ninth of the amount consumed.

The consumption of sugar per capita for the principal countries of the world during the year 1887 was, according to the government statistical reports:

Finland.....	1.32
Roumania.....	1.30
Servia.....	4.40
Spain.....	5.11
Italy.....	7.59
Russia.....	9.02
Portugal.....	9.55
Norway.....	11.35
Austria and Hungary.....	12.10
Belgium.....	15.71
Sweden.....	17.40
German Empire.....	18.92
Switzerland.....	22.77
Holland.....	23.10
France.....	27.06
Denmark.....	29.63
Argentine Republic.....	49.94
Great Britain.....	70.40

With a population of 65,000,000, consuming 3,575,000,000 pounds of sugar, the per capita of the United States would be 55 pounds.

Three hundred factories, allowing 5000 acres to the factory, would make an acreage of 1,500,000, or 2344 square miles of territory, which is a very small proportion of the alluvial valley lands of California that are particularly and specially adapted to sugar-beet culture. There is no reason, therefore, why California should not produce all the sugar for the United States.

Much has been written in Europe about the necessary amount of rainfall, temperature, etc., all of which we find to be practically reversed in California. The sugar beet is naturally a dry-climate plant; its tap-root goes deep into the ground for moisture and nutriment.

The proof of all that I have claimed in this article is substantiated by the fact that, in spite of our high cost of labor, we are able to deliver beets to the factory at a less cost than is possible either in Europe or in other sugar-producing States of the Union.

All that is necessary to make sugar-beet culture the first great industry of the Pacific Coast is to disseminate a knowledge of the business and the practical results already obtained.—Richard Gird, in Chino Champion.

THE DAIRY.

A Home-Made Cheese.

It is a mistake to suppose it necessary to buy costly apparatus in order to make good cheese, writes Mrs. A. M. Stimson, in the *Farm, Field and Fireside*. If one has only a small quantity of milk, a common wash-boiler will do for a vat; a peck measure with the bottom removed will make a hoop for a cheese weighing from five to ten pounds. Any one who can use tools can make a simple lever press. A curd-knife having several blades is a convenience, but any long, sharp knife will answer. A thermometer is necessary. Prepared rennet can be bought cheaply from dealers in dairy supplies.

At night the milk, as soon as drawn, should be strained and cooled to about 60°. Add the morning's milk, stir thoroughly and heat to 84°; then put in the rennet and stir five or ten minutes. Remove the boiler from the stove and cover closely so as to retain the heat. Enough rennet should be used to cause the milk to begin to curdle in 20 minutes. As soon as the curd is firm enough to break clean, that is not look milky when lifted on the finger, it is ready to cut. Cut the curd in checks half an inch square. If one has a horizontal curd-knife the curd may be cut in cubes; if not, cut diagonally. Allow the curd to settle for a few moments, then place the boiler over a slow fire and raise the temperature at the rate of two degrees in five minutes, stirring carefully with the hands or with a curd-rake, and cutting the larger pieces so that all the curd will be cooked alike. When 98° is reached arrest the heat and hold the temperature at that point for 15 or 20 minutes, or until properly cooked, when it will have a peculiar springy feeling when squeezed in the hand. If cooked too much the cheese will be hard and dry; if not enough it will be wheyey and will not keep well. Allow the curd to settle, then dip the whey down to the curd and cool to 90°. Dip off the remainder of the whey, drain the curd as dry as possible in a curd-basket or on a cloth stretched over a hoop; break carefully into pieces the size of a thimble and salt at the rate of one ounce of salt to two and a half pounds of cheese. The curd may now be kept warm till it is slightly sour, or it may be cooled at once to 82° and put to press. The former is perhaps the safer plan.

When the curd is ready for the press place a square of

white cloth wrung from the whey in the hoop. Put in the curd and fold over the corners of the cloth. Put on the follower (a wooden cover fitting closely inside the hoop) and press down lightly, afterwards gradually increasing the pressure. At night take the cheese out, bandage with cheese-cloth, replace in the hoop putting a cloth under and another over the cheese, and press tight. In the morning turn the cheese over again, using fresh, dry cloths in place of damp ones, and increase the pressure still more. Let it remain in press till the next cheese is ready to take its place.

When it is taken out rub with a dry cloth, grease thoroughly with soft butter and place on a shelf in the curing-room, which should be kept at an even temperature ranging from 65° to 75°. A clean, dry, well-ventilated cellar makes a good curing-room. In summer the temperature can be lowered several degrees by sprinkling the floor with cold water, and hanging up wet sheets. The cheese should be turned over and rubbed every day, using a little butter, till 30 days old, when they are ready for use or for market.

Good Jerseys.

Mr. Valancey E. Fuller says that he was governed by the following considerations in selecting Jerseys for the World's Fair:

1. Cows which, by tests heretofore made or by oil tests, showed at home, under most advantageous circumstances, a capacity of 21 pounds of butter per week. When the test was less than this standard, if on inquiry it seemed that the care, feed, distance from calving, age, etc., showed that there was a probable capacity of 21 pounds, all other matters being satisfactory, he did not reject her. The ability to make 21 pounds per week had to be accompanied by a

2. Constitution capable of standing a high pressure in feeding; of moving her from home surroundings to new quarters, where a crowd, noise and other disturbing elements would be encountered; and to meet these contingencies it was absolutely necessary that she should be a cow of

3. Placid disposition as far as one could judge by handling her in the pasture and barn and by her eye. Cows showing any evidence of a nervous disposition were discarded without the slightest hesitation. It was also deemed essentially necessary that in addition to the above requirements her outward conformation should indicate a

4. Continuity in milk and not be of the beef type, as the test is not one of a week or month, but of practically four months.

In age he preferred them between five and nine years, but accepted older cows, such as have borne their years well and show no evidence of approaching diminution in ability to perform at the pail and churn.

He also gave preference to the cow that was a large milker, recognizing that the cows themselves would prove an "object lesson," and that the daily records of large milkers would go far to overcome the prevailing error in thinking that the Jersey cow is a small though rich milker.

Feeding Milk to Calves.

Few kinds of food contain a larger proportion of the nutrition required to make rapid growth than milk does. Very young animals find it their exclusive diet at first, and the period when they are suckling their dams is that when they grow fastest. But milk is not easy to digest. It may be, however, all the better adapted to young animals for that fact, because on a milk diet they lay the foundations for a vigorous digestion through after life. The young suckling animal gets very little food at a time at first. "Little and often" is its rule, and it must eat very slowly. But while suckling it gets its food warm. This partly relieves the difficulty of digesting it. Neither of these conditions is found when milk is fed. It is often given cold, and if the calf, sticking its nose into cold milk, refuses to eat, the feeder loses patience and withdraws the milk-pail, so that after the calf becomes ravenously hungry it will swallow a large quantity of cold milk in the shortest possible time. Is it any wonder that digestive organs thus treated refuse to work, and the calf has the "scours"? Give the milk always warm, and encourage the calf to eat slowly. But after a calf is one month old, twice-a-day feeding is better than oftener. Digestion goes on better if the stomach is comparatively empty before new food is given. Give a little clover hay to the calf between meals, and it will learn to eat that.—American Cultivator.

Salting the Cows.

We used to know careful farmers who made it a practice to salt cows every Sunday afternoon after return from church. Once a week is better than leaving the salting to accident, but if salt is placed where cows can get it all the time they will not eat too much of it. Rock salt is best. Leave large lumps of it where the cows can lick them, and you will find that they will soon learn to visit them daily, taking a small amount at each time. Thus fed, there is no temptation to get more salt than is for the animal's good. Salt in quantity cannot be digested, and, of course, operates as a powerful purgative, besides injuring digestion. Eaten in moderate amounts it makes the digestion better.—American Cultivator.

For Lumpy Jaw.

Dr. Norgaard's treatment for lumpy jaw consists in giving 2½ drams of iodide of potassium, dissolved in water, once a day for three days. After that the medicine was omitted for a day or two and then continued according to symptoms. It is claimed by the veterinarians of the Bureau of Animal Industry that this treatment has been successful, but other veterinarians dispute the claim.

THE STOCK YARD.

Corn vs. Barley for Pigs.

Director Clinton D. Smith of the Minnesota Agricultural Experiment Station conducted an experiment last season on the subject of the relative values of corn and barley in a ration for pigs, which has special interest to Northern farmers on account of the uncertainties of corn culture in the higher latitudes. We extract the following from the Station Bulletin No. 22:

"While the popular taste demanded a heavy and excessively fat hog to bring the highest price in the general market, profitable pork production on a large scale was confined to those States in which was found the peculiar combination of soil and climate best adapted to corn-growing. Corn stands easily at the head of our American cereals for fattening swine, but it has not yet been shown that its superiority extends to the feeding of young or growing pigs. In England and on the continent of Europe barley occupies a relation to swine production similar in some respects to the place occupied by corn in America, and Sir John B. Lawes has gone so far as to say that barley is the natural food of the civilized pig.

"The late frosts of spring and the early ones of autumn make corn an exceedingly precarious crop in all the northern parts of this State, while barley is at its best in those latitudes. To study the question, therefore, whether barley could be substituted for corn in the ration of pigs, experiments were undertaken during the summer of 1891.

"Thirty-four pigs as nearly alike as possible were selected from the farm herd on the 21st of July and divided into six groups, two of five pigs each, called Pens 9 and 10, and four of six pigs each, called Pens 11, 12, 13 and 14. Due care was taken to have the pigs in each pen mated in all respects with the pigs in every other pen so that the results of the feeding test with all the pens are comparable. The average weight of the pigs was then 42 pounds. After a preliminary feeding period of one week, during which each pen received the food which was to constitute its ration during the entire experiment, each pig was again weighed on two successive days and the average of these two weights was taken as the original weight in the computation of results. Each pig was weighed weekly at the same hour of the day during the progress of the experiment. The amount of food consumed by each pen each week of the experiment was also carefully weighed.

"During the entire trial the groups of pigs were confined to small pens with exercise yards adjacent, were supplied with an abundance of fresh water, and were allowed all the charcoal, ashes and salt they could eat. The feed was mixed with sufficient water to make a thick slop and the clean drinking water was given them in a separate trough. During the preliminary feeding and for one week afterward each pen was allowed one pound per pig per day of green pea forage. The ration of Pen 9 with this exception consisted of corn meal alone; that of Pen 10 of barley-meal. Pen 11 had corn-meal and shorts mixed in equal proportions by weight. Pen 12 had barley-meal and shorts mixed in equal proportion. Pen 13 had corn, shorts, and oil meal mixed in the proportion of two parts corn-meal, two parts shorts and one part oil-meal. Pen 14 received a ration consisting of two parts barley-meal, two parts shorts and one part oil-meal.

CONCLUSIONS.

"In order to exclude the uncertain factor, the amount of pasture which pigs would consume, it was impossible in this experiment to allow the pigs to run either to clover, peas or even to blue-grass pasture. The gains made by the pigs even in the pens which showed the best results are therefore small. To make pig-growing profitable the brood sows and the young pigs all their lives up to the time when they are shut up for fattening should have the run of a good pasture, preferably clover or peas, but to reach conclusions anything like definite in this experiment we were obliged to keep the pigs closely confined.

"1. When fed as the entire ration of pigs weighing on the average 52 pounds at the beginning of the test, 100 lbs. of barley-meal was found to produce as great a gain as 119.5 lbs. of corn-meal.

"2. When mixed with shorts in equal parts and fed to pigs of the average weight of 50 pounds, 100 lbs. of barley-meal and shorts produced as great a gain as 105.2 lbs of corn-meal and shorts.

"3. When to the mixtures with shorts one-fifth part of oil-meal is added, then 100 lbs. of barley-meal, shorts and oil-meal produced as great a gain as 103.3 pounds of corn-meal, shorts and oil-meal.

"4. The older the pig grows the more food it takes to produce a pound of gain.

"5. In this experiment the addition of oil-meal to the ration of either barley-meal and shorts or corn-meal and shorts after the pig had attained an average weight of slightly over 100 pounds was deleterious.

"6. The continued use of corn-meal as the sole food of growing pigs was found to be productive of too great a tendency to become excessively fat without a normal growth of bone and muscle and to produce unhealthy pigs, while the use of barley alone was not attended with this result.

"7. The pigs throughout the experiment consumed more corn-meal and shorts than barley-meal and shorts, produced a greater gain with the former than the latter, but, except in the third period, at a greater expense of food consumption.

"8. The same relation holds good where oil-meal forms a fifth part of the ration.

"9. When fed to pigs weighing 125 lbs. or more, 100 lbs. of corn-meal and shorts produced as great a gain as 119.1 lbs. of barley-meal and shorts.

"10. When fed to pigs weighing 125 lbs. or more, 100 lbs. of corn-meal, shorts and oil-meal, mixed as indicated, produced as great a gain as 135.2 lbs. of barley-meal, shorts and oil-meal."

POULTRY YARD.

Poultry Diseases.

Poultry diseases rarely appear without a plainly discernible cause. With proper food, care and good sanitary surroundings, disease among the flocks should be a rarity. Most ailments may be traced to lice, and lice come from neglect, so it can be quite truly claimed that neglect and lice are the great demoralizers of the poultry yards. In most instances, doctoring fowls is not only a humbug, but is valuable time thrown away. The following on this subject by Michael K. Boyer, in the *Poultry Advocate*, tells some valuable truths in a terse way, and the suggestions given are to the point and thoroughly practical:

"I am no poultry doctor. I never took enough interest in doctoring sick chickens to make it a study. I am a firm believer in the art of prevention, and know it has saved more fowls than remedies have cured. We may apparently cure a fowl of a contagious disease, but the disease is, nevertheless, engrafted in the system; and, while it may never again break out in the fowl, it certainly will be transmitted to the offspring. I try to remedy slight ailments. That is, I prescribe for disease in the first stages, and, when that fails, I go no further, but off goes the patient's head. Such treatment may look cruel, but I say it is generous. Better that the fowl be dead than linger in misery, with the strong possibility of giving the disease to the well members of the flock. Disease can be carried in our clothing. I am satisfied that I once gave a whole flock of my birds a bad dose of roup by trying to cure a single case. Although I at once isolated the victim, I was compelled to go among the well ones after I had been with the sick one, and that was the way I endangered my other fowls. By following out my course of treatment, I have very little sickness, having only lost one bird the past year, and had very few cases of disease. I use preventives. I consider a sneeze, a gargling in the throat, heavy breathing, loose bowels, dullness, changeable color in the comb, etc., all symptoms of sickness, and before they develop into trouble I apply simple remedies. In nine cases out of ten I cure. I keep the houses and yards clean. I give a tonic once a week. I do not keep birds after they are two years old. I keep the fowls busy, allowing no idleness. I feed the best of grains. I give plenty of green food. I do not forget sharp grit. I watch the birds both on and off their roosts. In short, I am always on the lookout for changes. I might also add that I fight lice from January to January, believing that two-thirds of the diseases are caused more or less by lice sucking out the vitality of the birds. I whitewash the interior of the houses once a year; I pour kerosene on the roosts, and in the nests once a week; I sprinkle air-slacked lime over the dropping boards and about the pen once a week. I find these articles not only lice-killers, but they ward off many other troubles."

To Prepare Feathers for Use.

In every farmer's family, or wherever poultry is kept, it is of consequence to save the feathers of all the fowls for stuffing pillows, sofa-cushions and the like, even if it is not deemed worth while to sell them. Of course, geese and duck feathers being much more valuable than any others, will always be preserved with care; but downy feathers of hens and turkeys serve a very good purpose, and unless you wish to make dusters of the tail and wing feathers, the soft, feathery portions of these may be stripped off the quill and added to the rest. Unless your flock is large it will take some time to secure enough feathers to stuff even a cushion; and as they are gathered from time to time, they must be put into whole cotton bags, tied closely so that no moth-millers can enter, and placed for a short time in a warm oven, to dry thoroughly. If you sometimes, for family use, and for speed and convenience, scald your hens before picking, the feathers can be dried in a tin pan, in a moderately warm stove oven, and added to the rest. Be sure that no bits of skin or flesh adhere to the feathers, as it gives an unpleasant odor, which is with difficulty removed. Feathers thus saved and prepared answer very well for under-pillows and bolsters, and are quite nice enough for chair and sofa-cushions.

An ingenious person can manufacture, for home use, feather dusters fully equal to those that are hawked about the streets, in shape or size resembling nothing so much as the huge bridal favors, or nosegays, which English people burden themselves with, and which our own people are aping largely. For dusters, look among the cast-offs in the attic for old parasol handles that

are carved, polished, inlaid and what not. Remove them from the useless skeletons, drive a short nail through the brush end and tie to it a strong linen twine, with one end eight inches and the other about two yards long; arrange a row of turkey tail and soft wing feathers around the stick and wind them close with the long string; so proceed, finishing with the short, downy feathers. Then have ready some melted resin, with which to cover the string (which should be tied to the short end securely), and over the quill part of all the feathers. A sheath of colored kid or broadcloth should be fastened over the end of the feathers, and you have thus an ornamental and useful article at little or no cost.—*Poultry World*.

Hatching in Hot Weather.

It has come to be a generally accepted theory that you "can't hatch chicks in hot weather" in California.

One day last month, while at Mr. H. C. Olmstead's place at Artesia, he handed me a little record-book of a breeding pen of four S. C. White Leghorns and a cock, from June 11, 1890, to Sept. 3d of the same year, which showed that in this time they laid 195 eggs, and from which were hatched 170 healthy chicks. One hen was sick for ten days of this time, so the average production is not as large as would otherwise have been the case, averaging a little over $2\frac{1}{2}$ eggs per day in the hot weather, for the four hens, and 88 per cent of them hatched. One setting, given to the hen August 28th, was deserted by the setter (score one for the incubator) and but eight chicks were hatched. Had this not occurred, it would have brought the percentage of fertile eggs at least to 90 per cent.

In July and August, 1891, Mr. Olmstead took off 700 chicks, and raised over 95 per cent of them. In 1892, 1500 chicks were taken off during the season, the largest proportion being in the hot weather; and, excepting the last hatch, which was taken off in September, fully 95 per cent of these were raised.

These were all White Leghorns, and now, April 20th, there could be no prettier sight than this large flock of laying hens, with their snow-white plumage and bright-red combs—and not a sick one to be seen.—*California Cultivator*.

Fruit and Poultry.

The mutual advantages of a fruit and poultry combination are, in a nut-shell, that the orchard furnishes protection and range for the fowls, and the fowls fertilize and help to cultivate the soil; while both occupy the same ground without interfering one with the other.

If possible I would advise all who take up poultry to work into thoroughbred stock as soon as possible, for the same reason that it is best to raise the best fruits. It costs more to get established with either, but the running expenses cost no more than with the poorest stock.

When I write "thoroughbred" I do not wish to convey the impression that the fowls are to be selected and bred with the standard of perfection as a sole guide. Far from it.

Well-bred stock and stock that will win prizes at poultry shows are sometimes very different, and the latter are not always as good as the former. In fact, fowls often win prizes at poultry shows that are not worth four-bits apiece for practical use. Nevertheless, pure-blooded stock, selected for business, are the kind to help the orchard pay for itself.—*H. G. Keesling in California Cultivator*.

An English Remedy for Feather Pulling.

In *Feathered World* of the 13th ult., under the heading, "Suburban Poultry Keeping," the writer speaks of having seen mention of ringing fowls for feather eating, and says: "Each time the hen attempts to steal a feather it will poke the other bird with the point of the pin and cause it to move quickly away." I think what the writer refers to is a letter of Mr. John Till, published in a contemporary on Oct. 17, 1890, in which he says: "The remedy is simply inserting an ordinary hair-pin through the nostrils and mouth and twisting a few times around them. Cut off the remaining ends; this will not interfere with them eating and drinking, and once rung so generally cures them." Now, it must be obvious that if the ends are to poke the other bird they must project some bit beyond the beak (for plucking a feather is not always pecking the flesh); therefore when the fowl feeds it must poke the end of the pin into the ground every time it pecked at a grain before it can get it. I trust you may consider my desire to protect the fowls from starvation and their

owners from the clutches of the S. P. C. A. sufficient excuse for inserting this, and I hope our teachers may in the future abstain from trying to poke fun at us amateurs."

Decaying Food.

A majority of the diseases arise from the food left over after feeding. A very warm day, with a mass of fermenting ground food, and especially if after a rain, the conditions for the propagation of lice, gapes, bowel diseases and debility will be rendered very favorable. It is a custom to throw down the food on any available location, and if the hens clean it away there will be a larger supply next time, until enough will be left to ferment. With whole grains the danger does not occur, but as there is always filth on the ground from the decomposed droppings, especially if the hens are in yards, there is no place where the soft food can be thrown without being contaminated. All soft food should be fed on clean boards or in troughs, and never on the ground. It is the soft food and droppings that render the conditions most favorable for gapes. The gapes and lice are the products of filth, and the quickest and surest mode of rendering the yards filthy is for the fowls to leave a portion of the food on the ground where the chicks are compelled to pick it over.—*Poultry Keeper*.

Liver Disease.

The great development of this complaint during recent years is of very serious import to poultry-keepers, and of high-class poultry there are comparatively few unaffected by it, says Stephen Beale, in *Country Gentleman*. It is due, when not hereditary, to over-rich foods, to bad water or to foul soil. It takes several different forms, but the external symptoms in nearly all cases are the same, so that it is difficult to determine them until after death. There is a moping about on the part of the birds, general lassitude, an uncertain appetite and a yellowish hue on the face, comb and wattles. The treatment must be eradicated, and the food of the plainest nature, but at the same time nourishing. For medicine, give an aperient twice a week, and doses of homoeopathic tincture of podophyllum twice a day. It is to be noted that all rich food must be carefully avoided, and the use of Indian corn has been most injurious in spreading disease. When neglected it develops into active inflammation of the liver, for which there is no cure.

Lime for Fowls.

There is plenty of lime in the food. Oyster shells serve more as gritty matter than as a composition of the eggs, although to a certain extent they may partially assist in that respect also, but if fowls are properly fed there will be no necessity for feeding lime in any form. When hens lay soft-shell eggs, or do not lay well, it is not for want of lime, but generally because the hens are too fat, which obstructs the process of egg laying. If it is desired to feed lime, the most convenient form is in the shape of lime water, which may be used for mixing the soft food. Lime may be given, however, in any shape, if our readers prefer to place it before the hens. Old mortar (broken), bones, chalk, ground limestone, ground shells, or even plaster, may be used, but shells are sufficient. Unless the hens are in proper condition and not too fat, all the lime they may eat will not prevent soft-shell eggs, though many persons suppose when hens lay soft-shell eggs it is because lime is lacking.—*Poultry Keeper*.

Get Them Fat.

Put the extra hens in a yard and make them fat before sending to market. There is quite an advantage in so doing, as ten days is long enough in which to fatten them, the cost of food will not exceed five cents, and they will bring a higher price. A hen that weighs six pounds may be made to reach 7 or $7\frac{1}{2}$ pounds, and if she is very poor will make greater gain. At ten cents per pound, the extra pound gained more than pays for the food; but this is not all, as a nice fat hen will bring two or three cents per pound more than she would if not in good condition, as only the best stock bring the highest prices. It always pays to pen up the hens and fatten them before selling.—*Poultry Keeper*.

Scabby Legs.

Scabby legs is due to a minute parasite, which gradually builds a lime substance on the shanks. Any kind of grease will cure it, but the remedy generally used is to add a teaspoonful of kerosene to a gill of melted lard, which is well rubbed on the legs of the fowls once or twice a week, and which soon renders the legs clean and bright.

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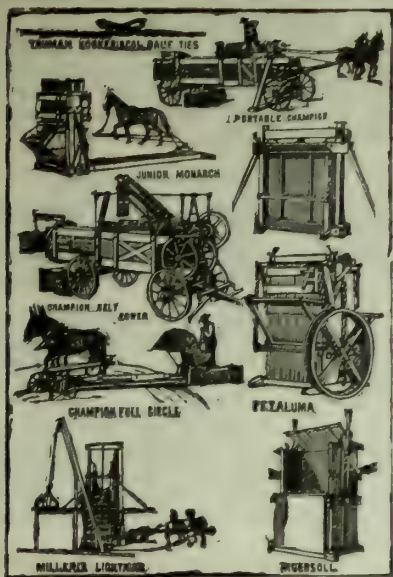
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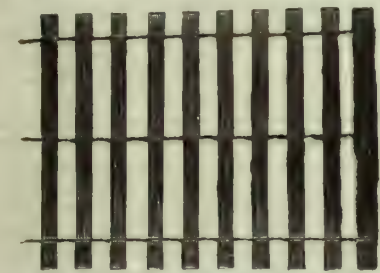
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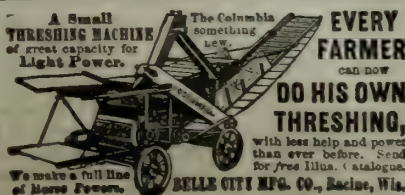
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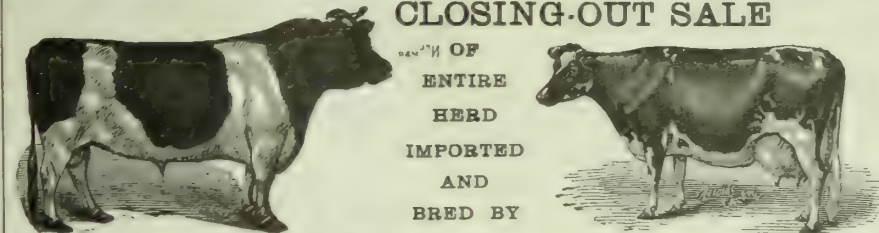
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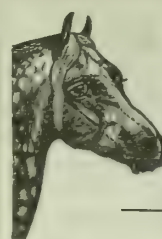
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THE HOME CIRCLE.

John's Wife.

Written for the RURAL PRESS by ISABEL DARLING.

"God morning?" Yes, 'tis very good to some. I saw you, but supposed you want to pass; Yet linger here beside me if you like, And watch the gliding shadows on the grass.

I knew her sometime? Certainly I did, Since we might count the summers of our years Upon the outstretched fingers of your hand, And that is long if measured by her tears.

You thought her fretful, ill-prepared To be fit wife for such a man as John? She was not when she had not been John's wife, And ill things grow by what they feed upon.

As surely as the good, and Mary—yes, Her name was Mary May when we were young— Was called "Our Merry May;" such happy songs It seemed to us had never then been sung.

Were young! She still should not have seemed so old.

Poor John was always kind to her, you say, But she—well she was very hard to please? He meant to be, and was, in John's blind way.

True, plainly that was poor John's skeleton; He scarcely closed his swinging closet door; But Mary hid and guarded hers so well You thought her like a watch-dog—cross—no more.

But John will miss her at this harvest time, Will miss the compliments about her bread; And 'tis too late to find a servant now, And rather soon to marry, so he said.

The children? Yes, they came to-day, of course. The day will be a loss to them, but then She was their mother, after all, and John Will do things decently, like other men.

You'll find a corner near the entry door, The prayer is over and the opening hymn. I? No, she seems much nearer here; 'tis light, And she was frightened when the lamps grew dim.

At least go walk out with them as a friend, (The house is John's, although 'twas hers by right) I'll find the open grave and think of those Who have lived for years without a hope in sight.

Some California Funerals.

Written for the RURAL PRESS by MARY E. BAMFORD.



ARE you going away?" asked Garry.

"I'm going to a funeral," responded Aunt Abby.

"Who's dead?" questioned Garry.

"Nobody," calmly replied his aunt, pinning on her hat.

"What!" exclaimed Garry. Aunt Abby smiled and continued to pin on her hat.

"You're going to a funeral and nobody's dead?" inquired Garry, inquisitively.

"Yes," replied Aunt Abby. Garry looked sharply at her.

"Must be a queer sort of a funeral," he said.

"Won't you go to the funeral, too?" invited his aunt.

Garry looked doubtful.

"I guess not," he answered, slowly. "I don't like funerals much."

"You'll like this one," his aunt assured him.

"But I'll have to change my clothes and get ready, objected Garry.

"No," said his aunt, "I'm going just as I am. At this funeral the undertaker dresses in a suit of black, spotted with white, and the one that is buried is dressed in black and white, too, but those who come to the funeral don't need to be particular about their clothes. All the visitors need to do is to keep still. They can talk, but they mustn't move much. You see, I'm going to the funeral on the sly. The undertaker don't want me there."

"Where is the funeral?" asked Garry.

"I suspect it will take place in the back yard," returned Aunt Abby, walking toward the kitchen door. "That's where the funerals were carried on yesterday."

Garry looked astonished.

"Well," he concluded, "I guess I'll go if it isn't any farther than that."

At the corner of the house Aunt Abby sat down on the board walk in the shade of the cypress tree.

"We'll wait here for the funeral to come along," she explained. "The cemetery is right out there in that sandy place where the sun is so hot," and she pointed to a spot a few feet away. "That's where I saw the burying going on yesterday."

"There's one of the undertakers, now," went on Aunt Abby.

Garry looked. All he saw was a very lively black thing skipping around. The black thing looked, at first glance, like a common housefly.

"That fly?" questioned Garry.

"That isn't a fly," disputed his aunt. "You

look closer and you'll see. She's the size of a fly, but don't you see she is marked with white spots? Keep still. Don't you move; you'll scare her. Remember we are not invited to this funeral. That creature is Mrs. Oxybelus, I believe; at least, she looks like a picture that I have seen of that insect, and so I have fallen into the way of calling her by that name. If she does not belong to that genus, she must belong to one very nearly related to it."

The "undertaker" hopped around in very lively fashion and then flew away.

"Now she's gone," said Garry, "and I didn't see her do a thing but hop."

"She'll be back with the funeral in a minute," prophesied Aunt Abby; and, sure enough, in a few minutes a queer looking creature hurried through the air and, lighting, plunged head first into the sand.

"What was that?" asked Garry.

"Didn't you see what she carried? Let's get nearer," suggested his aunt.

They came as near as they dared and kneeled by Mrs. Oxybelus' burrow. They could see the sand heave a little. Presently Mrs. Oxybelus plunged out of the sand with all her accustomed energy and went to scratching the sand over her burrow.

"What was it she buried?" questioned Garry.

His aunt laughed.

"Wait till she has another funeral and you'll see," she said.

Mrs. Oxybelus, satisfied that her hole was covered and that no one would disturb it while she was gone, flew away.

"I'm going to poke down into her burrow and find out what she left there," announced Garry, picking up a little stick for the purpose.

"Don't you do it," interposed his aunt.

"You wait. I'll tell you what it is. It's a fly—just a common house fly. I was outside the front gate yesterday and I saw a Mrs. Oxybelus catch a fly. The fly was innocently sitting on the cement sidewalk and the undertaker pounced down on him. They struggled just a minute and then Mrs. O. had the fly, paralyzed, probably, held by her hind feet, and she carried her victim off the cement walk to the sandy soil that was spread beside the walk when it was laid. She plunged into the sand and took her victim with her."

"Here she is!" cried Garry. "She's got one!"

Mrs. Oxybelus alighted with her fly. She hopped around a little this time and then plunged into the sand with the fly.

"I dug into the tombs the other day," went on Aunt Abby. "I thought I'd see how many flies were buried in one grave. I found there were seven in that one."

"Dead?" asked Garry.

"Paralyzed, I suppose," said his aunt.

"They appeared dead, but I suppose she had stung them. They were destined to be good for some little Oxybelus."

"Oh, but isn't it hot here!" exclaimed Garry.

The sun struck the side of the house next them and the heat was reflected on the sand.

"It always seems to me that Mrs. Oxybelus likes better to work in hot weather, or warm weather at least, than in cooler," returned his aunt, wiping her own face. "I know I've had to endure the heat in my curiosity to attend fly funerals before this. There have been a good many such funerals in this back yard."

"Well, I'm going to attend them occasionally," stated Garry, watching Mrs. Oxybelus, who had just returned with another fly, and was in a highly excited frame of mind, judging from her numerous hops and skips.

"If you attend the funeral early enough, you can see the undertaker dig the grave beforehand," said Aunt Abby. "Sometimes that's quite a job, and sometimes it doesn't seem to be so much of a one. It's interesting to watch her."

"I'd rather see the funeral," returned the nephew. "This is the kind of funeral I like to go to. Why didn't I ever see one before, I wonder?"

"You didn't look sharply enough, I guess," suggested his aunt. "A good many people could attend such a funeral as this if they'd look."

Hints on Conversation.

It has been recently stated that conversation is a lost art. Certainly the listener appears to be out of date. Persons who have regard for the usages of polite society should remember that listening is one of the canons of good manners. Absent mindedness is impolite. Every one is entitled to have a fair share of attention paid him when conversing. If one is bored, courtesy demands he should listen and appear to appreciate the story that is related on the subject under discussion. A writer on social etiquette

once remarked that "nine times out of ten the attentive listener is more admired than the most brilliant talker."

Avoid in conversation all mention of your own affairs. The clever woman guards her hearthstone, its sorrows, troubles and annoyances, as carefully as she does the sacredness of her religion. The world admires your cheerfulness, your attractiveness, your brightness. Your griefs belong to yourself. They are your inner life, which should be closed with iron portals. Even if your heart break, recollect the critical public at all times likes a smiling face and cheerful manner.—Harper's Bazar.

Both Pleased.

A Portland lawyer says that not long ago a man came into his office thoroughly angry—as men usually are when they go on such errands. He had called upon a debtor and asked him politely for the payment of a bill of \$2.50 and had been abused for his pains. Now he wanted the lawyer to collect it.

The lawyer demurred. The amount was too trifling. It would cost the whole of it to collect it.

"No matter," said the client. "I don't care if I don't get a cent, so long as that fellow has to pay it."

So the lawyer wrote the debtor a letter; and in due time the latter appeared in high dudgeon. He didn't owe any \$2.50 and he wouldn't pay it.

"Very well," said the lawyer, "then my instructions are to sue. But I hardly think it will pay you to stand a suit for so small a sum."

"Who'll get the money if I pay it?" asked the man.

The lawyer was obliged to confess that he should.

"Oh, well," said the debtor, "that's another matter. If Mr. — isn't going to get it, I am perfectly willing to pay it."

The debt was paid, the lawyer pocketed the amount, and, what is very unusual, all parties to the suit were perfectly satisfied.—Portland Argus.

The Editor's Rustic Song.

I would flee from the city's rule and law—from its fashions and forms cut loose—and go where the strawberry grows on its straw and the gooseberry grows on its goose; where the catnip tree is climbed by the cat as she clutches for her prey, the guileless and unsuspecting rat, on the rattan bush at play. I will watch with ease the saffron cow and the cowlet in their glee as they leap in joy from bough to bough on top of a crowslip tree, and list while the partridge drums in the wood and the dog devours the dogwood plum in the primitive solitude. O let me drink from the moss-grown pump that was hewn from a pumpkin tree! Eat mush and drink milk from a rural stump, from form and fashion free—new garnered mush from the mushroom vine and milk from the milkweed sweet!—with luscious pineapples from the vine! Such food as the gods might eat! And then to the white-washed dairy I'll turn, where the dairymaid hastening hies her ruddy and gold red butter to churn from milk of her butterflies, and I'll rise at morn with the earliest bird, to the fragrant farm-yard pass and watch while the farmer turns his herd of grasshoppers out to grass.

The Care of Windows.

It is surprising that women do not more often adopt the method used by storekeepers for cleaning and polishing glass. I have tried it myself for several months, and found it especially valuable during cold weather, when it would not be practicable to use water outside. I use it both in and out.

Provide yourself with common alcohol and whiting; make the cloth damp, but not wet with the liquid, then dip it into the whiting. Rub the glass as you would if using soap and water. Polish with chamois. Windows cleaned in this manner will shine and sparkle, and will keep clean much longer than if done in the old laborious way of rinsing and wiping and polishing.

Next after clean glass comes neat shades. To keep shades from streaking, dust them every time the room is swept. Do this by drawing the shade down to its full length, and using a feather duster along the front and over the roller. As you roll up the shade keep on dusting the roller. You will by this means brush both sides, for they roll up from the outside.

Lightning Strikes Three Times.

The old axiom that lightning does not strike the same place twice would seem to be falling into disrepute. On the farm of G. W. Exford, near Carthage, on the Antwerp road, stands, or rather stood, an elm

tree which several years ago was twice struck by lightning and has since gradually died. During the storm of July 8th the old tree was again struck, breaking off the top and leveling the tree to the ground.—Ogdensburg Journal.

Hints to Housekeepers.

Preserved ginger is being fashionably handed around with the ice course.

Children's clothing, it is said, may be made fireproof by adding an ounce of alum to the last rinsing water.

There is a scoop for the purpose of dish-ing ice cream which serves it in a perfectly round, symmetrical form. It cost but 25 cents, and can be found at any shop supplying bakers' and confectioners' utensils.

Cornmeal is one of the best cosmetics known. Keep a jar on the washstand and rub a handful well into the skin after washing with warm water; wipe it off, dust out your eyebrows, and then see how satiny your face feels.

Scalloped codfish is made with alternate layers of the salt fish, freshened and shredded and stewed tender with bread crumbs. Have bread crumbs for a top layer, and, just before putting in to bake, pour over half a cup of plain drawn-butter sauce.

In making wash dresses for children it is well to make the skirts plain and hem them, and then run a tuck by hand on the under side of the hem. This can be let out before the dress is washed, and will offset the inevitable shrinking of some kinds of goods.

Any fanciful and pretty accessory for my lady's writing-table is always welcome; and this year's novelty comes in the shape of lovely gray and brown undressed kid pen-wipers, with bunches of perfumed violets or lilies of the valley fastened on the outside leaf with a silver pin.

A teaspoonful of baking powder always means a heaping teaspoonful. A spoonful of dry material, whether a teaspoonful or tablespoonful, unless otherwise specified, always means a rounded spoonful; that is, rounded as much above the spoon as the spoon rounds underneath.

Don't treat your hair as if it was an enemy, attacking it with a fine comb every time an atom of dandruff makes its appearance. The more you use a fine comb, the more dandruff there will be. Part the hair where the accumulation is seen; rub gently with the fingers to loosen, and then brush it all away. If the case is severe, rub in a little oil or vaseline, and then wash in warm water. Dandruff is a perfectly natural accumulation, the result of dust, moisture and the natural falling away of particles of dead skin. This happens constantly all over the body. The hair holds the flakes that would otherwise fall away. Careful brushing will prevent a return of the trouble. It would be well for two sisters to alternate brushing each other's hair. It is not half so fatiguing to perform this office for another as for one's self, and it is easy to see just what portion of some one's else scalp needs most attention.—American Cultivator.

Warm Feet.

A life insurance company, whose advice under the circumstances may be taken as sincere, tells its clients that the golden rule in cold weather is to keep the extremities warm. The first and most important rule for the carrying out of this idea is never to be tightly shod. Boots or shoes that fit closely prevent the free circulation of the blood by pressure; but when they do not embrace the foot too firmly, the space left between the toe and the stocking has a good supply of warm air. The second rule is never to sit in damp shoes. It is often supposed that unless shoes are positively wet it is unnecessary to change them while the feet are at rest. This is a great mistake, for when the least dampness is absorbed into the sole in its evaporation it absorbs the heat of the foot, and thus perspiration is dangerously checked. This can easily be proved by trying the experiment of neglecting the rule. The feet will be found cold and damp after a few minutes, although on taking off the shoe and examining it it will appear to be quite dry.

Over-Eating

A physician lately said: "Most persons eat four times as much as they should." The proportion seemed pretty large, but an eminent British physician of a former generation said almost the same thing—that one-fourth of what we eat goes to sustain life, while three-fourths go to imperil it. Another physician wittily remarked that most people dig their own graves with their teeth. The foundation of the habit of over-eating is apt to be laid in childhood and youth, since the stomach then seems to bear almost anything. There would be little danger of eating too much if the food were

always plain and simple; in that case the natural appetite would be a safe and sufficient guide. The trouble is that the natural appetite is too often spoiled by cakes, pies, condiments and highly-seasoned food.—Ex.

Cheap and Serviceable Rag Carpets.

I have been requested to tell how we can make a 25-yard rag carpet for \$5.12, says "Farmer's Girl" in *Rural New Yorker*. This was the exact cost of our last carpet, which is a very pretty hit-and-miss one, woven just one yard wide.

For weaving at 8 cents per yard,.....\$2.00
12½ pounds chain at 25 cents per pound,.... 3.12½

Total expense.....\$5.12½

We never make a striped carpet, as it is too much trouble to get the exact amount of rags for each separate color, and we think striped carpets too gaudy and not in as good taste as the more quiet hit-and-miss. The rags used are all original colors, cut in even widths, never more than two yards long, but usually of much shorter lengths and neatly sewed. It is a needless expense to buy coloring and spend time coloring rags, which are likely to fade, especially the package dyes on cotton. The original colored rags stay bright as long as the carpet lasts. If our rags are very light in color, we buy dark chain, or vice versa.

There are always enough "thrums" of chain to sew the carpet together, and very little coarse thread and heavy cheviot is needed to bind the ends of the strips.

The carpet above mentioned was made in Scioto county, O. We now live in Cham-paign county, and are sewing the rags for another carpet. This one, however, will cost somewhat more, as the cost of weaving comes higher and more chain is used. Upon inquiry, I find the cost here would be as follows:

25 yards, one yard wide, at 10 cents.....\$2.50
8 pounds chain, white, at 20 cents..... 1.60
8 pounds chain, colored, at 22 cents..... 1.76

Total expense.....\$5.86

One neighbor made a carpet which was "double sley" and took 20 pounds of chain for 25 yards, at 20 and 22 cents; but her carpet is very heavy, almost too heavy to handle comfortably in cleaning.

When cutting out dresses, etc., from calico, ginghams, cashmeres, and such goods, I always cut the "scraps" which would prove worthless, into carpet rags and place in the bag ready for sewing.

Two colors of chain placed "thread about," give a carpet a very pretty pepper and salt appearance.

The Humming of Telegraph Wires.

You have all heard the humming and singing of telegraph and telephone wires as you passed the poles along the streets. No doubt you have concluded that it is caused by the action of wind on the wires, and given it no further thought. But it is not true that the singing is caused by the wind; and, if you are at all observing, you will notice that often the humming sound is to be heard on cold winter-mornings when the smoke from chimneys goes straight up until it is lost in the clouds, and when the frost on the wires is as fuzzy and thick as a roll of chenille fringe.

The wind has nothing to do with the sound, and, according to an Austrian scientist, the vibrations are due to the changes of atmospheric temperature, and especially through the action of cold, as a lowering of temperature induces a shortening of the wires extending over the whole of the conductor. A considerable amount of friction is produced on the supporting bells, thus inducing sounds both in the wires and the poles.

When this humming has been going on, birds have mistaken the sound for insects inside the poles, and have been seen to peck with their bills on the outside as they do upon the apple and other trees. The story is told of a bear that mistook the humming noise as coming from a nest of bees and clawed at the pole and tore away the stones at its base in the hope of finding the much-coveted honey.—Boston Journal of Commerce.

A Chicago Grammarian.

Some quaint stories are told of Samuel W. Allerton, recently candidate for Mayor of Chicago, particularly in regard to his battles with grammatical rules. "No," he is quoted as saying to a charming girl, one of the guests at a dancing party given in honor of his son Bobby, at his palace on Prairie avenue, "it is true my locks is thin"—passing his hand over his brow—"my mental facilities is unrepaiied, however." Again, Mr. Allerton is credited with being the author of perhaps the most magnificent compliment ever received by Mr. Stoddard, when

that talented lecturer was the guest of honor at a dinner given by another Prairie avenue millionaire. "The part of your stereoptical show that I liked the best," he assured Mr. Stoddard, "was that story an' picters of the little Arrups a-riding of the cannibal over the desert of Sherry. It was great." As the gentleman who is responsible for this story says: "The trouble with Allerton is you can't teach him anything. Some one has, no doubt, told him that camels have humps on their backs and cannibals eat other people, but he will have Arrups riding cannibals for all time. The only sign of literary improvement I have detected in Allerton is this: Thirteen years ago, when I first sat at the directors' table with him, he spelled the word cattle 'kattel.' In his late efforts he makes the word 'catell.'"

A Thankless Sinner.

A *Journal* reader was looking over an old newspaper the other day, when he found the following incident which he thought would bear reviving:

It was an English hospital. The chaplain was making his morning rounds when he met a porter.

"How's Robinson this morning?" he asked.

"'Ee's dead, sor," answered the porter.

"Dead!"

"Yes, sor."

"But why didn't you call me? I might have been able to comfort the poor fellow a little in his last moments."

"Hi comforted 'im myself, sor."

"You? Indeed! And what did you say to comfort him?"

"Hi said to 'im, 'Robinson, Hi suppose you know you're werry sick?'

"'Yes,' says 'ee."

"'Robinson, Hi suppose you know you can't last long?'

"'Yes,' says 'ee."

"'Robinson, Hi suppose you know you've been werry wicked?'

"'Yes,' says 'ee."

"'Robinson, Hi suppose you know you can't go to heaven?'

"'Yes,' says 'ee."

"'Well, Robinson,' says Hi, 'you ought to be werry thankful that there's a place provided for you fellows to go to.'"

"'Yes,' says 'ee."

"And then 'ee turned 'is face to the wall an' died without even thanking me for comforting 'im."—Boston Journal.

The English Woman.

The English woman's conversation is in keeping with her tread—that is to say, somewhat heavy, less superficial, perhaps, than that of the Parisienne or of the New Yorker, but devoid, too, of the lightness, the sparkle and the brilliancy which so distinguish women here and on the banks of the Seine. The art of repartee—some would call it a gift—is a closed book to her. It is too delicate a weapon for her to handle, and, when she does venture to make use thereof, she is apt to remind one of a person accustomed to broadsword and singlestick exercise endeavoring to thrust and parry with a delicate steel foil. The result is that she is apt to instinctively dislike brilliant people, particularly if they belong to her own sex. She prefers the commonplace, and regards those who soar above that level as "obtrusive" and "bad form." These epithets, I am sorry to say, she applies especially to American women; but, under the circumstances, that may be regarded as a compliment.—New York Tribune.

How to Kill Flies.

When flies become troublesome in a house or room, they can always be expelled by a very simple mixture. A half teaspoonful of black pepper, finely ground, should be mixed with double the quantity of brown sugar, and the compound to be moistened with cream. The flies will generally eat greedily of this mixture if placed where they can easily reach it, but it will be their last meal, for the least taste of it to a fly is rank poison. If watched, they will often be seen to drop dead within a few feet of the plate which they have just left, and some of the healthiest eaters do not live to leave the plate.—St. Louis Globe-Democrat.

Queer Translations in an Old Bible.

Coverdale's Bible is called both "the Treacle Bible" and "the Bug Bible," from two curious renderings. The passage in Jeremiah which we now read, "Is there no balm in Gilead?" is rendered, "Is there no more treacle at Galahad?" And in the psalms, "Thou shalt not be afraid of the terror by night" reads "Thou shalt not nede to be afayred for any bugges by night." In the ninth psalm, "Put them in fear, O Lord," is rendered by Coverdale as "Set a schoolmaster over them."—Chambers.

YOUNG HOLKS' COLUMN.

Nursery Rhymes.

Little Jack Horner sat in a corner,
Eating a blueberry pie;
He felt very merry
Till out fell a berry
Which much resembled a fly!

A HAPPY MEDIUM.

Jack Sprat could eat no fat,
His wife could eat no lean,
And as 'twas rude to scrap the dish,
They made a compromise on fish.

A PREDICAMENT.

One, two, three, four,
Jennie at the cottage door;
Five, six, seven, eight,
Bulldog sitting by the gate;
Oh, it really is a sin,
George won't dare to venture in.

—New York Herald.

A Boy's Room.

I WANT to tell you of an interesting hour that I passed in a boy's study recently, and of what I saw there. The young man lives on a large farm eight miles from the city of B—, and as his father is in poor health, most of the farming is done by this son and a younger brother; he is no city youth with plenty of leisure time, but a plain farmer boy who must prize the moments, and who knows how to find enjoyment in the everyday things around him.

His room is papered entirely with pictures cut from magazines, and pasted in the wildest confusion on the walls, yet so neatly that it looks like one unbroken sheet. Thus, even the walls can tell an almost endless variety of stories to any one who will sit for a while and look around. The large book-case is of home manufacture, and suggests many a long winter's evening spent in happy and useful employment.

On each side of the room are rows of shelves where a variety of our native birds perch in various attitudes—from the tiniest, most shy songster imaginable, to the saucy yet stately crow looking down from the top shelf beside his enemy, the sinister hawk, whose evil eye follows your every motion. The boys of whom I write, habitually observe everything around them and about the farm. They note the haunts of different birds and all their habits, where they build their nests and how, and upon what they feed. With thoughts thus employed, the work that might otherwise be dull and tedious becomes full of interest. Then when the time comes to mount a bird, its peculiarities are remembered, and it is not crushed and straightened into some unnatural position.

For example, one very handsome partridge is mounted just as it looked when the young gunner fired; she had heard a noise and taken the position of defense. Another is perched on a low branch just ready for a flight straight ahead. A cute little woodpecker clings to a section of a birch tree, seemingly ready to pick more from the hole he had nearly completed when shot. Two very handsome bluejays are perched on a beech twig, one holding a beechnut in his bill. Still another has spread his wings about to fly to the branch below. A goosander, a very handsome species of duck, stands on a gravel-covered standard among the mollusks that form his favorite food.

As you leave the room and turn for a last look, your eye is attracted by a moss-grown branch near the door, where a robin red-breast, sitting on her nest, watches closely to see if you are going too near.

It was with a feeling of real regret that I left this woodsy little den, and I could not resist telling other boys and girls about it; not that we all should become amateur taxidermists, for there are so many other equally interesting and instructive ways that we may employ our leisure time. "But," you say, "I like company, and want to know and be something outside of books." So let me add in closing, that this young man is quite

a favorite socially, at the early age of 18 having been elected as master of the first grange that was organized in Maine, and has been re-elected for a second term of office.—A Maine Girl in Our Grange Homes.

DOMESTIC ECONOMY.

SNOW PUDDING.—Put a pint of milk in the double boiler and on the fire; mix three tablespoonfuls of cornstarch with a gill of milk and one-third of a teaspoonful of salt; stir this into the milk when it boils; beat the whites of four eggs to a stiff froth, and then gradually beat into them half a cupful of powdered sugar and one teaspoonful of vanilla; add this to the cooking mixture and beat vigorously for one minute. Rinse a mould in cold water and, pouring into it, set away to cool. At serving time, turn out on a flat dish and serve with chocolate sauce.

CREAM CHOCOLATE CARAMELS.—Mix together in a graniteware saucepan half a pint of sugar, half a pint of molasses, half a pint of thick cream, one generous tablespoonful of butter and four ounces of chocolate. Place on the fire and stir until the mixture boils. Cook until a few drops of it will harden if dropped into ice water; then pour into well-buttered pans, having the mixture about three inches deep. When nearly cold, mark into squares. It will take almost an hour to boil this in a graniteware pan, but not half so long if cooked in an iron frying-pan. Stir frequently while boiling. The caramels must be put in a very cold plate to harden.

EXCELLENT BREAD.—Three quarts of flour, one teaspoonful of white sugar, one-half teaspoonful of salt, one tablespoonful of sweet lard, one potato, one square of compressed yeast, sweet milk to mix, either new milk or milk that has been heated. Pare, slice and boil the potatoes, turn off the water, mash, add one cup of flour and boiling water sufficient to make a stiff paste of the potato and flour. Cool to lukewarmness, add the yeast dissolved in a little tepid water, cover, set in warm place, and it should be light in an hour. Sift the remaining flour into a large pan, rub into the salt, sugar and lard. Pour the potato sponge upon the flour, add enough warm milk to make a dough as soft as can be kneaded, and knead thoroughly. Cover again, keep warm, and let it rise three or four hours. Mold into loaves, let them rise to double their size, and bake.

CHEESE STRAWS.—Put into a basin two ounces each of finely grated cheese—any kind of which happens to be preferred—fresh butter and sifted flour; add a seasoning to taste of salt, cayenne and pounded mace; mix thoroughly and form into a stiff paste with beaten egg. Roll out this paste just as thin as possible, then cut part of it into strips or straws about four inches long and not more than the third of an inch wide, and stamp out the remainder into rings about an inch in diameter. Place both straws and rings on a greased baking tin and bake for a few minutes in a brisk oven until just delicately colored. Great care is necessary in the removal of each piece from the paste-board to the baking tin in order to avoid breaking, the cheese paste being exceedingly brittle. When quite cold, put into each ring as many straws as can conveniently be accommodated and serve cold, tastefully arranged on a pretty dish paper, and garnished here and there with tiny sprigs of fresh parsley.

At Dinner.

Cannibal king (at dinner)—"What kind of meat is this?"

Cook (faltering)—"Mummissionary, sire."

King (angrily)—"What was the missionary's name, blockhead?"

Cook (tremblingly)—"Smith, sire."

King (thunderingly)—"Ar-har-r-r! I thought it tasted familiar. Sirrah, how many times must I tell you that I am sick and tired of Smiths? If there is not a radical change in the menu to-morrow, my good fellow, you will find yourself in the soup."

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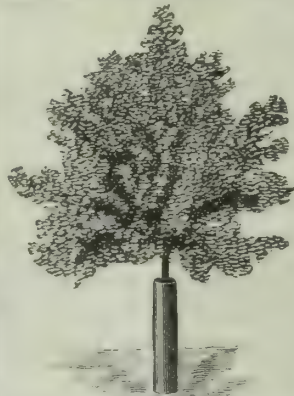
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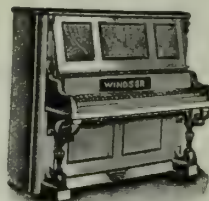
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AGRICULTURAL NOTES.

CALIFORNIA.

Butte.

A carload of ripe cherries was shipped last week from the Rancho Chico and the *Chronicle-Record* says that about 50 persons are employed in picking cherries in the big orchard.

Register: There are 98 orchards on the water list of the Thermalito Co., and five orchards, aggregating 450 acres, on the bottom or low lands that do not require irrigation.

Contra Costa.

Democrat: The crop outlook for Contra Costa county may be safely stated as follows: On account of an overabundance of rain the western and central parts of the county will only yield about half a crop of wheat and barley in the valleys, but the hill lands will produce a full crop. The eastern part of the county has a heavy crop. The valleys have a shortage of half a crop over last year. The hay crop will be an average one. The amount of wheat and barley of last year on hand is about 10 per cent; hay, 30 per cent. Apricots and peaches will be about half a crop; prunes, pears and other varieties a full crop. The grape crop never was better. Almonds will be but little over half a crop, on account of hailstorms when the trees were in bloom. The showers of the last few days will help the crops very much. It is hoped that there will be a much larger yield than was expected a few days ago.

Fresno.

Reedley Exponent: The crop prospect is still holding out good. Jno. Hogan, five miles southeast, has 160 acres of summer-fallow wheat that will yield 14 sacks to the acre. Although there has been much northwest wind, there have been cool nights and the grain continues to show up bravely against any ill effects of drying winds. The general prospect indicates a better yield than last year and more than an average.

Kern.

Californian: Sixteen months ago a man by the name of Geo. Simpson commenced to clear up a piece of sagebrush land, lying 14 miles or more west of Bakersfield, and upon higher ground than any of the ditches that run out in that direction. He dug a well, put in a pump and this season will gather a fair crop of apricots from trees set out since that time. It does not follow 15-months-old apricot trees will always yield a handsome revenue, but the lesson is that Kern-county land is mighty fruitful.

Los Angeles.

Pomona Progress: More returns from the last crop of oranges in Pomona have been had during the past week. C. E. White sold his yield of Navel oranges last January to a buyer from Ontario for \$2.10 a box—the best price paid in the valley this year. He got 5518 boxes from nine acres of trees, or \$11,500 for the whole. Probably no better statement of profit per acre can be had here this year. N. P. Johnson, of the Kingsley tract, got \$1.62½ net for his Navel oranges, shipped East. The Navel oranges on the Axton three-acre place were shipped on consignment to St. Paul, Minn. The returns came on Tuesday; they were at the rate of \$2.26 per box. The property brought in \$1143 for the season.

Mariposa.

The Yosemite is said to have improved wonderfully since the sheep have been kept out and the grass and shrubbery are beautiful in the spring, where before they were entirely ruined. Scarcely a day passes now but what deer are seen by tourists on board the stages, where but a few years ago they were seldom seen.

Monterey.

Watsonville Pajaronian: Berry-growers report that there is a shortage of berry-pickers, and the Chinese bosses appear to be unable or unwilling to get more men. Berries have been ripening faster this week than the men could pick and the loss to the growers has been considerable.

Watsonville Pajaronian: The beet acreage is not going to be as large as was expected, owing to the backwardness of the season and the difficulty to get some of the land in condition. It is expected that the final acreage will be close to 6000 acres. Last year the sediment land made the poorest showing; this year it is reversed and sediment land is to the front. On the rich sediment lands the beets are making an excellent showing, and the factory people are much encouraged at the way they are coming out. On the Salinas and in a considerable part of this valley the work of thinning is well advanced, and prospects are now considered good for the largest crop we have ever had to handle.

Napa.

Register: The reports are not as yet all in, but from the present outlook the damage done to fruit, especially cherries, by Wednesday's wind is quite heavy. S. M. Tool says that at least 500 boxes of cherries blew from his trees, and, out of an estimated crop of five tons, Mr. Ostman finds something like two tons on the ground. It is probably safe to say that at least one-third of the cherry crop was picked by Wednesday's wind.

Orange.

Santa Ana Blade: One of the principal producers of the San Joaquin ranch reports that locality as the busiest place in Orange county. A number of headers are already at work, and others will be put on immediately. He says it is a sight worth seeing to look from some eminence at that sea of golden grain, and watch the busy workmen as they gather it in. All are now very anxious to secure their crops, and are working almost day and night for that end.

He says no such crops have ever been known as there are in that region this season. The corn crop in that locality is looking fine.

Santa Ana Blade: In conversation with four of the leading bee men of the valley last evening a *Blade* reporter was informed that the outlook for a large yield the present season is very flattering. They say the quality and color are the best known in 15 years past. In fact, that it will prove the best year for honey in their experience in the business.

Sacramento.

Record-Union: The California Fruit Union on Wednesday, May 24th, sent out a heavy shipment for Denver of strawberries received from A. Moger, Porter Bros., Agent at New-castle, Placer county, of the "Dollarberry" variety. These are perhaps the finest berries yet put on the market. They are blood-red, of delicious flavor and possess excellent shipping qualities. A carload of strawberries sent to Denver by the fruit union last week arrived there in splendid condition and brought good prices. Denver will henceforth be relied upon to furnish a good market for all the surplus berries raised in Placer and Sacramento counties.

San Bernardino.

Chino Champion: Mr. Louis Hache pulled some beets yesterday and had them analyzed. Although none of the beets are yet approaching maturity, it is interesting to notice their progress in storing away their sugar constituents. Those analyzed yesterday were found to contain 11.1 per cent of sugar, 76 per cent pure—a remarkably high percentage for a growing beet. But then 18 and 20 per cent is remarkably high for mature beets and such have been raised here in quantity.

San Benito.

Hollister Advance: A general trip throughout the county discloses the fact that crops will be light, probably about 30 per cent less than last year. The total absence of spring rains has had a disastrous effect upon wheat and barley. The cut of hay will be heavy, but the yield per acre much less than in former years. Crops will perhaps average up well with the rest of the State.

San Diego.

Perris New Era: From 1000 strawberry plants J. W. Porter has already sold 250 quarts of berries, and in a few days he expects to be able to market 300 more.

San Jacinto Register: The honey that has so far been sold was made from the black sage and wild alfalfa, and does not bring as high a price as the white sage honey. While the former has been bringing six cents already this season, the latter will probably bring about six and one-half or seven cents per pound. Every bee man in the valley will be a millionaire before the season is over.

Santa Barbara.

Lompoc Record: The bean crop never came up more uniformly nor looked better than now. The land has been thoroughly prepared and the crop well drilled in.

Santa Maria Times: H. H. Johnson, of Guadalupe, was in town on business Monday. He says 300 acres of his land overflowed the past winter and filled up so high that it will not be liable to overflow again. He will seed it all to alfalfa this fall.

Santa Clara.

Saratoga Standard: The atmosphere around West Side is sweet with the fragrance of new-mown hay, and soon the vine will burden the air with an abundance of intoxicating odors even sweeter and more soothing than the Ylang-Ylang, Jockey Club or Millefleurs, but thus far the little bee only has gone to work and wisely stored this perfume in his little cell, and when winter comes and the bloom and fruit have gone, if he will suffer you to taste of his store, you will marvel at the delicate flavor he has extracted from the vine, far superior to his neighbors' that savors of mustard or thyme.

Solano.

Vacaville Reporter: The heavy north wind on Wednesday did some damage to fruit trees in the valley, southeast of town. Trees were blown down, and in some orchards the ground was covered with fruit as a result of the gale.

Vacaville Reporter: The Vacaville and Winters Fruit Company have shipped to date four carloads of cherries and apricots to Chicago. Yesterday's car contained 2600 boxes of cherries and a few boxes of apricots. This company reports that the sales from the first car shipped will net the shippers from 15 to 25 cents per pound.

Republican: Silveyville and Montezuma townships have better crops than any other township in the county, and yet they will not produce much over half a crop. There are some pieces of pretty fair grain scattered here and there all over the county, but taking it as a whole the crops are extremely poor throughout the entire county.

Dixon Tribune: While the fruit-growers of both the Vaca valley and creek fruit belts are complaining of a shortage in apricots and almonds, the orchardists on the Dixon ridge report full crops of these as well as all other varieties. The ridge is also fully as early as either of these sections, which are famed for their production of early fruit. R. E. L. Stephens picked ripe cherries from the trees on his Silveyville place within three days after the first California shipment was made. Most of the level land to the north and west of Dixon is as well adapted to growing fruit as the sections mentioned above. The only objection that can be urged against it is that, lacking the extreme and constant heat of the valleys, the apricots do not color as well and consequently do not meet with as ready a sale either as green or dried fruit. In ten years Dixon will be in

the midst of orchards, which will produce as good and as early fruit as any section of the State.

Sonoma.

A correspondent from Guerneville says: The crop of prunes, peaches and apples is short. Some of the prune orchards are infested with the black knot. There must be rigid inspection of our nurseries to protect the planter. No one should buy trees unless the seller can produce a reputable inspection certificate.

Santa Rosa Republican: The ramie plant will undoubtedly be an important factor in the agricultural prosperity of Sonoma county. On Captain H. E. Boyes' place, near Sonoma, there are 70,000 plants, and the captain has already filled a large order from Humboldt. He has great faith in ramie and thinks it will prove of inestimable value to the farmers of Sonoma county.

Sonoma Index-Tribune: On the Muser farm, two miles south of town, can be seen all kinds of berries growing to perfection. These vines were planted two years ago and now produce large, luscious fruit. Among this patch are orange and lemon trees almost covered with beautiful sweet-smelling blossoms. This is surely convincing to the skeptical that the soil of the lovely Sonoma valley is well adapted to the growing of all kinds of berries as well as vines and citrus fruit.

Healdsburg Tribune: T. S. Merchant has lately been improving his ranch, situated on the road to Guerneville. In addition to other improvements he has had 500 cherry trees of the Royal Ann variety and 1200 peach trees of different varieties set out. The long wet season, followed so suddenly by excessively warm weather, caused a number of trees, one and two years old, to sap out. The dead trees, however, have been replaced by new ones this year, and now the orchard is in a fine, healthy state. Mr. Merchant estimates the yield of peaches smaller than last year, but that other fruits will be fully up to last year's yield. There will, he says, be an enormous yield of grapes.

Stanislaus.

Newman Tribune: Wm. Morehead brought to the *Tribune* office a sample bunch of twelve-headed wheat, grown lately on his ranch, four miles west of Newman. If the sample brought in is a fair example of its productiveness, this will undoubtedly be the wheat of the future. The heads are as large as three ordinary sized heads of Chili or Australia, frequently containing from 115 to 130 grains to the head. The Morehead Bros. have about two acres of this wheat, which they will save for seed.

Tulare.

Visalia Times: Ripe wild blackberries are in Visalia markets. There will be an abundant crop in the swamps this season.

Hanford Journal: J. G. Borland was in Hanford yesterday from Huron. He reports that crops on dry lands on the West Side will be a failure, but it is estimated that the "sinks" will produce from 90,000 to 100,000 sacks of grain.

Times: T. D. A. Collins, one of the extensive farmers on Deer creek, has been trying the plan of irrigating his grain this season. He has had several men employed the last month in irrigating about 300 acres of wheat. Without this his crop this year would have been almost a failure.

Hanford Sentinel: R. E. Starkweather, of the Grangers' warehouse, reports the wheat-crop outlook a little better than the average for the past few years, yet not as good as we anticipated that it would be a few weeks ago. The harvest on the West Side will commence during the next ten days.

Traver Advocate: J. M. Clarke and Amaziah Clarke are the model wheat farmers of the Traver country. They get good crops every year, and have 3500 acres of as fine wheat as one could wish to see this year. Some of their neighbors say the Clarks are very lucky men, but those who are close observers say the secret of their success lies in good farming.

Register: Thos. Twaddle, J. M. Smith and J. I. Higdon have 960 acres of wheat on Wm. Melotren's Lewis creek ranch. Most of the place was overflooded during the winter, and the wheat is excellent in consequence. It will average four feet in height and is thick on the ground. Good judges say some of it will make 15 sacks per acre and that the rest will make ten sacks. The wheat is green yet and not affected in the least by the dry weather.

Ventura.

The *Ojai:* It is almost certain the prune crop this year will be a big one. Reports from every quarter are to the same effect. Mr. J. R. Bennett's orchard is a fair sample of the others. He has ten acres of prune trees just coming into bearing. The trees are carrying all the fruit they should; if there were more on them it would be necessary to thin out. An experienced orchardist who recently went through Mr. Bennett's place, gave it as his opinion that the ten acres of young trees would yield from 25 to 30 acres of dried prunes this year.

Yolo.

Mail: On the first of January, 1893, Fred Sanderson set out half an acre of strawberry plants at his Cache Creek home. Last week he gathered 100 pounds marketable fruit therefrom. From one stem he picked a pound of berries.

Mail: D. A. Jackson, the veteran grape-grower, is jubilant over the prospect for an immense crop this year. He was down from the Bl.cks vineyard yesterday, and to a *Mail* reporter unfolded some wonderful stories of the promising bunches which ornament his vines. He considers all danger of climatic disturbance now past and is preparing to put a crop upon his trays which shall break the record.

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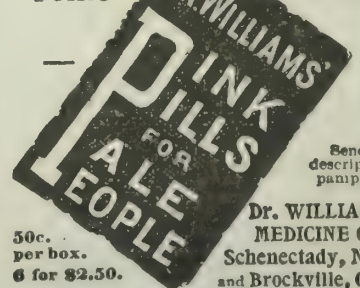


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PATRONS OF HUSBANDRY.

Picnics Galore.

Mr. Ohleyer Writes About Picnics and Other Things.

TO THE EDITOR:—Notwithstanding the surfeit of picnics and picnic literature, I feel bound to inflict another dose upon your space and good nature. It is an old and trite saying, there is a time for everything. There is a time for joy and sadness, for merry-making and of mourning, a time for play and a time for labor. The universe is so organized as to bring forth in nature these varying seasons, and which rule the animal as well as the vegetable kingdom. But a few weeks ago the rigorous ruler held the land of our Eastern kinsmen in his icy grasp, too firm to permit even the softening course of tears, while in our own country nature's tears were perhaps a little too profuse. But once more all this is changed, and nature stands clothed in her best array of verdure and sunshine, and all living beings rejoice in renewed youth and blessings. Only a little while longer shall we hear of the vernal picnics, and then the call to harvest will silence the merry dancer, the woodland orator and the brass band.

But, gracious me! here I am moralizing on the seasons when I intended to write you about the northern picnics, and yet I fear treading on territory already allotted to some nimbler pen. If this be so, I am happy to know that through your great kindness these lines will find their way to the editorial waste-basket.

It may not be generally known that the people of northern California have the capacity to do full justice to the season, and that, as a rule, to the order of Patrons of Husbandry is conceded the right, pleasure and duty of conducting the literary exercises at the picnic gatherings.

As you know, Yuba City Grange celebrated the advent of the floral season on May 11th, March Grange near Pennington, Sutter county, on the 19th, and North Butte Grange on the 23d. Disappointments were felt at the meetings over the non-appearance of some orators from the South, and particularly did we wish for and had hoped to see and hear him who stands so worthily at the head of the order in this State, and only second in command in a national point of view. I refer to Hon. E. W. Davis of Santa Rosa. Substitutes were pressed into service, and, doing their best, could neither satisfy themselves nor their intelligent audience, for be it known that of the best of earth's people attend these gatherings, and at which no rudeness or unseemly conduct is permitted.

North Butte Grange held its meeting in Thrasher's Grove, just over the county line in Butte county, and near the bustling little city of Gridley. The meetings were well attended, notwithstanding the vigorous blows sent down over the plains from the direction of Mount Shasta. The chief theme of the speakers, after compliments to the listeners and apologies for the absence, was the advantages that lay in the path of organization and co-operation in all things that go to make up rural existence. They pointed out how the business world was organized and organizing for mutual advancement and protection, and that if we would enjoy the advantages our numbers, means and intelligence entitled us to, we must meet together, talk together, work together, buy together, sell together, and, in general, act together, for our own mutual protection and advancement; that we mean to advance our cause by laboring to develop a better and higher manhood and womanhood among ourselves, to enhance the comforts and attractions of our homes, and strengthen our attachments to our pursuits, to maintain inviolate our laws, and to emulate each other in labor to hasten the good time coming. These were worthy and desirable objects, and all were invited to join their neighbors in the accomplishment of the laudable undertaking.

All rural endeavors for similar objects were endorsed and encouraged and all the meetings were pronounced successes.

A CALL FROM SHASTA COUNTY

Was heard, and two members from Yuba City Grange were delegated to respond. They were B. F. Frisbie and the writer of these lines.

The call came from Millville Grange, where, on Saturday, May 20th, a gala day was to be had by the farmers of the vicinity under the auspices of the local grange.

At 1 A. M. Saturday morning we boarded the train at Marysville for the north, arriving at the shade-embowered little city of Anderson in time for an early breakfast. We then engaged a team and driver and departed for Millville, distant some 15 miles in a northeasterly direction.

Owing to our early arrival we had seen but little of the country surrounding the town, but as we left the place there appeared to view what to me was a revelation. The town at first seemed lost in the woods, but on closer view it seemed that more than half the forest was composed of the different varieties of fruit trees for which our State has become famous, and these were interspersed with luscious-appearing vineyards. I have neither time, space or ability to do justice to what I saw, so wholly unexpected was the scene all about us. Let me tell the fruit-growers everywhere that in no locality have I seen a healthier or better-looking tree or vine than here, and that a visit to Anderson will well repay the effort. There is already a cannery here, and I was informed that some where between 4000 and 5000 acres of land is growing to fruits where only a few years ago precarious grain farming was practiced or the land was covered with the oak and chaparral.

The country traversed was undulating, between hills and vales, prairies and forests, farms and pastures until we passed over a low ridge, when the site of the little village was seen through the intervening trees. Presently we were in the town, and, it being yet early, were driven to the hotel to await events.

The morning had been cold, cloudy and somewhat disagreeable, hence the populace, having to come many miles, had not arrived, but toward noon the vicinity of the great hall on the edge of the town was animated with as pleasant a people as ever graced a social event.

In due time Worthy Master Eddington called

the assemblage to order and installed Bro. Frisbie as presiding officer of the day. The hall, though a large one, was crowded to its utmost capacity, and all were interested listeners to the rendition of an excellent program of literary exercises by members of the grange.

The two visitors were then called upon, who spoke their pieces with diffidence in the presence of so large an assemblage of the intelligence of this country.

These exercises concluded, the doors of an adjoining room were thrown open, where two almost endless tables were piled high with the choicest products of the farm and garden. Here again my descriptive powers are at fault to properly represent the excellence of this rural feast and the extreme kindness shown to the "two wanderers from below." The writer feels keenly the poverty of his education and language in this regard, and, if this experience is to continue, knows he will be compelled to take lessons in the art descriptive.

After the feast the grange sat with "closed doors" for a couple of hours, when instructions were given in the degrees by the two visitors. More talk was had in a confidential way in which many of the members participated, and, knowing that all were sincere in their kind words and deeds, I am bound to conclude that all present had an enjoyable time as well as their visitors. Midst best wishes for the future, we took our departure for the return trip over the same route we came, arriving at Marysville at 8 A. M. Sunday morning, having been gone only a little over one day and doubled a distance of 115 miles.

Railroad management may be censurable in many ways, but the roads are mighty convenient when they happen to run in the direction you are going. In this instance it renders two live and active farmers' organizations so near together as to bring them almost in hailing distance.

The country about Millville is also undulating. It is well wooded and watered and interspersed with farms and attractive homes. All the fruits and vines flourish as at Anderson, but the distance from the railroad is a serious drawback. Until this can be remedied, it would seem to be the best policy for the growers to reduce bulk by drying when it can be transported longer distances in wagons. The numerous streams, tributaries of the Sacramento, and that river also, are like crystal in their purity and clearness. It vexes me always to think that the filling of the lower rivers with mining mud was ever permitted, and is being excused for any reason whatever, even for ephemeral purposes.

The cereal crop along the way is light, as a whole, the estimates running from 33 to 50 per cent of an average and some estimates going as low as 25 per cent. Excessive wet weather, together with cool weather, is the cause, thus showing that something more than plenty of rain is needed. Where natural drainage exists, good fields of grain are seen, which furnishes another object-lesson. But, Mr. Editor, having exceeded all ordinary limits of a letter, I must quit for the time being. GEO. OHLEYER.

Yuba City, May 29, 1893

From New Hope.

TO THE EDITOR:—At our called meeting April 29, to settle the question of a Grange picnic, it was decided not to have one till some time in September, as after harvest was thought would be the best time. Picnics seem to be the rage, as there were five or six in as many weeks in the small towns in reach of New Hope, which many of our New Hope people attended.

At our regular meeting Saturday, May 20, we decided to celebrate the 3d of June as Flora's Day and hold open Grange in the afternoon, all members to bring their children and invite their friends to help sample our refreshments. A committee was appointed to arrange a program for the occasion. Then our brother lecturer was called upon, and, in his usual graceful way, gave us a short speech. This had the effect to bring out a discussion, which was pleasantly handled, on the Chinese question.

The wheat and barley are looking well in this vicinity. There is some complaint among fruit-growers that the curl leaf is troubling their peach trees this year, so the crop will be light, while apples, prunes, plums and cherries look well and will have a large crop. Pears, apricots and almonds blossomed profusely, with the promise of bearing well, but from some cause there will not be more than half a crop. One of our enterprising grangers has ten acres set out to tomatoes. The potatoes are looking fine and they say will yield 125 sacks, if not more, to the acre. Our past master, A. Thornton, has set out a large orchard this spring, with a variety of fruit trees. This is truly orchard land, as the healthy growth of the trees will prove. It is hoped others will follow his example, and at some future day we can have a fruit-drier or a cannery here in our vicinity. New Hope has not lost hope of some day being a busy town. Why not? when we have just as intelligent and energetic men here as you will find in the State. CARRIE CARLTON.

New Hope, May 22, 1893.

From Sam Antonio Grange.

TO THE EDITOR:—At a recent meeting of San Antonio Grange I was selected correspondent to the RURAL PRESS and I will begin my work by giving a brief history of our grange.

On the 8th of May, four years ago, San Antonio Grange, No. 285, was organized at a public school house. There was no hall in the neighborhood and the meetings were held at various places at first, and whenever a public entertainment was to be given the use of the hall several miles distant was secured. Soon new names were sent in, and in a short time a class was prepared to receive the fourth degree, and we gave our first harvest feast.

Everything was done to make it a success and it was spoken of as the social event of the season. This induced many more to join us, and for a while our membership rapidly increased, and our grange was in a flourishing condition, but after the novelty wore off, some who took no real interest in the order, seldom attended our meetings and their names were finally dropped from the roll; others left the neighborhood and so our membership was somewhat reduced again, but we have been taking in new members all the time, and our grange to-day is composed of good steady patrons, who earnestly desire, and who will do all in their power to advance the interests of the people. I may say our officers,

with few exceptions, are faithful in their attendance. Some live at a distance of ten miles, and it is often impossible to be present. We have never been able to build a hall, but for a long time we have rented a private house which is large and very conveniently arranged for both private and public meetings. Our hall is supplied with all the necessary furniture.

We have held our regular meetings on the first and third Saturdays of each month. In the busy season, during the summer, we have often held our second meeting of the month in the evening, thus enabling the members who were busy in the harvest field during the day to meet with us, and after the business was disposed of the time was chiefly devoted to music, dancing and eating. Those were certainly pleasant times, but we felt there was too much play about it and we ought to give out attention to other things as well. I believe the grange has already been of much benefit to the people here. It certainly has to our young members.

Our Worthy Master has represented us each year at the State Grange. We have several sixth degree members. Last fall a juvenile grange was formed here, our Worthy Secretary being chosen Matron. I think this will also prosper. At our last meeting a committee was appointed to make necessary arrangements for a celebration early in June. It is to be a Flora and children's day combined. The former day has never been observed by us, but, with a few hints from other sisters accustomed to the work, I believe the committee will have a successful entertainment.

A few words concerning the trade-card system before I close. It has been in use here for some time and is highly recommended by some of the members. I am sorry to say not many have used it, but I believe if they did they would say it was a great benefit to them. I hope in time all farmers will be able to use it in buying their goods.

May 25, 1893.

E. R. L.

Picnic at Grand Island.

Some Remarks upon the Conditions and Industry of the Country.

TO THE EDITOR:—This has been a great day for Grand Island and the grangers. The greatest picnic of the season has come and gone, and in every way was a grand success, and when I have said that, I have said all I can. Bro. Ohleyer's remarks were appropriate and to the point. The ice-cream man wore a broad smile; the children never got tired of the merry-go-round, and every one had an enjoyable time. Great credit is due the committee of arrangements for the very thorough and satisfactory manner in which everything was arranged; and now, Mr. Editor, having said this much for our picnic, I will leave our brother and sister grangers to imagine the rest.

In the whole length and breadth of this grand State there is probably no section more fertile or productive than Grand Island. The one great drawback it has is that at times, during very wet winters, a large portion of it gets under water. Such is the case this year, and a tract of land eight miles wide by twenty miles long that last year was an immense wheat-field is this year a lake of water. This thing has happened before. In fact, in some portions of the Island a "drowned out" has been too near the regular thing for either pleasure or profit. But, like a great many other things, this may prove a blessing in disguise, for it has compelled men to turn the land to other uses besides growing grain, which, when they got a crop, was only saved from actual loss, on account of low prices, by the enormous yield of the land, 60 bushels per acre of wheat being no unusual thing.

A friend of mine has lately been experimenting on this land with beets, and, in a carefully measured acre of land, he got, by actual weight, 160 tons of stock beets. Chicken (Egyptian) corn has been planted on this land after the water had receded, too late to sow wheat, and as high as 30 sacks (4000 pounds) per acre has been grown. There is none of the higher land bordering the sloughs that put out from the river (Sacramento) but that three good crops of alfalfa can be cut without irrigation, and, at a small expense, hundreds of acres could be easily irrigated. These facts have been known for years, but the people, with a determination and persistence that is truly surprising, have been yearly sowing their land to wheat, and in many cases almost yearly having a "drowned out." But such things as this have got to have an end; and our lowland farmers, and highland farmers for that matter, have begun to realize that wheat is not the only thing that can be grown at a profit. In fact, they are serenely thinking that there is less profit in wheat than anything else they can produce. Our people up here are reasoning something like this:

"If I can raise 160 tons of beets, when, as the greatest yield, I can only get 3600 pounds of wheat, why not raise beets and sell hogs and stock?"

"If I can wait and sow corn and be sure of a crop, why sow wheat and have it drowned out?"

The result of such reasoning is that a movement

is on foot to start a breeders' association, but of its aims and objects I will reserve for a future letter. Grimes, May 27th. A MEMBER.

The Secretary's Column.

By A. T. DAWK, Secretary State Grange of California.

THE GRANGE STANDS SOLID.

An exchange expresses much sympathy at an imaginary falling off of the grange, mentioning the scarcity of news in the "Grange Column" (as he calls it) in the RURAL. It is true that not half the news that should be contributed weekly to the P. of H. department of the RURAL. Further, there really is not so much activity as there should be within our gates at present to report. Similar statements would also be true of most other fraternal societies just now. The World's Fair and hard times have taken much of the vivacity from most societies. So far as statistics in the secretary's office show, the grange is about holding its own in this State, and that is not comparatively bad for this season.

We can assure our friend the grange is the most substantial farmers' association in the land. Its finances are remarkably healthy in this State and nation. Its undertakings, while not so great and rapid as might be desired by some, are being steadily carried out for the satisfaction and good of the many.

And yet there should be more activity all over this State for so great and good a cause; so let this concern expressed by our editorial neighbor wake up every sleepy grange and granger in the State.

TULARE GRANGE AND AGRICULTURAL INSTRUCTION.

From reports it would seem that an interesting meeting of this grange was held on May 10th. Committees on membership and proposed amendments to the Constitution of the State Grange were appointed, to report at the next meeting. Brother Stewart will also then address the grange on beet culture.

Bills were ordered paid from the grange treasury for expense of the Farmers' Institute. Bro. Mackie recommended that institutes be held annually in Tulare and in other portions of the county at intervals during the year. The subject of other meetings to be revived at the annual meeting.

The discussion of the afternoon was an address on the bud moth by Brother Farrar, with extracts from bulletin No. 50, March, 1893, of Cornell Experimental Station. It was thought the bulletin should be published locally. Prof. C. A. Woodworth, State University Agricultural Department, has lately visited Tulare to investigate root knot. It was mentioned in the meeting that Prof. Jordan, of the Stanford University, spoke in highest terms of the work being done at the Agricultural Department at Berkeley and of the professors therein. He also stated that Stanford University had courses in botany, entomology and ornithology, and that they have professors and students quite capable of lecturing on these subjects, and Farmers' Institutes desiring lectures on such subjects, by paying expenses of lecturer only, could be supplied by Stanford University.

The reporter of the meeting adds: "By the way, our county is fast becoming a strictly horticultural one. It seems proper that those studies should be taught in our high schools, or a class therein might be formed which would receive instruction with weekly visits to orchards in the vicinity, provided the instructors can be had. It is feared, however, the chance for such instructors being obtained is rather poor, until the law requires that all teachers in the Normal school shall take a course therein, or Stanford University has prepared them for us."

DEATH OF AN OLD PATRON.—The Morning Call of Friday, May 26th, states: "Orrin Dennis, a farmer and fruit-grower at Mt. Eden, died Tuesday, about 12 o'clock, from fatty degeneration of the heart. Mr. Dennis was an old resident, highly respected, and 66 years of age. He leaves a widow and two children."

Bro. Dennis had been ill for a long time, yet we learn his death was finally sudden. Although not a member of the order at the time of his death, as a worker for many years in the grange he will be remembered in kindness for many zealous and well-meant acts. His wife and daughter have the fullest sympathy of their fellow patrons.

A BROTHER writes there are fair hopes of organizing a good grange in Visalia before fall.

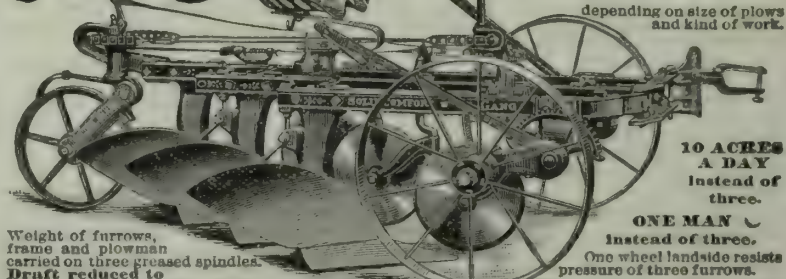
Hay Pressing.

If you are interested in pressing hay write Truman, Hooker & Co., San Francisco. They will save you money.

\$500,000

TO LOAN IN ANY AMOUNT AT THE VERY LOWEST MARKET rate of interest on approved security in Farming Lands. A. SCHULLER, Room 8, 430 California street, San Francisco.

SOLID COMFORT THE "WONDER ON WHEELS"



Weight of furrows, frame and plowman carried on three ground spindles. Draft reduced to lowest possible limit. Foot brake prevents gang running on team. Levers and turning device in easy reach. Can be turned in the length of itself. Easier Driving. LIGHTER DRAFT than any Gang in America. Adjustable STEADY LIGHT FURROWS, and frame—can be narrowed or widened at will. Made with sturdy, solid and stable, or breaker bottoms, in steel or chilled metal. Ten or twelve inch cut.

ECONOMIST PLOW CO., So. Bend, Ind., or Stanton, Thomson & Co., Sacramento.

Special prices and time for trial given on first orders from points where we have no agents.

E. VAN EVERY, Manager.

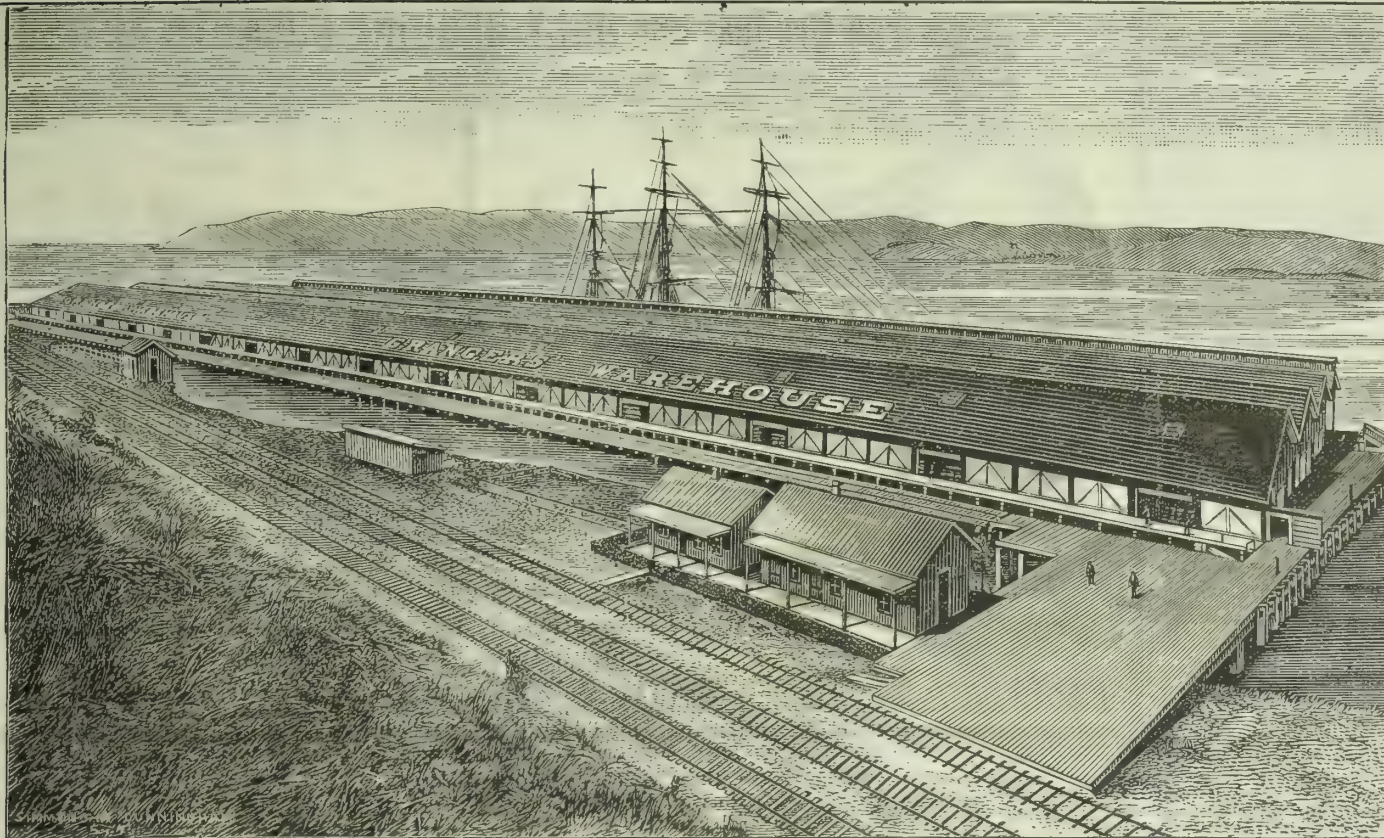
T. R. BALLINGER, Grain Salesman.

Great Reduction in Storage

SEASON OF 1893

50 CENTS TO JANUARY

1st, 1894.

75 CENTS FOR SEASON
TO JUNE 1st, 1894.

AT THE

GRANGERS' WAREHOUSE, PORT COSTA.

Capacity of Warehouses, 50,000 Tons; Wharf Accommodations for the Largest Vessels Afloat.

GRAIN RECEIVED ON STORAGE, FOR SHIPMENT, AND FOR SALE ON CONSIGNMENT.

For Particulars and Rates, address all communications to our San Francisco office and they will be promptly attended to.
PARTIES DESIRING STORAGE WILL PLEASE APPLY EARLY.

GRANGERS' BUSINESS ASSOCIATION, 108 DAVIS STREET, SAN FRANCISCO, CAL.

ASSESSMENT NOTICE.

GRANGERS' BUSINESS ASSOCIATION,
(A CORPORATION).
Principal Place of Business, No. 108 Davis Street, in the City and County of San Francisco, State of California.

NOTICE IS HEREBY GIVEN THAT AT A MEETING of the Directors of said Grangers' Business Association (a corporation), held on the 8th day of May, 1893, an assessment of ten (10) per cent, amounting to two dollars and fifty cents (\$2.50) per share, was levied upon the capital stock of the corporation, payable immediately to the Secretary of the corporation, at his office, No. 108 Davis Street, in the City and County of San Francisco, California. Any stock upon which the assessment shall remain unpaid on Thursday, the 8th day of June, 1893, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on WEDNESDAY, the 12th day of July, A. D. 1893, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

CHARLES WOOD,
Secretary of Grangers' Business Association.
Office, No. 108 Davis Street, San Francisco, California.

FRUIT EVAPORATOR. THE ZIMMERMAN

The Standard Machine
Different Sizes and Prices. Illustrated Catalogue free.
BLUMYER IRON WORKS; Cincinnati, O.
James Linforth Agent, 37 Market St., S. F.

FRANCIS SMITH & CO.,

MANUFACTURER OF



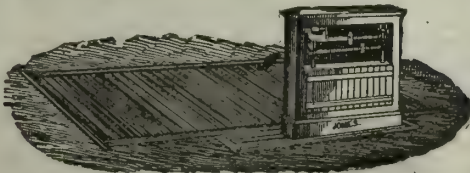
SHEET IRON & STEEL PIPE

FOR TOWN WATER WORKS.

Hydraulic, Irrigation and Power Plants, Well Pipe, Etc., all sizes.

NO. 180 BEALE STREET, SAN FRANCISCO, CAL.

Iron cut, punched and formed, for making pipe on ground where required. All kinds of Tools supplied for making Pipe. Estimates given when required. Are prepared for coating all sizes of Pipes with a composition of Coal Tar and Asphaltum.



THE JONES 5-TON WAGON SCALE.

Price \$66, Delivered Anywhere in the United States.

These Scales have STEEL BEARINGS, Not Wood—BEAR THIS IN MIND.

From 25 to 50 per cent cheaper than any other Scales of like quality. All sizes and kinds of Scales always in stock.

Truman, Hooker & Co., San Francisco.

—THE—

Porteous Improved Scraper

Patented April 8, 1893. Patented April 17, 1893.



Manufactured by G. LISSENDEN.

The attention of the public is called to this Scraper and the many varieties of work of which it is capable, such as Railroad Work, Irrigation Ditches, Levee Building, Leveling Land, Road Making, etc.

This implement will take up and carry its load to any desired distance. It will distribute the dirt evenly or deposit its load in bulk as desired. It will do the work of Scraper, Grader, and Carrier. Thousands of these Scrapers are in use in all parts of the country.

This Scraper is all steel—the only one manufactured in the State.

Price, all Steel, four-horse, \$40; Steel two-horse, \$31. Address all orders to G. LISSENDEN, Stockton, California.

DEWEY & CO. { 220 MARKET ST., S. F. } PATENT AGENTS.

Sole Agents,
No. 5 Market Street, San Francisco, Cal.

S. F. MARKET REPORT

Market Review.

SAN FRANCISCO, May 31, 1893.

Dullness continues to be the chief characteristic of the wheat market, though conditions on the whole appear to be favorable for improvement. The prospect in the State for grain crops considerably below the average continues, and there seems to be little doubt at this time that the yield will be something like two-thirds. Some localities, it is true, report improvement, but others were, no doubt, further damaged by recent drying winds. Almost the only crops in the San Joaquin valley which promise large returns are those irrigated, while the unirrigated—the greater part—have all been more or less damaged; or, at least, are less promising than six weeks since. In the northern part of the State estimates continue to be very low. Some claim that in Yolo county there will not be more than one-third of a crop; while other counties will doubtless fall far below the average. Reports of the eastern crops continue poor, while Europe will probably not produce more than a normal crop. All these things, it would seem, point to an advance in quotations. The one depressing factor continues to be the abundant stocks of old wheat both at home and abroad. The exact condition of wheat east of the Rockies is shown by the following report to the *Farmers' Review*, Chicago, published May 24:

WHEAT IN THE MIDDLE WEST.

"In Illinois the general outlook for the wheat crop is still bad. In some localities the weather has been so cool that the wheat has not stood out well. Thin fields are being plowed up and planted to corn. In some counties, however, the weather has been favorable and the last two weeks have seen a material advance. A large percentage of the area may be counted as lost, but the condition of the rest is improving. The winter rye crop is in fair condition, taking the State as a whole, though there are many counties in which little or none is grown.

"In Indiana the outlook for wheat is a little above fair, and very much better than in Illinois. In some counties it is reported as looking fine and not troubled by insects. Some is so heavy that it is already lodging. Not over one-fifth of the correspondents report the condition as poor, though there are quite a large number that report some thin and spotted fields. In some localities the plant has made rapid growth, but has not stood out well. Some damage has been done recently by the overflow of water on low wheat fields. Winter rye is nearly an average crop.

"Ohio wheat prospects are good. Sun and showers are bringing the crop forward nicely. In some counties the outlook is the best in years. In others, where the present condition is below an average, the improvement is so continuous that by harvest time the crop may be a full average. Wet weather has damaged the wheat in some counties, but to just what extent it is impossible to say. The rye crop keeps pace with the wheat, and in most counties where reported is in good condition. In a good many counties no rye is reported.

"In Michigan the condition is generally bad, though a few counties report the outlook as good for a full crop. In some places the rain has done much good, and the condition is steadily improving. Rye is reported at fair and good.

"Winter wheat is generally good in Kentucky, but in a few counties is reported as low as 75 per cent. Too much rain has discolored it in some places. Rye is generally good and is reported from about two-thirds of the counties.

"In Missouri the condition remains fair, but considerably under a full crop. The condition varies greatly in the different counties. In some it is thin on the ground and making slow growth, while in others the crops will be exceptionally large. The wheat that was sown early last fall is continuing to lead in development. Rye is reported from few counties and is only fair.

"In Kansas and Nebraska the outlook for the wheat crop has not improved materially. The drouth last fall, supplemented by the hard drouth this spring, must result in a very short crop. No matter how fine the conditions of the weather henceforth, there can be but little improvement. Rye is in much better condition than wheat, but the area planted is too small to cut much of a figure.

"In Iowa both wheat and rye are reported in from fair to good condition.

"In Wisconsin the winter wheat and rye are coming forward in fine shape, though in most counties are a little late. The improvement recently is very marked. It is stooling out and covering the ground nicely.

Locally, the market has shown small change during the week. Milling wheat is fairly firm, while other varieties are weak. The market, on the whole, is of a waiting nature. Buyers are slow and anxious for reliable data as to the coming crop, while sellers, as a rule, are not anxious to dispose of their holdings.

Memorial Day has materially interfered with business on the Produce Exchange, and transactions in barley have been nominal. The market is, however, in good condition. While transactions are not large, local consumption has been steady and reports of a short yield have had the effect of stiffening quotations.

Oats are quiet and prices are unchanged.

Corn is in good supply and offerings have been free.

Fruit Crop Reports from all Sections.

Missouri.—C. C. Bell, of Booneville, Mo., familiarly known as the Apple King of Missouri, gives the following statement of the coming season's apple crop: "After making a close inspection of quite a number of orchards in this State, I have come to the conclusion that we will not have one-fourth of a crop. Last July the orchards looked as if they had been visited by a fire. The trees were affected with a disease known as the twig blight, they being so affected as to prevent the under growth of limbs, and as a matter of course the fruit buds did not set, consequently the trees have no full blooms. The wine-sap variety will be plentiful this coming fall, but the Ben Davis and other similar varieties will be very light."

Delaware.—A letter from Smyrna, Del., under

date of May 12th, says the appearance of frost the last three mornings of this week has caused uneasiness among many fruit-growers. They say cherries are hurt and they fear strawberries and peaches are also damaged.

Kentucky.—A correspondent writing from Danville, Ky., under date of May 13th, says that experienced fruit-shippers throughout Southeastern Iowa and neighboring States claim that the fruit crop is not ruined, as was reported. The fact, on the contrary, is that there has never been so good an outlook for all kinds of fruit, except apples, as this year. There is a bright outlook for peaches, cherries and all small fruits.

Ohio.—At the recent meeting of the Summit Co., Ohio, Horticultural Society, Maxwell Graham, committee on orchards, reported the prospects for fruit excellent. Apple orchards that bore a crop last year are not blossoming to any extent. Early and summer varieties of apples are blossoming very full, but winter varieties are in many orchards almost a failure. Pears, peaches, plums and cherries promise full crops. Prof. Claypole reported pears about Akron not so full in bloom as last season. Grapes and small fruits reported in good condition.

Florida.—R. G. Allsop, of Prospect, Marion Co., Fla., writes under date of May 10th: "The orange crop in this section will only be about one-half. There was a poor bloom and now a great deal of fruit is dropping. I hear that some sections are getting a good show for fall crop; lemons seem to be a better crop than last year, and most of the growers have gone to spraying to keep fruit nice and bright."

Georgia.—A special from Macon, Ga., under date of May 14th, says that the watermelon crop is getting along nicely, and the acreage will be larger than last season.

Oranges.

The demand for Washington Navels in the East has shown marked improvement lately; but Washington Navels are becoming a scarce article, so growers are not generally benefited by the improvement of demand. Locally, there is very good inquiry for fruit of the best quality, while other varieties are taken care of in one way and another. Twelve carloads arrived Monday. The following letter from a New York commission house—Scobel & Day, one of the largest wholesale fruit houses in that city—to a Los Angeles firm, is worth reproducing in our columns:

"Mr. Connolly is here with us and sails to-morrow, ex-'Arizona,' for home. He is perfectly delighted with California, and amazed at its grandeur and certainties, as far as fruit in the future is concerned. He is very sorry to hear of the unsatisfactory results of some of the late cars, and we are both wondering what was done in Liverpool with these last four cars, that we had so much trouble with.

"We have written our Palermo house that they might just as well cut down their orange trees, as far as the future of that fruit in America is concerned, because with the heavy crops positively coming on in both Florida and California, outside of the probably 2,000,000 [200,000?—Ed.] boxes of Louisiana and Arizona, the Mediterranean fruit will not stand the ghost of a chance in America. Still, you do not know what a stubborn set of people the Italians are, and how they are always hanging on to the idea that frost or some other trouble will kill off California and Florida, and that their fruit, owing to its superior carrying qualities and all that sort of thing, cheap labor at home, etc., will hold its own. We know surely that it will not, and that the future is dead for it, but they will not see it yet. Next year we believe Florida will have 6,000,000 boxes, and California perhaps 3,000,000, so where will the Mediterranean be then?

"One or two cars of California oranges have arrived here this week, but have been peddled out, we believe, from \$2.72 to \$3.25 per box, for Navels."

Other Fruits.

Strawberries are in only fairly good supply and sell rapidly at good prices. Green apples have appeared in the market and start off at 50 cents per cental. Of course, improvement in price will come with improvement in quality. Apricots and figs are also offered for sale. Cherries are beginning to come in more freely. California lemons are scarce. So far, very few raspberries have been sent in.

Little is to be said of dried fruits. The market is well cleaned up and quotations are nominal. It looks now as though the coming yield of prunes will not be so heavy as expected, and the chances of a continued healthy condition are correspondingly improved.

Vegetables.

Potatoes are coming in rather freely and quotations take a wide range. Choice new Early Rose, from the river, are received in boxes and sell well. The market is in very satisfactory condition. New red onions sell at 75¢@90¢ per cental. Rhubarb and green peas are in light supply, while other vegetables show up well. Beets and carrots have advanced.

Provisions.

Quotations in some lines of hog products are lower than a week since; but the situation generally continues to favor sellers; and there seems little prospect of a break. The *Chicago Breeders' Gazette* of May 24, says:

"The hog situation presents no new features. A good demand existed all week, and with the assistance of light receipts sellers were enabled to sustain prices. The market was not without its usual ups and downs, prices advancing or declining daily, but the changes were not very radical. The close of business to-day finds values not more than 5¢@10¢ away from the quotations given in our last report. They have gained that much, the week closing at \$7.60@7.80 for hogs weighing over 200 pounds, and at \$7.40@7.70 for lighter weights. Shippers have not operated more liberally than for the previous two weeks, their purchases reaching 33,000, as against 34,271 for the week ended May 16th. Shipments, however, look small when compared with those for the corresponding week last year, and for the matter of that so do the receipts, which for the last were 83,000, and for the corresponding week last year 170,998."

Poultry and Eggs.

Poultry was this morning quoted lower than a week since, owing to free arrivals from the East. While the local market is dull, and the demand not

The Judson Fruit Company,

308 and 310
WASHINGTON STREET
San Francisco, Cal.

all it perhaps should be, the general situation favors sellers. No difficulty is experienced in disposing of choice consignments at advantageous rates.

Eggs show some slight improvement. Receipts, however, are abundant and prevent any decided improvement.

Butter and Cheese.

Cheese continues to come in freely. While the consumptive demand is good, supplies are quite sufficient, and the market is easy.

Butter shows no change from recent conditions. Stocks are large, and the trade well supplied.

Miscellaneous.

Wool shows no improvement. Trade is very stagnant and stocks are accumulating.

A carload of new San Bernardino honey was put on the market to-day.

New alfalfa hay, first cutting, has brought \$8 per ton. During the week second cutting sold at \$10, and new at from \$8 to \$8.75. Old is weak.

Hops and rye are quiet.

There is nothing new in beans.

California Products in the East.

NEW YORK, May 28.—The heavy Eastern and Southern fruit crops of this season are becoming daily assured and, in the opinion of some leaders of the trade, California rates will be considerably modified, compared with last and some other seasons. A reasonable impression prevails among the dealers who handle the enlarged diversified shipments of car lots from the Coast, promised this year, and the heavy supplies that will be needed for Chicago. So, all things considered, New York will make fair returns for prime stuff.

In canned fruits the market is dull and the latest prices are nominal for standard goods. We have lost much spring trade which cannot be at once restored in the face of the berry season and of the immense arrivals of West Indian produce yet to be dealt in.

Prunes—Quiet at 10¢ for fifites.

Peaches—Evaporated, a drug at 9¢.

The raisin combine does not receive the support that was expected to be shown by this time, still, as there is no money lost even at the present rates, a hopeful view exists, notwithstanding a good many unlooked for outside invoices have come to light. Quotations are: Two crowns, 4½¢; three crowns, 5¢; loose boxes in prime summer order, \$1 20@1 50; layers, \$1 80@2.

Apricots—Winding up at 14¢@16¢.

Cherries—The cherries of the week were not attractive. Some loss of quality was attended by a delay by floods in Pennsylvania. Best prices, \$2@3 per box.

Oranges—One car of Washington navel oranges sold at \$3@3 50 per box. The last Liverpool venture of California oranges proved unsatisfactory.

Wool—The principal seaboard dealers are apprehensive of the setting in of an unavoidable dull term. Millers say there is no inducement for them to replenish material in a large way while the goods trade is so vague in character. Some of the larger clip districts are now willing to make some concession, but this decision has not, as we learn, affected much spot business, as it is pretty generally felt that all opening business of any volume must favor buyers. At Boston the large sales of Territory and Ohio delaine indicate the most positive weakness of seaboard prices noted this new season.

Sales at New York—55,000 lbs of Spring California; 17,000 scoured; 182,000 other domestic and 303,000 foreign on private terms.

Sales at Boston—1,565,000 pounds domestic, including 48,000 spring California at 15½¢@16¢; 235,000 Delaine at 25½¢@29¢, 415,000 Territory at 12¢@20¢; also 266,000 foreign, including 190,000 Australian.

Philadelphia says the market is weak and manufacturers are in a position to make the most of it.

Lima beans—Some spot trade to fill small orders at \$2 20.

Hops—During the week the city had a better share of the trade than some time back. Still, to a great degree, inferior holders control the position of round lots. The most attention has been directed to a full-value 20-cent grade. The range for State and Pacific is 18¢@21¢; some low grade of the latter 15¢. Local sales for the week, 500 bales; exports 631.

Cherries and Oranges.

CHICAGO, May 29th.—The Earl Fruit Company sold California fruits to-day at auction, realizing the following prices: Royal Ann cherries, \$2.55; Tartarian, \$1 85 to \$2.15; Rockport, \$1.50.

The following prices were also received at private sale: Fancy Navels (repacked), \$3.50@4.15; seedlings, \$2.50; St. Michaels, \$2.75@3.80.

CHICAGO, May 29th.—Porter Bros. & Co., sold to-day one car of California fruit, realizing the following prices: Cherries—Black Tartarians, \$1.60@2.15; Rockports, \$1.40@1.45. The fruit was in good condition and in good demand.

Visible Supply of Grain.

NEW YORK, May 29.—The visible supply of grain is as follows: Wheat, 70,157,000 bushels, a decrease of 1,369,000 bushels; corn, 5,628,000 bushels, a decrease of 418,000; oats, 3,342,000 bushels, an increase of 158,000; rye, 600,000 bushels; barley, 393,000 bushels, a decrease of 116,000.

British Grain Trade.

LONDON, May 29.—The *Mark Lane Express* says: English wheat averages 27s a quarter in the country and 27s 5d in London. Foreign wheat has receded 6d since Whitsuntide. Arrivals of wheat include 105,000 quarters California, 5000 quarters Australian and 10,000 quarters Argentine.

Crops in Europe.

NEW YORK, May 29th.—A series of cablegrams to the *World* from the principal European capitals give a summary of the crop situation abroad as follows:

In England there will be a short acreage of wheat, smaller area having been sown. Barley and oats are below the average yield.

In Ireland and Scotland the season is more favorable, and in the latter the oat crop promises to be excellent.

In Holland rain is badly needed, and wheat and rye are not in good condition.

In Austria crops are looking up, and there are excellent reports about wheat.

In Germany only a fair condition of cereals is reported.

(Continued on next page.)

We are now better than ever prepared to receive consignments of all kinds of perishable products, such as Fruits, Vegetables, Eggs, etc. Our facilities for cool, dry storage and packing for long-distance shipping cannot be excelled. It is our constant aim to make our consignors and our customers stay with us.

HORSE COLLARS

—AND—

SADDLERY GOODS.

Davis & Son's Horse Collars are not filled with Self-Pulverizing Cork.

The U. S. Inspector of Harness Supplies and Horse Collars selected Davis & Son's make—both harness and collars. And so will all persons who want a solid, broad-faced, smooth collar which does not pinch the neck nor roll about unsteadily for three months before it settles down to a fitting shape or set squarely back on the shoulder. If you want a collar not stuffed with wads but our collars, as all other makes on this coast are wad collars. All wad stuffed collars flatten down in a short time so that a sweat collar is needed to protect the horse from the wads or ropes of straw. Davis & Son's Collars are all put under a powerful shaper or press before finished, which solidifies them into a perfect shape, which allows the collar to set with its whole face against the shoulder. When a wad-stuffed collar is brought under this force it shows the old wad-stuffed collar to be merely a Puff Ball. Send or bring in to our factory in this city any collar and see this done, and see what a Pan Cake you have been selling to the people for collars. Our Boston Team long straw collars have no wads. The Rod of our Great Machine is supplied with small teeth on its lower surface like a fine saw. It picks up and carries with it as it flies through the straw a long straw in each tooth, all of which are deposited in the collar, one behind the other, with more precision and regularity than human skill could ever accomplish, thus avoiding all lumps and wads, not even two straws crossing each other.

HAME ROOM.

No Collars on this Coast or elsewhere have as good Hame Room as the Davis & Son's Collar.

410 Market St., San Francisco.

Belmont School.

BELMONT SCHOOL, most delightfully and advantageously located 25 miles south of San Francisco, prepares for any college or school of science. The consolidation of the Hopkins Academy with it brings \$56,000 to the \$100,000 already invested, and so greatly adds to the resources of a school already well equipped as to place its permanence and its ability to offer the best and the broadest instruction beyond question. Twenty scholarships invite earnest and able young men of slender means. A gymnasium and athletic grounds, unsurpassed by those of any secondary school in the entire country, under the direction of the present physical instructor in Williams College, insure unexcelled physical training. The school invites inspection. References required. For catalogue address, W. T. Reid, A. M. (Harvard), Head Master Belmont, California.

BARGAINS IN LAND.

\$2000—Seven acres choice Fruit Land in town of Haywards.

\$800 Each—Seven lots in town of Belmont. Average 50 x 230. All level land. Very easy terms. Ten minutes walk from station.

JOHN F. BYXBEE,

419 Market Street, San Francisco.

I call the attention of every owner of Horse or Cow to my

Remedy for Colic in Horses or Cattle.

CURES EVERY CASE in 5 to 20 minutes when every known remedy fails.

PRESCRIPTION.....25 CENTS.

—ADDRESS—

H. F., Wells, Fargo & Co.'s Express, SAN JOSE, CAL.

GERMEA

The Monarch of
Breakfast Foods

THE JOHN T. CUTTING CO., SOLE AGENTS

COYOTES

Nothing Succeeds Like Success.

A limited number taught to trap Coyotes and Silver-gray Foxes. Send \$25 and a guarantee that you will keep it a secret at least ten years. Only one taught in same locality. Satisfaction guaranteed or money refunded.

C. E. BECKWITH,

Kelseyville, California.

The Markets.

(Continued from preceding page.)

In France, the wheat crop is a little below the average.

In European Russia winter wheat is very satisfactory. The official statement of the Finance Minister declares that the crops of the central provinces, where the famine occurred in 1891, are in excellent condition, but that elsewhere they are middling or unsatisfactory.

General Produce.

Extra choice in good packages fetch an advance on top quotations, while very poor grades sell less than the lower quotations.

BEANS AND PEAS.	
Bayo, cts.	2 80 @ 2 90
Butter	2 80 @ 2 90
Peas	2 75 @ 2 80
Red	2 80 @ 2 90
Pink	2 80 @ 2 90
Small White	2 80 @ 2 90
Large White	2 80 @ 2 90
Lima	2 90 @ 3 00

BUTTER.	
Cal. fair, lb.	15 @
Do good to choice	16 @
Do creamery	17 @
Do do	18 @
Do do	19 @
Do do	20 @
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CHEESE.	
Cal. choice	9 @
Do fair to good	10 @
Do do	11 @
Do do	12 @
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EGGS.	
Cal. "as is," doz	10 @
Do shaly	11 @
Do candled	12 @
Do choice	13 @
Do fresh laid	14 @
Do do	15 @
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Do do	18 @
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Do do	30 @

Outside prices for selected large eggs and inside prices for mixed sizes—small eggs are hard to sell.

FEED.	
Bran, ton	17 00 @ 17 50
Feedmeal	25 00 @ 25 50
Gr'd Barley	21 00 @ 21 50
Middlings	21 00 @ 21 50
Oil Cake Meal	— @ 35 00

HAY.	
Compressed	7 00 @ 11 50
Wheat, per ton	9 00 @
Do choice	10 00 @ 12 00
Do do	11 00 @
Do do	12 00 @
Do do	13 00 @
Do do	14 00 @
Do do	15 00 @
Do do	16 00 @
Do do	17 00 @
Do do	18 00 @
Do do	19 00 @
Do do	20 00 @
Do do	21 00 @
Do do	22 00 @
Do do	23 00 @
Do do	24 00 @
Do do	25 00 @
Do do	26 00 @
Do do	27 00 @
Do do	28 00 @
Do do	29 00 @
Do do	30 00 @

GRAIN.	
Barley, feed, cts.	— @
Do good	83 @
Do choice	85 @
Do do	86 @
Do do	87 @
Do do	88 @
Do do	89 @
Do do	90 @
Do do	91 @
Do do	92 @
Do do	93 @
Do do	94 @
Do do	95 @
Do do	96 @
Do do	97 @
Do do	98 @
Do do	99 @
Do do	100 @

HONEY.	
White, per lb.	15 @
Do do	16 @
Do do	17 @
Do do	18 @
Do do	19 @
Do do	20 @
Do do	21 @
Do do	22 @
Do do	23 @
Do do	24 @
Do do	25 @
Do do	26 @
Do do	27 @
Do do	28 @
Do do	29 @
Do do	30 @

SEEDS.	
Alfalfa	9 @
Do do	10 @
Do do	11 @
Do do	12 @
Do do	13 @
Do do	14 @
Do do	15 @
Do do	16 @
Do do	17 @
Do do	18 @
Do do	19 @
Do do	20 @
Do do	21 @
Do do	22 @
Do do	23 @
Do do	24 @
Do do	25 @
Do do	26 @
Do do	27 @
Do do	28 @
Do do	29 @
Do do	30 @

WHEAT.	
Nevada, per lb.	14 @ 15
Do do	15 @ 16
Do do	16 @ 17
Do do	17 @ 18
Do do	18 @ 19
Do do	19 @ 20
Do do	20 @ 21
Do do	21 @ 22
Do do	22 @ 23
Do do	23 @ 24
Do do	24 @ 25
Do do	25 @ 26
Do do	26 @ 27
Do do	27 @ 28
Do do	28 @ 29
Do do	29 @ 30
Do do	30 @ 31

WHEAT.	
Nevada, per lb.	14 @ 15
Do do	15 @ 16
Do do	16 @ 17
Do do	17 @ 18
Do do	18 @ 19
Do do	19 @ 20
Do do	20 @ 21
Do do	21 @ 22
Do do	22 @ 23
Do do	23 @ 24
Do do	24 @ 25
Do do	25 @ 26
Do do	26 @ 27
Do do	27 @ 28
Do do	28 @ 29
Do do	29 @ 30
Do do	30 @ 31

Choice selected, in good packages, fetch an advance on the quotations, while very poor grades sell less than the lower quotations.

Fruits and Vegetables.	
Strawberries, chest	8 00 @ 13 00
Longworth	5 00 @ 8 00
Sharples	5 00 @ 8 00
Gooseberries, lb	2 4 @ 2 8
Raspberries	— @ 1 25 @ 1 50
Cherries, box	75 @ 1 25
Black	1 25 @
Royal Ann	1 25 @
White	40 @ 75
Limes, Mex	3 75 @ 4 00
Do Cal.	75 @ 1 00
Lemons, box	1 50 @ 3 00
Do Santa Bar.	3 75 @ 4 00
Do do	4 50 @ 5 00
Apples (New)	35 @ 50
Oranges, per bx	3 50 @ 3 75
Navel, River de	1 25 @ 1 50
Seedling, River de	1 25 @ 1 50
Do, Fresno	1 25 @ 1 50
Extra choice fruit for special purposes sells at an advance on outside quotations	

Live Stock.

HEMF.	
Hall fed	8 4 @
Grass fed, extra	8 2 @
First quality	8 0 @
Second quality	7 8 @
Third quality	7 6 @
Bulls and cows	7 4 @
Range, heavy	4 2 @
Do light	3 8 @
Dairy	3 4 @

Grain Futures.

Liverpool.

The following are the closing prices paid for wheat options per cwt. for the past week:

	May	June	July	Aug.	Sept.	Oct.
Thursday	50 8 1/2	50 8 1/2	50 8 1/2	50 8 1/2	50 8 1/2	50 8 1/2
Friday	50 8 1/2	50 8 1/2	50 8 1/2	50 8 1/2	50 8 1/2	50 8 1/2
Saturday	50 8 1/2	50 8 1/2	50 8 1/2	50 8 1/2	50 8 1/2	50 8 1/2
Monday	50 8 1/2	50 8 1/2	50 8 1/2	50 8 1/2	50 8 1/2	50 8 1/2
Tuesday	50 8 1/2	50 8 1/2	50 8 1/2	50 8 1/2	50 8 1/2	50 8 1/2

The following are the prices for California cargoes for off coast, nearly due and prompt shipments for the past week:

	O. O.	P. S.	N. D.	Market for P. S.
Thursday	30 0 1/2	30 0 1/2	30 0 1/2	—
Friday	30 0 1/2	30 0 1/2	30 0 1/2	—
Saturday	30 0 1/2	30 0 1/2	30 0 1/2	—
Monday	30 0 1/2	30 0 1/2	30 0 1/2	—
Tuesday	30 0 1/2	30 0 1/2	30 0 1/2	—

To-day's cablegram is as follows:

Liverpool, May 31.—Wheat—Steadily held, with very little demand. California spot lots, 5s 1 1/2; off coast, 2s 9.

3d; just shipped, 30s 6d; nearly due, 29s 3d; cargoes off coast, slow; on passage, inactive; Mark Lane wheat, firmly held; French country markets, quiet; wheat and flour in Paris, firm; weather in England, cold.

Eastern Markets.

The following shows the closing prices per bushel of wheat for the past week at

New York.

Day	May	July	Sept.
Thursday	76 1/2	78 1/2	81 1/2
Friday	76 1/2	78 1/2	81 1/2
Saturday	76 1/2	78 1/2	81 1/2
Monday	76 1/2	78 1/2	81 1/2
Tuesday	76 1/2	78 1/2	81 1/2

The following is to-day's telegram—per bushel:
New York, May 31.—May, 77 1/2; September, 80 1/2; December, 84 1/2.

Chicago.

Day	May	July	Sept.
Thursday	74 1/2	76 1/2	79 1/2
Friday	74 1/2	76 1/2	79 1/2
Saturday	74 1/2	76 1/2	79 1/2
Monday	74 1/2	76 1/2	79 1/2
Tuesday	74 1/2	76 1/2	79 1/2

The following is to-day's telegram—per bushel:
Chicago, May 31.—May, 69 1/2; July, 71 1/2; September, 74 1/2.

Local Markets.

WHEAT.

	May	Dec.
Thursday, highest	1 29 1/2	1 4 1/2
" lowest	1 29 1/2	1 38 1/2
Friday, highest	1 29 1/2	1 38 1/2
" lowest	1 29 1/2	1 38 1/2
Saturday, highest	1 29 1/2	1 38 1/2
" lowest	1 29 1/2	1 38 1/2
Monday, highest	1 29 1/2	1 38 1/2
" lowest	1 29 1/2	1 38 1/2
Tuesday, highest	1 29 1/2	1 38 1/2
" lowest	1 29 1/2	1 38 1/2

The following are to-day's recorded sales on Call:
Morning Informal Session—Wheat—December, 200 tons, \$1 36; 100, \$1 36; Seller 1893, new, 100 tons, \$1 29 1/2 cts. Regular Session—December, 100 tons, \$1 36; 100, \$1 37; 400, \$1 36; 100, \$1 37; cts. Afternoon—Seller 1893, new, 200 tons, \$1 29; 100, \$1 30; 100, \$1 29; 100, \$1 29; December, 100 tons, \$1 37; 200, \$1 37; 500, \$1 37; 400, \$1 37; 900, \$1 37; 800, \$1 37; cts.

BARLEY.

	May	Dec.
Thursday, highest	91 1/2	96 1/2
" lowest	90	95
Friday, highest	91 1/2	96 1/2
" lowest	90	95
Saturday, highest	91 1/2	96 1/2
" lowest	90	95
Monday, highest	91 1/2	96 1/2
" lowest	90	95
Tuesday, highest	91 1/2	96 1/2
" lowest	90	95

The following are to-day's recorded sales on Call:
Regular Session—Barley—1500 tons, 93c cts. Afternoon—December, 200 tons, 93c. Seller 1893, new, 400 tons, 89c. No. 1 Brewing, October, 100 tons, \$1 04; 100, \$1 04; per cwt.

Weekly Crop Report.

[Summary of Report of Observer James A. Barwick.]

There was considerable loss in fruit being blown off the trees by the severe northerly winds of the 24th and 25th in the fruit counties of the Sacramento valley and also of Napa valley.

One of the largest fruit-growers in Yolo county reports a loss to his plum crop of \$3000, while a gentleman in Napa valley says at least 500 boxes of cherries were blown off the trees. Another gentleman reports that out of an estimated crop of five tons there is at least two tons on the ground.

The outlook for crops of grain, fruit and berries continues about the same as last week—that is, short crops of grain, hay and apricots; all other fruits good.

The cattle and sheep men are beginning to drive their stock up to the mountain ranges for their usual summer pasturage during the dry period in the valley.

To those who desire to estimate the crops of the future, the following figures will be of some interest. They are based upon a fair average production of trees in full bearing and under proper treatment, planted as usually in orchards:

Apples, tons per acre, 4; apricots, 5 tons; prunes, 6 tons; pears, 5 tons; figs, 8 tons; peaches, 5 tons; walnuts, 1 1/2 tons; almonds, 1 1/2 tons.

Lassen (Susanville)—The fruit prospects have not been so favorable for years as at the present time.

Shasta (French Gulch)—Mountain crops quite slim.

Humboldt—The weather observer at Eureka says: Everything beneficial to all crops.

Glenn (Willows)—Wild blackberries are ripening along the river and are very plentiful.

Sutter (West Butte)—The drying north winds have injured the wheat and barley prospects.

Colusa (Leesville)—The recent rains will add to the yield of grain.

Lake (Middletown)—Hay crop short.

Yuba (Wheatland)—Grain holding its own in spite of the northerly winds. Hops making fine progress.

Sacramento (Walnut Grove)—Apricots short. Peaches more plentiful, but will still be short. There will be a full crop of plums and pears.

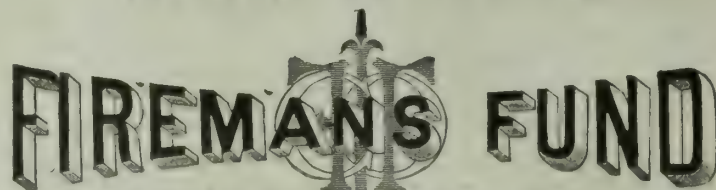
Monterey (Salinas)—Barley hay being cut; wheat hay is not sufficiently filled out for cutting.

Los Angeles (Santa Ana)—The high winds did much damage, especially to barley.

San Bernardino (Beaumont)—Haying in full blast, with crop light but quality good. Orange (Orange)—Prunes show prospects for a large yield.

San Diego (Dehesa)—The vines and trees are loaded with blossoms and fruit, with promise of a bountiful harvest.

INSURE WITH THE



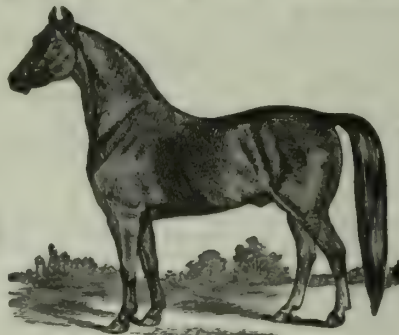
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CAPITAL,
\$1,000,000

ASSETS,
\$3,200,000

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—OF—
Trotting Stallions,
Brood Mares, Colts,
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—PROPERTY OF—
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Among the offering will be the Famous Trotting Stallion

SILAS SKINNER 2:17

And the Noted Brood Mare, MADAME BALDWIN (dam of Boy Rose 2:20, Majestic 2:24) by THE MOOR 870.

SALE WILL TAKE PLACE AT 11 A. M. ON

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Catalogues now ready.

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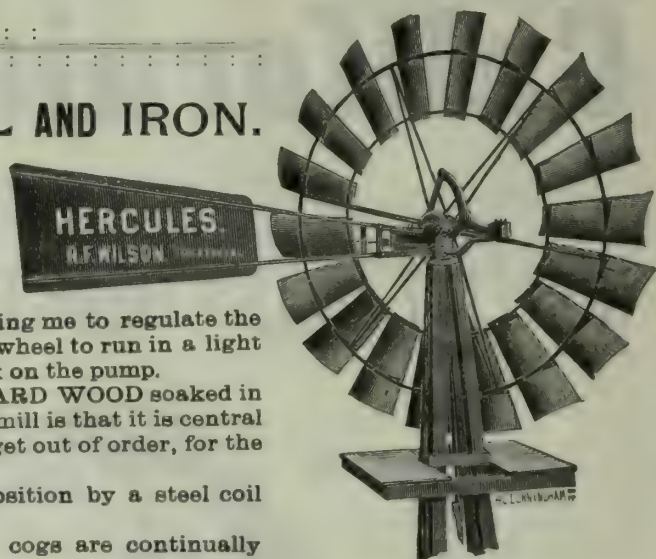


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IT WILL PAY YOU TO READ THIS.



MOTION.—The wheel makes two and one-half turns to one long stroke, thereby permitting me to regulate the motion at a more rapid speed than the windmills with direct attachment, which causes the wheel to run in a light wind, reduces the loss of passing centers, closing of the pump valve, and overcomes all jerk on the pump.

JOURNALS.—The journals are double and are **ADJUSTABLE**. The material is **HARD WOOD** soaked in linseed oil. Or, if desired, I can furnish the babbitted journal. One strong point in my windmill is that it is central acting, having a bearing each side of the crank. Windmills with single bearing will soon get out of order, for the reason that the working parts of the mill are not sufficiently supported.

REGULATION.—The vane has a hinge connecting it to the turntable, and is held in position by a steel coil spring, regulating the machine as nearly perfect as can be desired.

GEARING.—The gear wheels are made **BROAD FACED**, and are adjusted so that the cogs are continually changing positions, thereby reducing wear to a minimum.

TURNTABLE.—Is what is styled self-contained; that is, it is constructed so that it combines all the bearings of the windmill in one main casting, overcoming danger of parts getting loose. **TOWERS.**—It will work on a single-post, four-post or two-post frame.

IMPROVEMENTS.—It has all the latest improvements and is a model of neatness and strength.

IRRIGATION.—A sixteen-foot geared mill of my make will operate two eight-inch pumps.

PRICES.—The prices are as low as windmills of inferior make. Drop a postal and get full particulars. Eight and one-half foot, \$35.00



IMPROVED DAVIS

WINDMILL.

I am now erecting three of these windmills for San Joaquin County, for road sprinkling purposes. Size, sixteen-foot. Capacity, 40,000 gallons in 24 hours. The County has about twenty of these mills on the various roads. This ought to be a good testimonial. Write for full particulars and prices.

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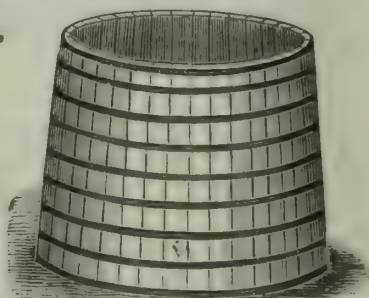
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The Valves and Working Parts of the Fulton Pump can be removed, repaired and replaced without taking the pump out of the well.

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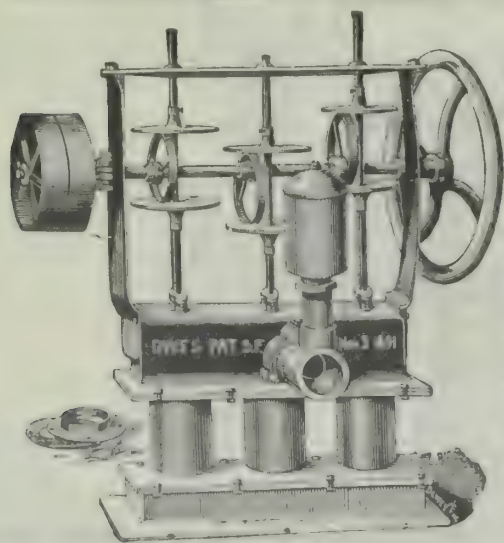


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The Best Well Pump, Windmill Pump, Irrigation or Drainage Pump.

It is more simple than any other pump. Any one who can use a wrench and a hammer can take it apart and put it together with ease and correctness. It will very seldom need repair, and will not break, except for rough usage. But about three lines of instructions of how to set it up and use it are needed, as follows: Fasten it to your platform; attach your suction and discharge pipes; put in a bucket of water; start your power, and your pump will do its work. It will deliver more water with the same power than any other pump.

Careful inspection is what we want. Give us a chance to bid on the work you want. Any size pump made. We were awarded two First Premiums at the California State Fair, 1892, and one First Premium at the Stockton Fair. Send for circular.

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Walter A. Wood Harvest Machines.

BECAUSE they are made of the best and strongest materials.

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BECAUSE they are easily operated.

BECAUSE they do not require the aid of an expert.

BECAUSE they can be operated by man, woman or child.

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BECAUSE they contain all the latest improvements.

BECAUSE with care they will last a lifetime.

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Vol. XLV. No. 23.

SAN FRANCISCO, SATURDAY, JUNE 10, 1893.

THE DEWEY PUBLISHING CO.
Office, 220 Market St.

California Raisin Making.

AS WE are approaching the in-gathering of another raisin crop it is timely to introduce some views characteristic of that industry. Fortunately, the present promise is that there will be easier lines for the growers than those they have traveled during the last two years. There are indications that prices will range higher, and this is essential to the life of the business, for such rewards as many growers have received during the last two years will not meet the necessary outlay and living expenses. At present, the commercial aspects of the raisin industry are unsettled. As has been frequently shown in our columns it is imperative that better distribution and more economical marketing be secured. How much will be effected in this respect this year cannot now be said, but it is fair to anticipate considerable progress in bringing the producers nearer to the buyers and therefore the placing of a greater share of the returns with the men and women who produce the goods. It is reasonable to believe that so good a product will well repay the investment and the effort, and that the recent ills are but temporary and like those which affect most industries when the output is rapidly increased and in advance of adequate trade facilities and methods.

We present views on this page which reflect three stages in the life of a California raisin. First is the vineyard—a characteristic scene in more than half the raisin product of California is now produced. Fresno county might almost be called a great ocean of land, so apparently level its vast expanses of mellow, warm soil are spread. As yet, however, only a small fraction of the lands of Fresno county are given to the raisin grape. The county has great areas of foothills and mountains, and only a portion of its plains is now regarded as good raisin land. Fresno county, therefore, although producing more than half the California crop of raisins, counts this as only one of several directions in which development is advancing. The larger picture shows a portion of the Forsythe vineyard, the picture having evidently been taken early in the season, before the vines had far shot forth their canes. Later in the season the field will be a sea of green, the foliage nearly covering the ground from view. In the background is seen a line of Lombardy poplars, which marks the boundary of another large vineyard property. It is in such expanses as these and upon vines which have no main trunk to speak of,



PICKING AND TRAYING GRAPES.



RAISIN PACKING-HOUSE AT FRESNO.

that the long, fruit-bearing canes rest their rich burden upon the warm, dry surface of the soil, untouched by dew or rain. The sunshine from above and the radiated heat from the dry earth beneath supplement each other and carry the grapes quickly along the courses of size and saccharine until the perfection of the California raisin is attained.

When the ripening of the grapes approaches, the vineyard becomes the scene of great activity. When requisite sugar is stored in the juice the picking begins and the delicious fruit which has been well-nigh concealed beneath the foliage is brought into direct sunlight that surplus water may be evaporated until the ripe grape becomes a raisin. One of the smaller pictures shows the placing of the fruit upon the trays. The clusters are cut from the vine carefully one by one, all imperfections and bad berries trimmed off, and then arranged regularly on the trays, so that all will have a fair exposure to the sun. If heaped or overlying each other in the least, the drying of the under bunches will be greatly retarded.

When the upper side is sufficiently dried, which will be in one or two weeks according to the weather, the fruit is covered with another tray and inverted, so that the under side comes into the direct rays of the sun. The curing of raisins depends upon the weather, from ten to thirty days, with about fifteen days as the time when the weather favors the production of the best raisins.

From the trays the fruit goes to large boxes in which it lies for a time to equalize the moisture throughout the mass, and it is then ready for the packers. The packing is usually done in large buildings, owned sometimes by the vineyardist, sometimes by buyers or commercial packers, and sometimes by co-operative societies of growers. In all, the scene at packing is similar to that the engraving shows. The packing-houses are mostly located in the towns, both for convenience of shipment by railroad and facility of securing the service of women and girls, who are principally employed for packing. Some of these houses afford work for more than five hundred hands. Women and girls come to the towns from all directions during the packing season, parties of them not infrequently renting houses, or living gypsy-like in tents.

There are few brighter or more animated scenes than a raisin packing-house in full operation. The women pack the layers, or choice goods. Considerable skill is required to do this well and rapidly, and as they are paid by the form, the amount that each one earns depends upon her taste and dexterity. Earnings range from \$1.25 to \$3 per day. As in all our lines of fruit drying, the ample supply of feminine labor has met the shrinkage of Chinese labor, and brought the State a happy solution of a problem which was viewed with some apprehension.

THE SONOMA COUNTY HORTICULTURISTS are ready for co-operation. The horticultural society now meets every week for the purpose of canvassing crop and market conditions, and the growers seem to be pretty generally in favor of a uniform method of disposing of their product. It is probable that a co-operative association will be formed.



SCENE IN THE FORSYTHE VINEYARD NEAR FRESNO.

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One inch.....	1.50	5.00	13.00	42.00

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ANY subscriber sending an inquiry on any subject to the RURAL PRESS, with a postage stamp, will receive a reply, either through the columns of the paper or by personal letter. The answer will be given as promptly as practicable.

ALFRED HOLMAN.....General Manager

San Francisco, June 10, 1893.

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See Advertising Columns.

The Week.

Last Saturday was the nearest approach to a blister we have had this year. It was so good a sample of a hot wave that no one wanted the rest of the goods. We hear that vegetation in the valleys began to show the usual distress, but fortunately the wind brought in Pacific temperatures in time to prevent much injury. It was a narrow escape from considerable losses.

California fruits seem to be opening quite well this year in Chicago. If the cholera specter keeps in the background, there should be a large shipment this year. Local canners are coming into the market to some extent, and are getting some fruit. Reports from the fruit regions indicate that most early estimates of quantities will not be realized; though there will be enough fruit to make a respectable showing, there is no surplus which is likely to interfere with fair values. It seems to be a bad year for blights and pests, or rather, bad for the trees and their owners.

What Success Owes to Failure.

The idea which impels us to undertake a special issue of the RURAL PRESS devoted to the dried fruit industry is that a comprehensive showing of practices which yield good results in fruit drying will improve the general dried fruit product of the State. We have made wonderful progress during the last few years, it is true. One can hardly believe now that there was a time when the dried fruit product of California came to San Francisco in nail kegs, grain sacks, old shoe and dry goods boxes and in every conceivable condition of quality and appearance. Some of it might almost be said to have come to market on foot and to have been sold by live weight—so abundant were its larval possessions. Fortunately this wretchedness is little more than a tradition now and yet it must be still held that poorly cured and packed dried fruit is altogether too abundant, and exercises a disastrous effect by checking consumption and depressing market values. This being the fact, one of the most valuable services which can be rendered the fruit interest is to disseminate information as

to how to produce thoroughly good dried fruit, for it must be admitted that a good part of the bad work now done is due to ignorance of proper methods and lack of appreciation of the advantage of putting out a first-class article. We desire to assist in spreading information which will elevate the general quality of California dried fruit and minister to the success of producers. With this in view we announced last week a special issue devoted to fruit drying.

To secure a useful and creditable exhibit of successful methods of fruit handling we need the help of those who are succeeding. Every man or woman who puts on the market an article which sells well is fitted to render an important contribution. It may be a single point which yields this success; it may be an original line of practices drawn from long experience. Whichever it may be, the description of it may just at this time be of inestimable service to the fruit interest to have it known. We plead for the opportunity to serve as a medium to bring this benefit to the public and we trust our friends in all parts of the State will grant us this opportunity with the facts of their own experience.

We urge, as a justification of this claim, that success in fruit-drying owes a debt to failure. It is not a sentimental consideration, though it might be strongly argued on that ground. The plain business argument is, however, more tangible. Now that California dried fruit has the country to conquer, its progress will be advanced with speed proportional to its average quality. Every improvement in quality and attractiveness will win wider acceptance. It will not do to have some fruit good and the mass of it either passable or poor; all must be good, some fine, some fancy, if possible. Those who are succeeding in making fine products will serve their own as well as the public interests by doing what they can to aid all producers to reach at least a good, acceptable condition. Such an achievement would relieve the trade from the low price of poor fruit and the disrepute into which a poor article brings all others, even the best of its class. There is no danger that all will make a fancy article or interfere at all with some special trade which some fortunate producer has developed. The fancy producer has more to fear from a poor product than from one which rivals his in excellence. Poor relations are traditionally troublesome.

We urge, therefore, that all producers of good dried fruit take an interest in the showing which we hope to make of methods which will yield a good product if faithfully followed. Write us briefly or fully as time and inclination dictate. Tell us of the mistakes which are made, as well as the ways of success. Give us the facts of your experience in handling one fruit or many fruits. Let your success make its own rewards surer by telling others how to succeed.

A Day at Sherwood Hall.

The records of the State Floral Society have a red-letter day for Saturday, June 3d. On that day about 125 members with their families and friends assembled at Sherwood Hall, Menlo Park, San Mateo county, and were guests of the Sherwood Hall Nursery Co. Mr. James Sproule, manager of the company, had prepared for his guests with great forethought and liberality. Carriages were in waiting to convey the multitude to the Stanford University and other local points of interest and thus the morning was occupied. The chief interest among the flower-lovers was awakened when the fields of Sherwood Hall came into view. The air, densely laden with the delicious aroma of the sweet peas and the acres of color clearly defined in broad bands by the characteristic hues of the famous Timothy Hopkins collection of varieties, called forth expressions of delight and admiration which exhausted the adjectival resources of the large company.

The lunch under the splendid native oaks where in their season the Sherwood Hall violets cover their acres of beds with a cerulean counterpane, was both picturesque and satisfying. The long hours of the afternoon were well spent in strolls through the beautiful private grounds of Timothy Hopkins and an examination of the acres of nursery and seed plantations and of glass and lath beneath which great assortments of exotics were being brought forward. The society counted its day at Sherwood Hall a grand event from all points of view and feels exceedingly well disposed toward the establishment which is doing so much for beauty-culture in California.

THE NEW YORK *Sun* prints a complete and very interesting review of the wheat situation throughout the world. It points out that Europe's requirements are each year about 14,000,000 bushels greater than the year before, on account of the increase in population. Wheat production in Europe is decreasing, and the present year's requirement of 368,000,000 bushels, or a little over a million bushels per day, will probably be less than what will be

needed for years to come. The *Sun* says, that with a liberal estimate India may furnish 40,000,000 bushels. If our crop yields 450,000,000 bushels we may be able to spare, with the surplus of 1892, as much as 126,000,000 bushels. On the most favorable showing there must be a deficiency of 64,000,000 bushels, and then leave no reserves to be carried over to 1894. The *Sun* has a reputation for accuracy and reliability in these annual reviews, and we may accept its statement of the situation as substantially correct.

IT WOULD APPEAR that there is more room for the production of potatoes in the United States. The annual average production of various countries is as follows:

	Production. Bushels.	Exports. Bushels.	Imports. Bushels.
Germany.....	891,723,040	6,588,079	1,709,836
France.....	896,746,138	4,634,850	779,618
Russia-Poland.....	464,441,187	1,267,323	13,604
Austria-Hungary.....	409,363,793	586,564	777,689
United Kingdom.....	228,988,397		5,334,665
United States.....	169,800,053	465,059	3,033,504
Canada.....	61,669,009	3,781,867	65,294
Belgium.....	99,486,606	679,692	2,783,649

The United States is pretty far down on the list. With one exception (the United Kingdom) it exports less and imports more than any other. The home consumption ought to be, and will be, greater. California in particular might increase its average production of the tuber. While it may be true that we cannot supply a large part of the world's markets with the raw product, we should suffer no imports. Just now, local conditions have made the potato a particularly valuable article. These conditions will not be permanent; but we do not look for a change that will render the production unprofitable, even with an increased output.

CANNERS REPORT that orders for most of their products are coming in slowly. The Petaluma cannery has begun the canning of cherries, and expects, notwithstanding the fact that the market is well supplied in several lines to have a busy season, employing a maximum of 450 people. Cherries and pears will be put up in large quantities, but blackberries will be touched lightly, if at all. Last year, much canned California fruit was shipped East by sea, arriving late, and it will come in competition with this year's output. With good stocks on hand, dealers are in no hurry to engage supplies, and the market may be described simply as waiting to see "how the cat jumps." Much will of course depend upon the quantities canned this year.

THE STATE WORLD'S FAIR COMMISSION appeals to the fruit and vegetable-growers of the State to assist them in the proper display of fresh California fruits at the Chicago Fair. The request should be promptly and generally heeded. No donation is asked. The growers lose little or nothing. It is a part of the plan to sell the fruit after display. Methods of shipment and a market have already been provided. It may be that producers will realize quite as much directly from sale of fruits in this manner as any other, to say nothing of the indirect benefit arising from the advertisement. Let California show what she has. If she will furnish the fruit at a fair price, the Commission will do all the rest.

PROFESSOR HILGARD AND FAMILY reached New York last week, on their return from their year abroad. They planned brief visits in Washington and Chicago and expected to return to Berkeley by about June 20th. Prof. Hilgard has had a busy year abroad, and will return full of suggestions for the advancement of investigation and experiment in this State. We trust that he may also return with refreshed strength for the work for which he will be eager.

THE CUDAHY PACKING COMPANY has begun operations at Los Angeles. Two hundred hogs were slaughtered as a starter. One trouble that confronts the packing concern is the inadequate supply of porkers. Seven cents per pound for live hogs is offered. The scarcity ought not to last long. There is money in pork at present prices, and the industry will no doubt be very greatly stimulated.

FROM Santa Cruz to Santa Barbara this coast abounds in crawfish and arrangements are being made to catch them in quantities. Some will be sent East alive in cars, some will be sent cooked and some spiced in vinegar. A factory will be established in Santa Barbara county.

DURING THE WEEK the first of the following products have appeared in the market: Wheat from Kern, barley from Stanislaus, peaches from Yuba, and tomatoes from Yuba and Los Angeles.

THE RANCHO CHICO is now shipping a carload of cherries every other day, packing 1000 boxes daily. The scenes at Chico just now have scarcely a rival anywhere.

THE CHICO CANNERY started on its season's run May 30th, and is at work for the present on cherries.

From an Independent Standpoint.

A number of Californians now at Chicago have conceived the idea of transplanting the leading features of the Columbian Exposition—the cream of the great show, so to speak—at San Francisco. The plan, so far as it has been developed, is to put up a series of large structures in the unoccupied half of Golden Gate Park and to get the leading attractions to come here after the season is over at Chicago. A canvass has been made among the principal exhibitors and almost without exception they give the project approval. There is, in fact, no question about getting everything wanted for exhibition here if arrangements can be made at this end of the line. The chief essential is money. It will cost a good deal for the buildings; and there must, of course, be something in the way of premiums to induce the larger attractions. One million dollars, it is estimated, will do the work and efforts are being made by the Mayor and a committee of citizens to raise this fund; and with good chances of success. If the money shall be forthcoming, work will begin immediately upon the buildings and they will be ready by November when the Chicago season ends. A few weeks will suffice to transport and set up the exhibits in Golden Gate Park and all will easily be ready for opening by Christmas day. Beginning at this date and running for sixty or ninety days would cover our season of greatest climatic attraction and afford the world a novelty in the way of a midwinter fair.

The practical side of this project is its relation to the material interests of California. Its value as an advertisement would be immense. The chief Chicago attractions, supplemented by such a display of Californian products as our people could bring together, would make a show not less attractive, to many even more attractive, than the Columbian Fair itself. All of the Pacific coast would flock to see it, and it is not to be doubted that the attendance from abroad would be very large. The show, rightly organized and managed, would, in our judgment, mark the beginning of a new epoch in the populization and industrial development of California.

On Thursday of last week Rev. Chas. A. Briggs, one of the leading thinkers, preachers and writers of the Presbyterian church in this country, was, by vote of the Presbyterian National Assembly, "suspended" from the ministry—practically expelled from the church. If this verdict were an ordinary matter of church discipline, it would be of small account, but it is of vast moment not only to church people but to all whose interests are broad enough to recognize it in its true character as a battle-mark in the career of Christian evolution. Dr. Briggs' character is a pattern of public and domestic virtue; and with the eminent personal excellence which all admit and admire he combines eminent scholarship and eminent talents. The charge against Dr. Briggs was based not upon any lapse in Christian life or manly duty, but wholly upon his views as to the authorship and authority of certain parts of the Bible. He has subjected the Bible to the tests of literary criticism and is convinced that, while it contains the Word of God, it is not in every line and phrase actually the Word of God.

The Bible, Dr. Briggs holds, is a book of records, to be examined like other records; of documents, of which the date, authorship, genuineness and accuracy are to be ascertained by the same principles of investigation that men apply to other documents and records. It can, he holds, be the Word of God only as it is a product of the spiritual activity of man; and, as this quality of our nature is as liable as others to error, nay, more so, from the fact that it submits less readily to deliberation and judgment, it is irrational to suppose that the Bible is absolutely inerrant; that it must not be received in all its parts as authoritative and infallible, even when freed from mistakes of copyists, translators and printers. The class of problems with which it deals, he argues, is presented chiefly in the phenomena of mind, and can only be studied and judged through wide acquaintance with the workings of the human spirit through all the ages of which history makes a record. On examination, Dr. Briggs finds a multitude of errors, and he holds that, while Christianity has little to fear from admitting them, it has much to fear from persistence in denying them.

Dr. Briggs is by no means alone in his view of the Bible. The late Bishop Brooks, the late Henry Ward Beecher, Lyman Abbott, Bishop Potter, the whole body of the Unitarian ministry, and a large part of the ministry of the evangelical churches are with him. The leading religious journal of the world—the *Christian Union*—is with him. The chief seat of Presbyterian scholarship—the Union Theological Seminary of New York—is with him heart and soul. Thus backed and supported, Dr. Briggs sought to reform the creed of Presbyterianism, to advance

the lines of Christian evolution—and he has failed. The fight has run through the period of three years, and by one assembly—the Presbyterian Synod of New York—he was acquitted of the charge of heresy; but the higher church authority, after a year's delay and upon sober thought, has cast him out. The victory is a triumph for conservatism in the Presbyterian sect, but it remains to be seen what its effect will be upon the Presbyterian church. The church doctrine, as set forth by the assembly which has suspended Dr. Briggs, is as follows:

Resolved, That the Bible as we now have it in various translations and versions, when freed from all errors and mistakes of the translators, copyists and printers, is the very Word of God and consequently wholly without error.

Having failed to remodel the Presbyterian church from within the "Briggsites" will no doubt form a church of their own—a sort of Mugwump church, so to speak—and they are certain to carry a large part of the mother church with them. They have, if not a majority of the Presbyterian ministry, an eminently able minority; they have the leading theological schools of the sect and they have the younger third of the general church membership. The split will be wide—such a division, we fear, as will weaken the moral power of a religious system which has accomplished more for human progress in the past three centuries than any other single influence.

It is a pity that those who are pure in purpose and pure in life cannot find ways of living and working together when so much can be done under co-operation and so little under contention. Church "assemblies," "councils," "synods," "convocations," or whatever other names there may be, would do well to go back to the broad creed of St. James, who, in an epistle to the scattered tribes of Israel, wrote: "*Pure religion and undefiled before God and the Father is this, to visit the fatherless and widows in their affliction and to keep oneself unspotted from the world.*" This platform is broad enough for everybody. How much better it would be if all the Christian sects would put their creeds into the fire, quit bickering about matters not related to the good of mankind, and form a ring around wise old St. James.

Some weeks back, as readers of the "Independent Standpoint" will remember, the Noah L. Farnham Post, No. 458, of the Department of New York, Grand Army of the Republic, passed a preamble and resolution respecting the pension practice of the country. The expression was as follows:

WHEREAS, The only veterans entitled to pensions are those who, by wounds or disabilities incurred in the service of their country, are prevented from earning a living in their respective callings, as they might have done had such wounds or disabilities not been incurred, and whose circumstances are such as to justify them in calling on the country for aid and support; and

WHEREAS, The Grand Army of the Republic is an association organized for the purpose of enabling old soldiers and sailors to take care of themselves and each other; and

WHEREAS, As much real patriotism may be shown by refraining in time of peace from inflicting unnecessary burdens on the country as by coming to her defense in time of war; therefore be it

Resolved, That any old soldier who applies for or accepts a pension, except under the conditions above set forth, is, in the opinion of this Post, guilty of conduct calculated to injure the good men who are willing to give their lives for their country without any reward save the approval of their own conscience and that honorable fame that is due to every patriot.

This resolution, which admirably sums up and states the cause of pension reform, was sent by order of the Post to members of the Senate and of the House of Representatives and to all the G. A. R. Posts in the country. And it has kicked up a great row. It seems that at the Minneapolis Encampment of 1884 a resolution was passed prohibiting Grand Army Posts from publicly discussing pension matters as follows:

Resolved, That all petitions, resolutions and memorials by Posts in regard to pension legislation be required to be forwarded to National Headquarters through Department Headquarters, and that Posts be forbidden to make separate and independent application to Congress for legislation upon the subject of pensions.

Under this resolution or law of the order, the Department of New York has undertaken to discipline Farnham Post for its independent action. On the 7th of April the Assistant Adjutant General of the Department wrote to the Commander of the Post that the resolution had provoked "many protests from Posts in this and other Departments." Farnham Post and its Commander were declared to be "in contempt of the laws of the order" for "sending a series of resolutions direct to Posts without the approval of the Department Commander and National Headquarters," for "criticizing the legislative power of the country in passing laws which stand in the statutes of the United States and should be respected until repealed," and for "condemning sworn officers of the Government whose duty it is to execute these laws." The letter closed with a threat of suspension. With regard to the dis-

obedience of the Post in sending resolutions to other Posts without the approval of the Department Commander, Farnham Post subsequently expressed ignorance of the Minneapolis resolution.

The notable thing, however, is not the question of G. A. R. law, but the assertion of the Commander of the Department of New York that Farnham Post is in contempt "for criticising the legislative power of the Government" and for "condemning the sworn officers of the Government." This attempt to suppress the expression of opinion, to cut off discussion of a public question, strikes us as something not just in harmony with American ideas. In reply to this letter, the commander of Farnham Post replied: "It is the opinion of this Post that if it is the desire of the Grand Army of the Republic to pay pensions to people who have not incurred their disabilities in the service of the country and to those who do not need them, then this Post does not desire to remain in the Grand Army of the Republic." The answer to this was suspension.

In this matter the "Independent Standpoint" finds itself heartily on the side of Farnham Post: First, because it believes in free discussion of all questions. It despises gag-law in all forms and at all times because it is or may easily become the instrument of tyranny and because it is contrary to our American system and to sound principles of individual liberty. It believes that errors are never less harmful than when they are made public; it believes in saying what it thinks, and it believes that others have the same right. Second: The "Independent Standpoint" does not think it right to pay pensions to people whose disabilities were not incurred in the service of the country; it does not think it right to pay pensions to people in comfortable circumstances who do not need the pensions for their support; it does not think it right to pay pensions to women who have married veterans over sixty years of age. We put these views as matters of "right" because when pensions are paid somebody must be taxed to supply the money; and we hold it to be essentially wrong to tax one man to support another under the circumstances outlined above.

The annual pension charge upon the government is now upwards of \$160,000,000, equivalent to a tax of \$16 per year for every voter. It is not right to put a burden upon the taxpayers of the country—and every man directly or indirectly is a taxpayer—to give to those whose disabilities were not acquired by service to the country or to those who already have enough.

There are on the pension rolls many such. General Black, former Commissioner of Pensions, drew a large pension for "general disability" during his term of office, to which was attached a \$4000 Government salary. Of course, a man competent to earn \$4000 a year has no moral right to a "general disability" pension. Corporal Tanner, who, like General Black, draws \$100 a month "general disability" pension, has made a large fortune as a Washington City claim agent; Colonel Dudley, when Pension Commissioner, drew, besides his salary of \$4000, his "general disability" pension of \$100 a month. United States Senator Manderson, a rich man, draws a large pension for "disability." In every State there are hundreds of men of ample independent income who are drawing "disability pensions." A millionaire Congressman-elect from Massachusetts draws a large pension for his military service. All these men have a legal right to pensions, but in moral equity they all know that they have no right to thus abuse the *intent* of a pension which is not a bounty, but is intended to lighten the burdens of veterans who cannot shoulder them themselves because of infirmity and narrow pecuniary circumstances. In splendid contrast is the case of the late General John A. Logan—and there are thousands like it, be it said to the credit of human nature—who was wounded five times, and never applied for a pension, and died leaving but a very moderate estate—his house in Washington City and the copyrights of his books.

Be it understood, the "Independent Standpoint" believes it just and right in every sense to pay pensions in liberal sums to those who deserve them and to those who need them, but it holds it to be violently wrong and an outrage upon the country to pay pensions to those who do not deserve them or to those who do not need them. Is there any right-minded veteran or any right-minded man who thinks otherwise?

THE PROPORTIONS shipment of meats in cold storage from Australia and New Zealand to England has reached will be shown by the following: A steamer recently arrived in London from New Zealand carrying 40,000 carcasses of mutton, 14,000 carcasses of beef and 5000 cases of kidneys. This meat is laid down on the butcher's block in London as fresh and sweet as the day it was killed.

Hay in Smaller Bales.

A. N. Grant, a hay merchant of San Francisco, gives to hay-producers of the State, through the columns of the *Hollister Free Lance*, the following advice:

"From an experience of 25 years at this business, I find that in order to sell hay quickly, it should possess certain qualifications in order to attract buyers. It should be fresh and green-looking, and, above all, should never be put up in bales weighing more than from 240 to 260 pounds at the utmost, or about nine bales to a ton. It is upon this latter point that I wish to lay stress.

"The majority of hay coming from this county is put up in 300-pound bales, and a more pernicious or sale-destroying custom was never devised. It is impossible to convince the consumer when he sees bales of such weight that it is not largely composed of adobe or dirt, and I regret to say that, in many instances, such indeed proves to be the case.

"If, as you say, your total crop shipped from this point is 20,000 tons, I am willing to guarantee, in any reasonable sum, that if your farmers would take more pains in preparing their product for market, the hay commission merchants of San Francisco would be able to return them the coming season \$20,000 extra, which would be only one dollar a ton.

"I cite an instance: A week ago a carload of hay came in from the Livermore valley. None of the bales exceeded in weight 230 pounds. It was rich, succulent-looking, green hay, and the consequence was that the buyers gathered around the car and bid the price up to \$13.50, while a carload of Hollister hay, fully as good, but put up in 300-pound bales, went begging at \$9. Had any care at all been exercised with the Hollister hay, if it had been put up in say 230-pound bales, I am certain that it would have commanded from \$3 to \$5 per ton more.

"Now here is where the injustice of putting hay up in such large bales falls heavily upon our commission men: I have, we'll say, a customer at Hollister. He has consigned to me for years, his trade is valuable; I would not like to lose it. Finally a carload of hay comes along from him—big 300-pound bales as I have described above. His price as listed to me is \$8 per ton. I find I cannot sell it; I spend a couple of hours tramping from one group of buyers to another endeavoring to make a sale of it, but to no purpose, as they are all suspicious of it. Finally I remember one of my city customers remarking that if I could get a load of hay cheap to send it to him; I take it to him; just as soon as he sees it he don't want it; in his eyes it is too heavy to be free of dirt. What is the result? He orders me to haul it away, but instead of so doing, I make a reduction in the price, which causes me to lose my profit on the hay, and in all probability will lose my customer besides, by trying to force on him dirty hay. I am out of pocket this sum, and why? In order to retain that farmer's business. If I did not return to him at least the lowest amount of the market quotation, he would consider me derelict in looking after his business, and transfer his trade to some one of my rivals. I think I am safe in stating that the commission men of San Francisco suffer a yearly loss of \$5000 from this cause alone, whereas if the farmers took a little pains with their products, we could return to San Benito county at least twice that sum, and give better satisfaction all around.

"I do not wish to be understood as saying that all hay put up in 300-pound bales is not good hay. No, indeed; it may be just as good hay as any in the State, but the fact of being put up in such heavy bales makes the buyer suspicious.

"Another thing. Take care with the curing of hay. Use every precaution possible in order to put it in a salable condition. Bale it from the stack, never from the cocks lying around the field, where the dirt is so liable to get in the bale. In short, take as much care with your hay as you would with your wheat or fruit, and I'll guarantee that the returns from the commission men will be immeasurably greater, and will amply repay you for the labor bestowed."

Commenting on the foregoing, Messrs. Anspacher Bros., of Livermore, have this to say:

"The hay which Mr. Grant mentions as coming from our valley was handled by us and was raised by Mr. Joseph H. Martin, and this was the only lot of hay that was raised in our valley last season which brought the top of the market. The reason is, that this hay was well cured, good color, perfectly clean and put up in lighter rope-bound bales; if the bales had averaged 275 pounds or heavier, as they do in most cases, this hay would have sold for from \$11.50 to \$12, and the dealers would have complained and been suspicious of real estate being in the hay. San Benito county hay is inferior in quality to the hay produced in our valley, but it is put up in lighter bales and there is less dirt in it, and we earnestly appeal to our farmers to give this matter their personal attention. Let them be present when their hay is raked, stacked and baled, and see to it that no rocks, gravel, or adobe go in the bale, and our reputation to which our hay is entitled, as being the choicest produced in the State, will not be withheld.

Death to the Weeds.

TO THE EDITOR:—Your correspondent noticed the other day a device for attaching a weed-cutter to a common cultivator that was new to him. Some six inches behind each tooth was a triangle of steel one-eighth inch thick and drawn to a very thin edge. On the back side it was made about two inches wider than the distance between the teeth. The triangle was set to run horizontally, one inch or two below the surface and fastened to the back side of the standard by a strap of $\frac{1}{2}$ x $\frac{1}{2}$ -inch iron, with the same bolts that fasten the tooth in front. As this runs in ground already loosened, the extra draft is light; and to prevent its dodging large weeds where they are struck near the outside of the tooth, there are a couple of irons fastened behind the rear teeth that act as rudders and at the same time regulate the depth. A slight pressure upon the handles prevents the tooth dodging a larger weed than should ever be left standing in an orchard. FRANK S. CHAPIN.

Electricity on the Farm.

TO THE EDITOR:—It is to be regretted that Prof. Keith's article on this subject was somewhat controversial. The question is neither theological nor scientific, and therefore in its treatment neither ill feeling nor personalities should find any place. It is purely a business question, and, despite rustiness and want of technical knowledge, I may properly question whether he has made the matter any more satisfactory.

The one fact which he states is that electricity for commercial purposes can be manufactured one-half cheaper than it could six years ago. This may be true theoretically, but practically the electric roads have not reduced fares accordingly, nor can electric power be rented for one-half the then charge. I would also state that I had practical knowledge of the cost of such power six years ago in the vicinity of New York and Philadelphia, where Lehigh nut coal cost about \$3.50 delivered; and I now have, from actual experience, a fair idea of the cost of running an agricultural engine and of maintaining a horse, and the electric power cost about three times the engine and horse. Moreover, city power in small amounts is no criterion whatever. It is much cheaper to wire in to a small motor than to pack coal in baskets and run a small engine in an inconvenient place. The city test is in the omnibus manufacturing buildings. If, in San Francisco, buildings of this character, using from 75 to 200 horse, rent electric power from a central station rather than install their own engine with shafting and belts, not only does San Francisco differ from Eastern cities, but it establishes the commercial cheapness of electricity. A few facts on this point would be instructive and interesting.

In the matter of available water power in California a few facts would also add much to Prof. Keith's assertion. Say, south of San Francisco, can the RURAL give a list of available water powers, their respective amounts, lengths of wire necessary to carry current to agricultural work, and the actual loss per mile per horse power with present adaptation of intensity to wire diameter to secure least resistance practically. Then add to this loss 20 per cent. of original power on motors to get total loss.

Prof. Keith's statement as to relative cost of large and small engines is undoubted, as is also his statement as to improvements in engines, Pelton wheels and motors; but the real question is whether, having your power, you can transfer it more cheaply by motors or by mechanical devices when they are practicable; and secondly, whether a large central station supplying electric power is cheaper than a number of smaller engines, not less than say 20-horses each, operating intermittently at points of work. He gave no facts whatever to support his assertion, but if he can show with any reasonable business certainty that motors are cheaper, he can rest assured of a most respectful hearing by every cable road in the United States and probably a name famous in the annals of transportation by rail.

His promise of what could be done "with sufficient water power" much resembles Archimedes's contract to move the earth. But one State has a Niagara Falls as to quantity, fall and situation.

To put the whole question into a practical form I might suggest that the RURAL PRESS suppose a township in the neighborhood of San Jose and another near Los Angeles. Suppose further each half of a quarter section to be a ranch using five horses besides employing outside labor in every building, corn-shelling, threshing, etc. Then for each township give the available water powers, length of wire necessary to conduct power to the township, length of wire necessary to distribute, actual loss through such resistance, through motors, etc. Give same figures for each locality with a central shown plant, size of engines required and cost of fuel and operating.

We farmers know pretty closely just what our horses and engines cost to operate and if, as Prof. Keith claims, there be a non-eating power, cheaper than the living "critter," such a demonstration would be a great public benefaction, it would vastly enrich the demonstrator (if he got a patent) and it would furnish an excellent investment for the millions of dollars lying idle for want of a safe investment at fair rates of interest. A. GUILLOU.

Hueneme, May 22, 1893.

The Chinese and the Fruit Interest.

TO THE EDITOR:—There are I imagine many who, like myself, approve the stand you have taken respecting the Geary registration law. I do not understand you to hold that the Chinese are desirable as citizens; and, for myself, I admit that they are, as a class, all that the moderate agitators charge. I admit, moreover, that their employment as house-servants and field-hands takes an honest and healthful means of livelihood from tens of thousands of our own countrymen, or from more desirable classes of aliens. (In some parts of the State our green fruits are efficiently packed by white men and women, and the Japs have proved as good or better pickers than the Chinese. I also understand that there are localities where the Japs have been employed successfully as packers.)

But I will not admit the justice of the claims of those who cry, "Impeach the President! He has put down a just and constitutional law, and he is ruling like a Czar." The spirit that actuates such sentiments is wrong, although it is evidently brimful of a certain kind of patriotism. The President's honesty and integrity cannot reasonably be questioned. He is right in ruling according to his judgment, that it is folly to attempt to execute a law for the enforcement of which there has been no adequate provision.

More than this, the purpose of the Geary law would not be accomplished by its enforcement at the present time. It is to be hoped that every one understands this side of the question by this time. Let us, therefore, turn to that part of the issue which most directly concerns us as Californians—the relation that the Chinese bear to the great fruit industry of our State.

In the beginning of this business its promoters did not have the experience and knowledge that they have since gained. Men like A. T. Hatch and others believed that they saw a great future for the fruit industry. The availability of the cheap Chinese labor gave them hope. They extended their operations. The Chinese proved equal to all that had been expected of them. They became especially clever in the packing of fruit. As every advance was made in this line by the few expert white packers in the State (there is usually one or two such men on every fruit ranch—being Americans they are, of course, original as well as clever), the knowledge and skill thus acquired was in turn transmitted to a large percentage of the Chinese in our midst. The Chinese have thus become the only considerable body of people

who understand how to pack fruit for Eastern shipment, one of the most important branches of this business, for fruit-growers do not and cannot expect to continue to receive satisfactory prices for their fruit unless it be packed in proper manner. Thus it can be readily seen that the enforcement of the Geary law would work disaster to the fruitmen, inasmuch as it would deprive them of their packers. A widespread calamity such as this would be a most depressing effect on the whole State.

How much better then would it be to have the time for registration extended! John would then undoubtedly register. It would then be possible for the officers whose duty it is to enforce our laws, to keep more Chinamen from coming into our midst. Our orchardists and vineyardists would have time to train new hands to take the place of the Chinamen, as they would gradually take themselves hence. Thus hardship would be worked upon no one and we would in the end accomplish the desired object of ridding ourselves of this obnoxious element of society.

The Geary law advocates should also remember that we are greatly indebted to the leading fruitmen of this State. Out of chaos they have established a great and magnificent industry. The potent factor in bringing about this result has been their consummate business ability and their tireless and commendable energy. Fruit! Fruit! Fruit!!! is written in indelible letters in the minds of all our people. It is becoming the ambition of our successful men in other branches of business to possess themselves of a pleasant country home in connection with a well-kept orchard and vineyard. The fruit business is fast becoming the principal artery of our commercial system. There is scarcely one branch of business in the whole State which is not increased and augmented by the orchard industry.

Therefore, it would be a wise policy for us to bestir ourselves and, if possible, obtain an extension of the time for registration, not only to show our appreciation of the efforts of those horticulturists who have done so much for the State's advancement, but also to render more secure our own prosperity. HOWARD REED.

Gridley, Cal., June 4, 1893.

Gleanings.

THE ROOT KNOT must be untied somehow.

THE PROBLEM "how to make a calf drink" seems to excite unnecessary agitation. All San Francisco calves need is an invitation to the nearest bar.

RIVERSIDE HAS SHIPPED 1981 carloads of oranges this season to June 1. There is probably upward of 200 carloads more in orchards, besides some lemons.

THE CLAREMONT FRUIT-GROWERS' ASSOCIATION sent a consignment of oranges to Queen Victoria some time ago and the receipt of the fruit is now acknowledged.

DINUBA, TULARE COUNTY, it is reported, has a curiosity in the shape of a four-legged chicken. It lived about ten days after being hatched and has been preserved in a jar of alcohol.

ACREAGE OF FRUIT TREES bearing and non-bearing in several localities in Orange county are given as follows: Anaheim, 2164; Placentia, 1307; Orangehorpe, 420; Fullerton, 302; Brookhurst, 296. Total, 4489.

A SAN DIEGO HORNED-TOAD was tied by a small boy and left for three weeks without anything to eat. Yet, when released it slipped off merrily and seemed none the worse for its long abstinence from food and drink.

THE *Blade* SAYS that Santa Ana will likely have a pickle and vinegar factory in the near future. The Chamber of Commerce has resolved to raise \$1500 to bonus such a concern. Mr. Jas. Hill of Keokuk, Iowa, proposes to erect and run it.

A DOUBLE-BARRELED SHOT-GUN was accidentally discharged at Berkeley the other day and would have killed an estimable housewife who was dutifully engaged in kitchen work, but the charge struck a teakettle in her hand. *Hoc fabula docet* always to carry a teakettle (when there is a gun in the neighborhood) or stay out of the kitchen.

CASH BLOWERS at Grangeville, Tulare county, does not believe in cutting grape vines. He says that he found by experience that it stunted the growth and quantity of the crop. He says the vines will stand side cutting, but to never cut the top growth of the vine. He is also a believer in sulphur and uses it two or three times each season on his vines.

A TEXAS EXCHANGE SAYS the leading industry of Arizona is sheep-growing. Last year it marketed 5,400,000 pounds of wool and 100,000 wethers, and perhaps will do better this year. The sheep and wool industry of Arizona is of no mean proportions, but yet it is not the leading industry; cattle are still on top and doubtless will be for some time.

AN ENGLISH FARMER has been holding the watch on his horses to get at their "plow pace." He found that they walked just 1 4-5 miles per hour, or nearly 14 1/2 miles in eight hours. To plow an acre with a nine-inch furrow requires a walk of exactly 11 miles. The team that will walk steadily all day will easily plow the acre. It is the stopping that puts the work back.

"JOHN," SAID A MERCHANT TO HIS CLERK, "what are the latest reports from the crops?" "The peach crop is entirely killed by the last cold snap, cherries badly injured, blackberries and black raspberries killed and pears touched to some extent." "All right, John, order a lot of new baskets with the bottoms a half-inch nearer the top than last year. I am determined to keep down prices out of regard to my poor customers."

A LADY IN RIVERSIDE being asked for a new idea for a church fair suggested the following, which is called an Oregon church fair: Girls under 16, 12 cents for a hug of two minutes, or 10 cents for a short squeeze; from 16 to 20, 50 cents; from 20 to 25, 75 cents; school-marks, 40 cents; another man's wife, \$1; widows, according to looks, from 5 cents to \$3; old maids, 3 cents apiece or two for 5 cents, with no limit to time. Preachers are not charged. Honest merchants half price. Editors pay in advertisements.

IN ANSWER TO A QUERY about remedy for codlin moth N. B. Smith of Ventura said: "I first scrape the loose bark from the tree below the forks and carefully remove it and burn it up clean. I then wash the tree with whale oil soap and lye, after which I cut up old burlaps and wind around the trunk, leaving the bottom open in order that the moth may find a place to hide. My trees are entirely free of the moth, but I keep up the treatment as a preventive. Where the moth is found the sack can be removed, the eggs destroyed and a new sack put on. If the insect is found the trees should be gone over once a week."

THE DATES FOR THE SEVERAL FAIRS have been fixed as follows: Pacific Breeders' Association summer meeting, July 29th to August 5th; Oakland, August 7th to 12th; Vallejo, August 14th to 19; Napa, August 21st to 25th; Petaluma, August 28th to September 2d; Sacramento State Fair, September 4th to 16th; Stockton, September 18th to 23d; Fresno, September 25th to 30th, and Pacific Coast Breeders' Association, October 9th to 14th. This will give eleven weeks of continuous racing instead of seven as heretofore. A meeting was held by the Contra Costa Association on Monday last and the date of the Contra Costa Fair fixed for the week commencing Monday, September 25th.

THE SALE of J. B. Haggin's thoroughbred yearlings from Rancho del Paso, California, occurred last week in New York. It is said to have been the most successful sale ever held by the California breeder. The price for the two first days of the sale averaged \$1200, though on the last it dropped to \$800. The mean average for the 138 yearlings was \$1125. Among colts disposed of were 17 of the get of Salvator, the famous stallion who holds the world's running record for one mile—1:35 1/2.

HORTICULTURE.

Summer Cultivation.

Why Constant Soil-Stirring Makes Fine Trees and Large Fruit.

We will take it for granted that the unusually forcible exhortations to thin fruit which have been presented this spring have resulted in better practice in this respect on the part of many fruit growers. But after proper thinning there is other work to do which is also involved in the production of satisfactory fruit. Whatever else may be done, good, honest and frequent summer cultivation of the soil holds the key to the orchardists success.

Although the present year has been one of fair seasonal rainfall, the rain came at such times and in such a manner that most orchards will need the preservation of all possible moisture for the use of the roots. There has already been quite enough lost by evaporation but more still will go unless the surface is put into condition to retain it. For this reason we propose to give below a number of careful statements, by those who have given much attention to the subject, concerning the science of summer cultivation. We trust the showing will incite many to a more generous use of the harrow and cultivator than they have done hitherto.

WHY WE CULTIVATE IN SUMMER?

All can learn from the experience and observation of Gen. Chipman of Red Bluff as told in his own words:

"We all know the tree cannot grow in dry earth; that its food must first be dissolved and given to it through the aid of water. Water is the vehicle by which the nutriment is carried into the circulation of the tree. The importance of water to plant life is seen when we remember that growing plants contain from 70 to 95 per cent. of water, and of trees it is quite large. The food must be taken through the roots, and is not absorbed by the leaves. Whatever of growth we are to expect of our trees must depend, therefore, upon the condition of the soil as to moisture. It becomes, then, vitally important to retain all the moisture possible, inasmuch as we do not irrigate, and are obliged to rely wholly on the rainfall.

"We cultivate the soil often in great ignorance of the reason, and being ignorant of the reason we do not cultivate properly. I once ceased cultivating my vineyard at a critical time upon the advice of an ignorant gardener, who told me the weather was too hot, and that the more I exposed the earth the more the sun would evaporate the moisture, and I would in a short time blow all the moisture out. A slight crust had formed on top. "There," he said, "leave it now; and depend upon it, the moisture will not come out." My vines soon began to beg for drink. It was plain that something was wrong. My gardener said we had better haul water to them, and I rigged a portable tank and hauled water a mile. I was not satisfied and wrote Prof. Hilgard. He made the whole matter plain. He said if I would put a dry brick on a wet sponge, the brick would soon absorb all the water; but if I would put a dry sponge on a wet brick the sponge would not absorb the water. My crust on the top of my ground was the dry brick on the wet sponge, and was rapidly taking up the moisture and giving it off by evaporation. Keep the tilth of your ground good, he said, and you will have no trouble.

"I didn't know in those days exactly what he meant by tilth, but I went to Webster and found that it meant the condition of the cultivated soil. I began to ask myself why the uncultivated ground outside grew dry for several feet deep, why summer-fallowed land dried out, too, and lost its moisture, and why well-cultivated patches of garden and vines, and many vegetables, got along without rain or irrigation. A man came along with watermelons raised on similar land without irrigation, while I was in the act of wetting my vines, whose roots were two feet down under ground. I felt humiliated at my ignorance, discharged my gardener, put my hoes and cultivators at work, and managed to arrest the evaporation in time to save my vines.

"Now, then, let us see how this great mystery is to be explained. If you break up your land in large lumps and leave it, you know it dries out rapidly. First the clods will grow hard and lose their moisture; then the general surface bakes, and then begins the fatal work of sapping the ground below. In proportion as you pulverize the lumps, you reduce the evaporating surface, and if you reduce these lumps to fine powder, this evaporating surface is all gone except the fine particles forming the surface.

"Now, by keeping any crust from forming among these particles or beneath them for a few inches, you break and destroy the 10,000 capillaries that suck up and pass off the moisture. The finer the grain of the soil, the better it retains moisture; and the more nearly you can reduce your soil to dust or fine powder, the better it will retain moisture. If it were possible to give our orchards the treatment we do our gardens, we would be amazed at the tree growth. If your soil is coarse, it needs all the more working. I doubt if there is in the United States any soil superior to the slate soil of Thomas creek, and its value, in my judgment, lies in its excessive fineness. It is rich in plant food, but it is richer in its capacity for retaining moisture and conveying its food to plant life. We must then pulverize, and keep pulverized, the soil of orchards.

"Again, this top pulverization is like a woollen blanket thrown over ice; it also becomes a sort of mulch, and by its non-conductive quality holds the moisture in the soil below, whose vapors enter the root system, and thence into the tree circulation, carrying the life-giving properties of the soil. It is not the water that sustains the tree any more than it is the frying-pan that gives you a supper; it is simply the vehicle by which plant food is prepared and given.

"How often you are to cultivate cannot be answered. Once in two weeks, after the rainy season is over, is not too often, and it should not cease before August. Three or

four inches is deep enough after your spring plowing, although deeper won't do any harm, and may help.

"I want to warn you against the seductive spring shower. It falls and freshens everything, and probably soon after you have cultivated your ground. You think, how fortunate! But the fact may be (and you must look to see if it is not) just rain enough has fallen to wet the top of your ground, now in lovely tilth, and immediately this desiccating crust begins to form, and if left to remain it will pump out moisture—a great deal. More than fell to form it, and unless you break it with a harrow or cultivator, that shower had better never been born. The spring showers must be followed up with your cultivator (unless they come close together) and all summer long you must not weary of this work, for you will have a rich reward in leaf and bud and limb and tree. All weeds must come out at once, for every one of them lives at the expense of your tree. Weeds are so many pumps working night and day to draw out the life sources of your tree. Next to a pestiferous insect feeding upon the leaf is the pestiferous weed feeding upon the tree roots.

"Northern California, with its copious rainfall, needs no irrigation (however much tree growth would be promoted by it), but it does need thorough cultivation, and without that we will have failure, and only failure.

"If I were to sum up in one word the secret of success in tree-growing, it would be—cultivate."

HOW MUCH MOISTURE IS SAVED BY CULTIVATION?

All successful fruit-growers know well enough that moisture is saved by keeping the surface finely pulverized, but few have an adequate idea of the amount of water which may be lost by poor orchard practice. Fortunately there are exact observations in this direction, although not in an arid climate like ours where evaporation has an extent and speed beyond the possibility in a climate with a humid atmosphere. If so much water can be lost in such a country, how much vaster must be our losses. A few years ago we had some correspondence with Dr. E. L. Sturtevant, then of South Farmingham, Mass., concerning the amount of evaporation of moisture from soils under various conditions. He gave this note:

"For the purpose of offering numerical values which shall express the influence of cultivation, we have tried the following experiment: Oak boxes of one cubic foot capacity were made of half-inch stuff and thoroughly soaked with oil. The bottoms being removed, the frame was forced down into the earth in the corn-field, and the bottoms afterward put in position. We thus had a foot cube of soil in its natural position. The surface of the earth in one box was left undisturbed, while the surfaces of two boxes were kept cultivated. By weighing these boxes the gain or loss in weight is assumed to measure the evaporation which has taken place from each. From July 26th to August 1st, six days, the cultivated soil evaporated at the rate of 606 gallons per acre less than the undisturbed soil, or less 151 gallons daily per acre. From August 1st to August 10th, nine days, the cultivated soil evaporated 2367 gallons per acre less than did the undisturbed soil, or less 263 gallons daily per acre. During the whole period from July 26th to August 10th, 15 days, the saving of water effected through cultivation figured up 212 gallons daily per acre, or, expressing these facts in another form, the undisturbed soil lost per acre, from July 26th to August 10th, 4243 gallons, the cultivated soil 1060 gallons."

Dr. S. W. Johnson, of Yale College, has given the following advantages of clean cultivation both by cutting of waste of water by weeds and evaporation from unstirred surface.

The advantages of clean cultivation are:

1. By destruction of all vegetation save the trees, all the plant food of the soil is reserved for the trees.
2. By frequent stirring of the surface soil, much evaporation and loss of soil moisture in dry times is prevented. The destruction of living vegetation also immensely conserves the water of the soil.

Eser has recently proved experimentally that under similar circumstances, during a month of summer weather, the loss of water by evaporation from a soil covered with growing grass was nearly two and one-half times greater than that lost from the naked soil. From the acre in grass there exhaled in thirty days 618 tons and from bare soil but 255 tons of water.

Eser also showed that the loss of water from a soil superficially stirred (hoed) was but four-fifths that from the same soil with a compact surface. The stirred surface, indeed, loses water rapidly, and becomes quite dry, but the surface layer of dry soil acts as a mulch to protect the subjacent earth.

HOW TO CULTIVATE.

It is impossible to prescribe exactly either the style of cultivator to use nor the manner of its use. There is different work needed in different soils and in different localities, and different kinds of tools as well. This has stimulated invention and we are quite sure that no State can show a better list of new weed-cutters, orchard and vineyard plows and cultivators and harrows than California. Almost every fruit region has some embodiment of local inventive genius in the form of machines for soil tillage. The experience of enterprising and successful men in the locality is the best guide as to the tools to buy. The condition to be attained is, however, easily recognizable, and the tool or tools that accomplish it are the best for that soil. What is wanted, as previously stated, is a fine pulverized and loose surface. Sometimes this is accomplished by using a "rubber" or clod smotherer after the harrow or cultivator, sometimes this rubbing is the worst thing that can be done, especially if it leaves the surface smooth or polished. This kind of a surface reflects the heat of the sun, and becomes very hot and dry, while a surface left as a good harrow would leave, is more rough, darker colored, and absorbs the heat and does not dry out near so quickly. The best possible way to leave land is to harrow last with a fine-tooth harrow. But if the surface is covered with hard clods the old-fashioned harrow merely knocks them about. Then one of the excel-

lent modern clod-crushers is likely to reduce to fine clods that after a finer tooth cultivator can be used to prevent the "setting" or crust forming on the surface. It used to be held that if the surface was well pulverized and no rain fell afterward the cultivator could be laid aside for the season. The practice of the most successful growers on the lighter, kinder orchard soils of the State, is that frequent stirring without, however, bringing new soil to the air is the best paying practice.

Why the Fruit Drops.

TO THE EDITOR:—In a recent meeting of the State Horticultural Society there was a discussion of the question of whether the dropping of various fruits after attaining the size of goose-shot or buckshot was owing to lack of fertilization or other causes.

For a time those who said a lack of fertilization caused it seemed to have the floor, and one after another stated as their own opinion or as the opinion of botanists, that while the little fruits did seem to have been fertilized and did grow for a while, the fact was that they had not been "truly" fertilized and could not, under any conditions of weather and surroundings, however favorable, mature but must eventually fall off. That it might possibly be a help to plant our orchards of mixed varieties, etc.

I had made considerable examination into the theory of cross-fertilization in relation to the failure to bear of various almonds, notably the Languedoc, whose fruit drops in the way mentioned above, and had come to the conclusion, and expressed it in a paper read before the society last year, that the flowers had been properly fertilized and in this and other cases of similar dropping the cause was climate or in the soil, and I was about to rise and differ when Col. Hersey, of San Jose, got up and said much what I should have said, and said it much better, giving a number of apt illustrations.

When I was going home I concluded to write out a statement of the question at issue and submit it to Prof. E. L. Greene, of the University of California, than whom there is no better posted botanist on the coast. I told him that in even the Languedoc and Silver prune, which almost never bear a full crop here, there was always a plenty of pollen in the blossoms and that, as far as I could see, the young fruits which were dropping and of which I sent him some were perfect in all their parts and I could not see how they could grow at all if a lack of fertilization was the cause of their dropping.

You will see by his reply, which I enclose, what his opinion is on the subject.

Of course the question of exactly what causes the dropping is still open, but I think that climate, exposure, weather, soil, culture, or presence of scale, will among them be found in each instance to contain the solution.

Niles, May 10, 1893.

J. C. SHINN.

PROF. GREENE'S OPINION.

Mr. J. C. Shinn:—Any thoughtful person, beholding the wonderful protrusion of flowers with which our domesticated fruit trees adorn themselves, ought to be able to understand that it is impossible for more than a proportion of these flowers to become fruits. If half the flowers on a healthy peach or almond tree were not cast off at an early date, the tree would either be broken under the undue weight or its vitality would be exhausted beyond restoration.

It is therefore entirely natural that the trees should protect themselves from breaking, or from spending all their vitality in one season, by rejecting, as they always do, half or two-thirds of their fruit-germs before these latter are far advanced in growth.

In these almond specimens which you send me there is every indication that fertilization of the ovary had been effected, and that they had made a fair start in their development as young fruits, and that their subsequent weakening and falling away was due to the mere inability of the tree to furnish sap enough to nourish so excessive a brood. It is, to my mind, altogether improbable that any scarcity of pollen had anything to do with the weakening and falling of so many.

Any one who will examine well the floral structure in peach or almond may see that the stamens, or pollen-bearing organs, are not only very numerous in each flower, but that they are so incurred in the bud that, on becoming erect, they are all brought into close proximity to the pistil, a contrivance by which fertilization is particularly well assured in each flower.

The benefits of cross-fertilization are recognized freely; but the frequency of this process, in nature, as well as its importance from an economic point of view, are both probably overestimated at present. But, however that may be, I am wholly of your opinion, that no amount of pollen would ensure the full development of all, or even half, the fruit germs that are usually set upon every healthy apple tree, or peach, or almond. The tree could not bear such a tax on its strength and vitality.

EDW. L. GREENE.

University of California, Department of Botany, Berkeley, Cal., May 8, 1893.

Fruit for the World's Fair.

The State World's Fair Commission has issued an address to the fruit and vegetable growers of California. It explains the desire of the Commission to make an adequate display of California products at the fair, and says:

"We want fruit. Cherries first, then apricots, peaches, grapes and so on through all the list and by the carloads where this is possible. We can and will care for all that is sent if it is forwarded judiciously. If every grower will send a small portion of his ample store, or if the large growers will forward in large quantities, we shall be abundantly supplied. Nothing can now so well accentuate, round out and give finish to the work thus far done as to show masses of the incomparable California fruit. All who have heard of California will expect this and look for it, and will write the State down if it is not to be seen.

With masses of fruit on exhibition, the 50 fruit stands all over the exposition grounds will be filled with 'California Exhibit Fruit,' and make the name of California the best known on the grounds.

"Carload lots can be made up and sent through in refrigerator cars which will run through into the exposition grounds, in which case the State can pay for freight and refrigeration and be reimbursed out of the sales. With an ample stock of fruit on hand, so that changes can be made daily, if necessary, the fruit can be sold before it becomes unmarketable, and good prices can be obtained therefor. Any county that desires can obtain separate space for a county display in the California building or the Horticultural building, or in both, and for such time as the county desires. Fruit thus displayed by the counties will remain subject to the control and disposition of the county representatives, and can be consigned to these county representatives, freight being prepaid. Thus, counties can control absolutely their own fruit exhibits and fruit sales. Where county organizations do not exhibit, and in all cases where the owners of fresh fruits prefer, the State will handle and exhibit the fruit, and realize as much as possible to return to the owners. In every case, worthy fruit can be entered for competition and award in the Horticultural building, and pains will be taken to see that it is so entered. Collective State space has been secured with this special object in view.

"It is recommended, as previously stated, that county fruit be consigned to county representatives and the charges prepaid, in which case no question of re-payment of charges in disposing of the fruit can arise.

"All the necessary arrangements have been made to commence shipping immediately from Sacramento, and from any other terminal point where the fruit can be collected in sufficient volume.

"For the present, all shipments should be consigned to W. H. Daly, Sacramento. He will receive and promptly forward them to the Commission, or the agent of the county, just as he may be directed (local freight to Sacramento being prepaid).

"The boxes should be marked 'California World's Fair Commission, Jackson Park,' or if shipped to the county direct add the name of the county.

"The foregoing plan is recommended, but if carloads cannot be secured, and the shippers prefer, their shipments can be sent from any forwarding point with shipments of dealers at the regular rates. These lots will be delivered in the city of Chicago, and the drayage from there to the exposition grounds will cost at the rate of 16½ cents per 100 pounds, and, as the haul is seven miles, some delay and deterioration in the fruit will take place; but we have arranged for this drayage, and all that is sent in this manner will be promptly taken care of. The main proposition is to get the fruit, to get it now, to get it in quantities, and as early as each kind comes into market, and a continuous supply.

"W. H. Daly, assistant traffic manager of the Commission, Sacramento, Cal., or Room 75, Flood building, San Francisco, will have charge of these shipments, and will give all information and assistance in his power. Every person or association intending to ship will please notify him as soon as possible of the kind of fruit or vegetables he can furnish, the probable amount, and time or season of shipment."

THE DAIRY.

Dairy Devices for Warm Climates.

Keeping Cream in Hot Weather.

TO THE EDITOR:—The condition of temperature is one that cannot be too strictly attended to. Dairy farms, dairy houses and dairy rooms should be fitted up with special reference to it. It is both a winter and summer condition, but doubly important in warm climates and during the high heats of summer. A favorable temperature throughout is a *sine qua non*—an indispensable condition, in successful, *i. e.*, profitable butter-making. If this condition is not properly observed, whatever else may be done, uniform results need not be looked for; for in profitable dairying everything hinges on or is modified by temperature. A dairy thermometer should in all cases be used, to be certain of attaining the exact temperature necessary to secure best results—no guess work will answer. If the temperature is correct, and the cream evenly ripened, results cannot fail of being satisfactory. Throughout the south and southwest the steady heats of summer necessitate on the part of the successful dairyman some preparation that the average farmer has not, and in far too many instances (for their own good) does not care to make, *viz.*, a place where both milk and butter may be kept cool during the long continued, high heats of summer. The heat is no greater south than in parts of the north, neither is it so oppressive. It is not hotter but it is more steadily warm south that it is north; the soil becomes more heated by the direct rays of the sun, the heat is accumulated, and the ground does not cool off to the same extent that it does farther north. Where ice is accessible it is considered indispensable; but there are so many southern farms that are pre-eminently adapted to dairy farming where ice is inaccessible, therefore, out of the question. Even with those who use it and rely upon it exclusively, the supply frequently becomes exhausted just at the time when most needed.

Now we know from experience and close observation that ice, though both useful and desirable, is by no means indispensable. "Gilt-edge" butter can be made on almost every well-ordered farm without it. Our butter is always a rich, golden yellow, always firm, even in the hottest of weather; our surplus is all bespoke at 25 cents per pound the year around. We never use "butter color," but always color the butter when we feed the cows. Our butter is made in a spring-house, the water, as it issues from the ground, pure, clear and cold, runs directly into a trough eight inches deep. In this trough the vessels (earthen

pans) containing the milk, tightly covered with a double thickness of muslin, are set; the milk is strained into these vessels about a half hour after it is milked from the cow, or as soon as it has cooled and become free from the animal odor. The vessels set in the trough 24 hours, when the cream is skimmed off and churned. For the benefit of those who have neither ice nor spring-house, we will make this broad assertion: That just as good, as fine-looking, firm, aromatic and fine-flavored—in short, just as perfect butter can be made throughout almost the entire South and Southwest, and in the very hottest of weather, without ice and in the absence of a spring, as with either or both.

Several years ago in an adjoining county, where ice in summer was unheard of and where springs were, in many localities, conspicuous for their absence, "subterranean" dairies ("storm-houses" as they were termed by some) came in vogue. These underground dairies were used for various purposes besides keeping milk and butter in, mainly as a safe place of deposit for anything and everything that it was essential should be kept either warm in winter or cool in summer. For the dairy, lay off ground to be excavated (in a clear, open spot, a shady one preferred) 10 feet wide and as long as desired—10x15 feet is a convenient size. Lay down your sills, which should be large—8x12 or 12x12 inches through and of hard, durable timber; if larger one way than the other lay flat side down, before the digging is commenced. Have the sleepers 12 feet long so they will come out even with the outer edge of the sills. These sleepers should likewise be of durable timber, about 2 feet apart and sufficiently stout to hold up the weight of the dirt excavated, which, when the dairy is completed, is all put back on the flooring covering the excavation. The flooring should be thick, say 2 inches, matched, or the joints broken with some lighter material. A stout plank should be nailed perpendicularly to the ends of the sleepers and another one on the end farthest from the door, to thoroughly exclude all dirt. Although not absolutely essential, it is much better to ceil it overhead and cover the floor and walls with a liberal coating of cement. We have seen several fixed this way, and must say they are a complete success. Butter can be kept in them in midsummer as firm as in midwinter, while the butter of the "flush season" can be kept perfectly sweet and nice for family use next winter, when butter is apt to be scarce, by wrapping each churning separately in a clean muslin cloth and putting it (previously salted, as for immediate use) in large, stone jars, which must be kept partially filled with brine sufficiently strong with salt to readily bear up an egg. Care should be taken at all times to keep the butter fully submerged by having pieces of plank cut round to fit the inside of the jars, and weighting them down. We have found that 6 feet in the center is sufficiently deep. Start the excavation 10 feet wide, dig down 2 feet, then leave a shelf (of dirt) all around, of 8 inches in width; this shelf may be used to hold cans of fruit and vegetables, jars of pickles, preserves, jams, jellies, etc. This leaves the excavation 8 feet 8 inches wide; dig down 18 inches farther, then leave another wider shelf (2½ feet wide), also of dirt, all around, except at the entrance; this is to set the milk vessels on. The jars of butter may be set on the floor at the end farthest from the door. This leaves the excavation in the center 3 feet 8 inches wide, which, for all practical purposes, is amply sufficient, to be dug down until it is 6 feet deep. For the steps, measure back from where the entrance is to be, 6 feet, and 3 feet 8 inches wide, dig down, leaving steps from the doorway (like the shelves, also of dirt) 8 inches wide and 8 inches deep, till the bottom is reached, when it will be found that there will be 9 steps.

Over these steps and fastened securely to the end sleeper must be built a tight, snug little frame building six feet high and sufficiently wide and long to completely cover the steps, with small but good sills lying flat on the ground, as a foundation; a good roof sloping off on each side, and a tight door. When this subterranean dairy is dug in stiff clay there is but little if any danger of water rising in it; more especially if cemented on the inside. It is useless to dig them in sand.

After the excavation is completed and the woodwork all finished, then the dirt must be thrown back on top of the flooring, making a long, conical pile reaching the entire length of the excavation, making it steep enough on each side to shed all rain water. Those who prefer so to do can simply cover the floor with 8 to 12 inches of dirt, level it off, then build a house over it. The temperature in these underground dairies is comparatively even—both summer and winter; ranging during the hot summer months from 60° to 68° Fahrenheit; average temperature 64°.

The plan practiced by some, of suspending milk in the well, cannot be too strongly condemned; if a very small portion of the milk is accidentally or through carelessness spilled in the well, the water, for drinking purposes, is irretrievably ruined. If obliged to use well water as a refrigerating agent, draw the water out of the well and use it elsewhere. Ice is too expensive (even at one cent a pound) for those who are not forced to use it. We have used it but little, and the only advantage we could discover from its use was that it hastened the cream in rising to the surface. This hastening of the cream to the surface can be brought about just as surely, as speedily, and far more economically by

DILUTING THE MILK.

This plan is fast coming into use wherever it is known, and in the absence of ice, spring-house or dairy, is simple, inexpensive and a saving of labor. The milk, warm from the cow, is strained into a can till it is half filled; then fill up the can with cold water, which aerates the milk and immediately reduces its temperature to about 70°, even in the warmest of weather. All the cream will separate and rise to the surface in less than four hours; the cream may be skimmed off from the top, or the combined milk and water drawn off by a faucet from the bottom of the can till the cream appears, which is then drawn off into a separate vessel; the can or cans used for the morning's milk are ready to be used for the night's milk. In spite of the economy, simplicity and ease of the latter method, we must

confess our preference for spring-houses; and subterranean dairies for all localities remote from railroads. Where all other facilities that are necessary are present in profusion, ice is undoubtedly the best; otherwise not.

G. H. TURNER.

Denmark, Lafayette Co., Miss., May 26, 1893.

Feed and Its Effect in Quality of Milk.

The Illinois experimental station has been doing some excellent work in testing milk. Six cows were tested every day through the whole of their milking period. Each cow was an average animal, such as is the average producer of the greater part of the country's milk supply. One was a Jersey, two were Holsteins, and three were Shorthorns. The work proved what has heretofore been claimed by students of the composition of milk, that the butter fat is the most changeable constituent; that it increases as the period of milking increases, the formation of fat holding out better than the other constituents of the milk; that the per cent of solids not fat is quite uniform, varying relatively but very little; that they are largest, as a rule, when the amount of butter fat is the largest. A gradual increase of grain feed and change from stable to pasture increased the yield of milk, but had very little effect on quality.

The Jersey cow was milked 307 days. She gave 5043 pounds of milk, which contained 254 pounds of butter fat equal to 395 pounds of butter. The average per cent of solids during the first month of the milking was 13.8, of which 4.5 was fat. This gradually increased until during the last month of her milking the average per cent of her solids was 16.8, of which 6.4 was fat. For the whole of the milking period the per cent of solids was 14.4, of which 5 per cent was fat. The milk at some times went as low as 3 per cent of fat, showing that the quality of milk may make a sudden jump at some particular milking. Nine samples out of 614 went below 13 per cent solids and 27 samples were over 17 per cent. One was as high as 22 per cent. This emphasizes the importance of mixing the milk of various cows before it is sent to market if a uniform quality is to be expected.

The Shorthorn cows averaged for the whole period of their milking, 12.8, 13.3, 13.1 totals solid. During the first month of their periods of milking the milk tested 12.2, 12.5 and 12.2, respectively, gradually increasing until during the last month the amount of total solids was 13.7 in two cases and 13.5 in another. The butter fat in one case increased from 3.7 to 4.7, in another from 3.5 to 4, and in the third from 3.3 to 4. The first of these Shorthorns gave, during her milking period, 6193 pounds. The other two gave only about 3000 pounds each.

The Holstein cows gave 6032 pounds and 7106 pounds of milk respectively, and the average of total solids was 11.9 and 12.4. During the first month of their milking the amount of solids was 11.9 and 12.2 respectively. This amount did not increase very much until the last month when it reached 13.3 and 14. In the first Holstein the quality varied from 9.1 to 17.1 per cent of total solids, the total variation in fat being from 6.6 to 1.5. In sixteen days the total solids were 11 per cent or less. A study of a table showing variations in the quality of milk is extremely interesting emphasizing the fact that more than one or two tests must be depended upon to get at the real value of a cow. One of the Holsteins gave, in one day, 34 pounds of milk which tested 15 per cent of total solids. The next day the amount of milk fell off to 28.7 pounds and the quality was down to 11.2 per cent total solids. In this instance the falling off in quality was about equal in both the fat and the solids not fat. In another case the milk dropped from 16 to 11.8 per cent total solids in one day, or, rather, perhaps it would be more accurate to say that the quality mysteriously increased from 11.6 to 16 and then fell back to about the normal. This increase was principally in the amount of fat.

The bulletin in discussing the question whether an increase in grain feed influences the richness of milk, shows that changes of feed stimulated the milk production so that each cow gave from six to ten pounds more milk per day than she had been producing, but the quality of the milk was changed very little, adds *Our Grange Homes*. The records also show that the milk of each cow during the whole milking period except the last few weeks, was of nearly a uniform quality peculiar to the cow.

These experiments as regards the effect of feed on quality are much less exhaustive than those conducted at Copenhagen, Denmark, which have continued for two years with 240 cows each year. The conclusions of both years' experiments spoke very decidedly, and the conclusion is that change in feed does not cause any change in the chemical composition of milk. The different lots of milk were perfectly uniform in quality, though the grain feed might vary from one-fourth oil cake to three-fourths oil cake. The testimony of this experiment is cumulative adding to the teaching of other agricultural chemists and experimenters. It is, that feed does not change the composition of milk. When this statement is made at a farmers' institute it always provokes antagonism on the part of many practical farmers who are present and who at once quote their experience as contradicting this statement. But these assertions of agricultural experimenters are not theory; they are based upon the most careful weighing of milk and the most thorough analytical tests of its quality and are more conclusive than anything less accurate and painstaking.

The lesson taught by all of the most carefully conducted experiment, is, that sufficient nutriment being provided for the cow, food will affect the quantity of milk alone and not its quality.

Continuous Milking.

The continuous milking habit in cows should be developed as far as possible. It is not a source of disease and impoverished condition of the young, as many suppose—such instances are more often the result of improper supply of the cow with foods that illy sustain all parts of the system. If the cow is well fed, not starved to reduced condition, as is often the case the few weeks before calv-

ing, there is no possible danger in milking a cow up to within a few weeks, even days, of her full time. It requires more food at this period to sustain the cow and embryo, but if the milking period can be prolonged for 60 or 90 days beyond the usual milking period of average cows, the returns will amply justify this outlay. That a cow needs six weeks of rest before calving may be desirable, as the "freshening" may be a great aid in bringing out udder development. While we may object, with some force, that continuous milking may in some cases be injurious, yet it is only by having cows that have a long and profitable milking period that we can expect to extend as we would wish the milking periods of the cows to be born in the near future, for we must rely upon heredity quite as much as feed and handling to succeed.—John Gould.

The Dairy Bull.

It is the prepotency of the pure-bred bull that tells; he has in him the result of many years breeding in one line, breeding to accomplish one object, and this gives him the power to transmit the good qualities of the breed. I don't believe I can do a dairyman, who is working with pure cows, a greater favor, writes A. L. Crosby in *Northwestern Farmer*, than to induce him to breed his cows to a pure-bred dairy bull, supposing, of course, that he cannot afford to buy good grades to replace his scrubs. In a few years, by the use of a good bull, he will have a working herd that will make him money the year through, for they will give good milk and give it in profitable quantity nearly every day in the year. The man who begins to improve his stock begins also to take greater interest in it; he will feed and care for it better, and, in case of dairy stock, will improve in his methods of handling the milk and butter. It would almost seem as though the prepotent element communicated itself through the whole of the dairy operations. And why not?—The men who established the breeds did so through their own inherited prepotency—the strong determination to "get there"—and those who now use those breeds naturally fall into the same methods of work as those who establish them. Another point that it is interesting to note in this connection is, that the dairyman who keeps a dairy that have "blood" in them will not sell their milk and butter at the same price he sold the milk and butter of his scrubs. No, he now uses all the skill he possesses to make the best butter, if he be a butter dairyman, and he is not willing to sell it, or trade it, as he did when he kept scrub cows; he seeks and soon finds customers who will pay a good price for a good article of milk and butter. The net result, then, of using prepotent pure-bloods is, that the dairyman improves his herd, improves in his feeding of it, improves in his manner of handling its product, and improves in his way of selling it. And the chances are many to one that improvement begun in one branch of farming will lead to improvement in all others, so that the net result may be summed up as the reaping of a better harvest of dollars in all farming operations.

Sore Teats in Cows.

TO THE EDITOR:—As a practical dairyman of twenty-three years experience I might possibly give my experience in regard to the treatment of sore teats in cows.

Every dairyman at some time, generally in the spring when he is hurried with all the cows he can attend to even under favorable circumstances, is annoyed by the stepping and often kicking of cows whose teats, distended with milk and exposed to wet and wind, become cracked and by the action of the hands in drawing the milk the cracks open and reopen until painful bleeding gaps difficult to heal are the result.

Now, in the first place my advice to the purchaser or raiser of the calf to be made a dairy cow is, avoid those with white teats. Generally speaking, the better and harder cows are the dark skinned ones. I know my dairymen friends will point back to that old white cow that beat all records. I knew her myself, but the cow with the soft black or tan colored teats has a desirable distinction in her almost total immunity from this trouble.

But our white or spotted pets must be treated carefully. Begin when the first tiny abrasion of the skin appears, or before, if the teats are scaly or harsh, when the cows are first driven into the yard. If possible, half an hour before those individuals are milked go around with a vial of linseed oil and thoroughly wet them. Then, after milking, my main reliance is in pure, clear pine pitch, which I take fresh from the box cut in the big pine in the corral. Use it liberally if obtainable. This keeps out the dampness and resists the action of the wind, while its healing qualities are wonderful. This I discovered by accident, an affected cow lying upon a detached piece of pitch to her great benefit.

A. E. HUNT.

Greenville, Plumas Co., Cal., June 1.

Milk Clean.

A German contemporary reports a somewhat interesting experiment, which shows the importance of careful milking. Five cows were milked for a fortnight by the ordinary cowman—let us call him A—who usually milked them, and who was not informed of the experiment in course. The succeeding fortnight the cows were fed exactly as before, but were milked by another man (B) who had been informed of the experiment. The fortnight's yield in each case here stands compared:

	Cowman A. Milk.	Cowman B. Milk.	Excess.
1.....	64 kilos.	77 kilos.	13 kilos.
2.....	60 "	103 "	34 "
3.....	98.5 "	137 "	37.5 "
4.....	80.7 "	116 "	35.3 "
5.....	80 "	117 "	37 "

This case clearly shows the advantage of careful and exhaustive milking. But rapidity of milking has also its corresponding advantage. The quicker the udder is emptied, the richer the milk is in fat. According to the account of a

trial made with nine cows during twenty-two days, and published by a Brunswick agricultural paper, the fatty contents of the milk was brought up to 11.73 per cent. by rapid milking. It may hence be inferred that the long conversations which are apt to take place between those engaged in milking are altogether unseasonable. Moreover, the circumstance that the first milk drawn from the teat is much more aqueous than the last portion is another and strong reason for exhaustive milking. It is pretty well known, too, that when the udder is not entirely emptied the milk yielding capacity of the animal diminishes, and in this way a good cow may be spoiled. It is only by dint of exciting more and more the glands which secrete milk that the cow has been brought to yield more milk than is required to nourish her calf. The udder can hold about a litre and a half of milk. Now in the period after calving cows give considerably more than three litres of milk at each milking, and it must be inferred from this that a portion, and often the greater portion, of the milk is secreted by the mammary glands only during the operation of milking.

SHEEP AND WOOL.

Sheep as a Factor in Advanced Agriculture.

Paper prepared by Richard Gibson, Delaware, Ont., for American Shropshire-Breeders' Association.]

The philosopher of old who declared that "sheep had a golden hoof" was no doubt wise in his generation, and if this assertion was true as regards the primitive state of agriculture at that period, how much more so must it be at the present time when we know that without the aid of sheep vast regions of what are now productive and profitable farming lands would go out of cultivation. Thousands of acres of what were originally barren wastes have been redeemed in England and brought into a high state of cultivation by encouraging the growth of clover and other green crops and consuming them on the land by sheep. This was attained not alone by returning to the soil what it had produced, but also by the mechanical action of the hoof in consolidating and making firm these light, blow-away soils.

Take my own county of Lincoln for instance. Within the last century over a million acres have been redeemed and brought into cultivation, about half by banking out the sea and by drainage, and the other by a system of cultivation in which sheep have been used as the main factor. On the high table lands called the wolds, stretching nearly across the county from east to west, are farms that years ago rented for 50 cents or a couple of rabbits an acre, and which now are about the largest and best cultivated in all Britain, renting at from \$6 to \$10 per acre, and ranging in extent to over 1000 acres. I recall one at Withcall of 3000 the tenant of which paid out for a great number of years at least \$7500 per year for artificial manure alone, beside purchasing and feeding great quantities of linseed cake. His breeding flock consisted of 1500 ewes. Another district in the neighborhood of Lincoln called The Heath was such a barren and desolate waste that a column was erected and lighted up at night so as to guide any belated traveler—a land lighthouse in fact. Where this column or pillar once stood now is one of the most celebrated farms in the district and many a noted royal winner has been sent from its folds as well as specimens of the flock to all parts of the world.

How has this been effected? After the tenants had secured leases and a satisfactory tenant right they were encouraged to farm well and liberally; so by the use of large quantities of artificial manures, mostly bone dust, clovers and other green crops were induced to grow; then turnips which were all consumed by sheep supplemented liberally by the addition of linseed cake; and the soil gradually became rich enough and firm enough to grow grain, and what was once nothing but huge rabbit warrens and the home of vermin has now been so changed that great rows of grain and clover stacks are to be seen, resembling little towns with streets and avenues. The rotation has been turnips, both white and Swedes, fed to sheep hurdled on the fields, with the addition of cake and grain, followed by barley seeded down with clovers and a little rye grass, parsley, etc., and this succeeded by wheat—the ordinary four course.

Again in the county of Norfolk, which has often been called the poorest in England, and as generally admitted to be as well farmed, the same system has been adopted as in Lincolnshire, viz., sheep and green crops, so successfully that the naturally poor and barren soil has here not only been brought into cultivation but worked into full competition with soils naturally fertile. The system of cropping in the south of England on the chalk formation is different, but the means are the same—growing green crops and feeding sheep.

In Wiltshire there are large downs on which the sheep are partially pastured, but always folded on the cultivated portion at night. In Hampshire and Berkshire some pasturing is attempted, an old sanfoin meadow being used for that purpose. In these counties a greater variety of green crops is grown, and sheep are used to distribute that crop equally over the portion to be sown for grain (animated Kemp's in fact). For instance, after the wheat crop is removed the stubbles are harrowed and *Trifolium incarnatum* sown (this is the scarlet clover now being boomed). This is eaten off early enough to be succeeded by oats and tares, and these are followed by turnips (speaking of turnips I refer to the various varieties, white, green and Swedish), so that there are three green crops in one season all eaten where grown, putting that field in prime condition for a crop of barley. Moreover, at night these manure manufacturers are folded thickly on the bare fallow for a succeeding grain crop. The system adopted differs from that of the north, inasmuch as the sheep—or as we may say the rent-payers, the enrichers of the soil—are moved twice a day and folded very close, being penned so close as to eat up

everything in 12 hours, and then at night moved to equally close quarters on the bare and generally newly-plowed fallows. Of course this requires careful watching and skill on the part of the shepherd to hurdle off just enough to be eaten up clean so that nothing be wasted; and I would here digress to say that within their sphere these often uneducated, illiterate men show as much talent in their line as can be found in any walk of life.

I know many large farms of say 1200 to 1500 acres that with the exception of water meadows have no permanent grass, except a few acres immediately surrounding the dwelling houses, and where the only cattle except working oxen are one or two cows—just sufficient to supply the household with the required milk and cream.

I have not gone into minute details as to the management of a sheep farm, the crops to grow, or the varieties of sheep best adapted to folding. Neither have I thought it necessary to prove that without sheep, agriculture would retrograde and much of the now most prosperous farm lands in England go out of cultivation. It is admitted by all who are conversant with the facts that such would be the case. My object more especially in writing this letter was to call the attention of our American farmers who have poor, light soils what has been accomplished elsewhere, and whether the system that has proved so eminently successful might not be so modified and adapted to our climate, soils and crops, that we might indeed say and feel that the "sheep has a golden hoof," and with the prophet of old exclaim: "The wilderness and the solitary place shall be glad for them, the desert shall rejoice and blossom as the rose" (Isaiah, xxxvi).

What the English tenant-farmer has achieved may not in a degree the American land owner? We are reading all the time of abandoned New England farms. Are the farms as poor naturally? Are they as wild and desolate as the Heaths of Lincolnshire or the sand of Norfolk? No lighthouses are needed there except on the coast.

Within reach of good markets it does seem that an intelligent system of sheep husbandry would be possible and remunerative, and I would say not in New England alone, but all over our continent it is the same. Our sheep industry might be indefinitely increased, and when the time comes that we are compelled to farm better, then will sheep occupy that place in the economy of advanced agriculture that they have in other countries.

THE STOCK YARD.

Notes on Swine Breeding and Feeding.

The following are extracts from a paper read by Robert I. Young at the Buchanan county (Mo.) Farmers' Institute. Although all the practice is not suited to California conditions, the points made are suggestive:

Improvement should be the watchword of every breeder of thoroughbred swine in the land; and not only the breeders of pure stock, but also, the feeder. The ultimatum of all swine breeding and feeding is the pork barrel and the butcher's block. In these depressing times of low prices, the question, how to fill the pork barrel at the least possible cost, is a problem that stares the farmer in the face, and, like Banquo's ghost will not down. "The stream cannot rise above its source, neither should the breeder or feeder be above his calling. We must get right down in the mud with our hogs and sleep with them (so to speak), with no covering save a blanket of snow or the canopy of Heaven, and ten chances to one we will at least plant some forks in the ground and build a straw-shed, if not a good warm hog-house, before we enjoy the pleasure of roosting with them another night. When a comfortable shelter is provided, look them over carefully and discard every hog that is knock-kneed, broken-down in the feet, narrow between the eyes and through the ches. See that the snout is short and tapering, that the legs are short and flank well let down; ribs well sprung, with broad level back and straight bottom line; and last, but not least, buy a thoroughbred male of some pure breed, and breed in line. Don't in breed, and, above all, don't use a Berkshire this year, a Chester White next year and a Jersey Red the next, but breed in line every day and all the time. Teach the pigs to eat as soon as possible; give them the run of the clover field, and give them all the slop from the kitchen, and all the milk you can spare, well thickened with wheat bran and shorts. Feed sparingly of corn, which is best shelled and soaked for twelve hours. Pure spring or well water is as necessary to the welfare of the pig as it is to the health and comfort of your boys and girls. Always keep a supply of charcoal, wood ashes and salt where the pigs can help themselves, and you will be surprised at the amount of it they will consume. Sprinkle their sleeping and feeding place with a solution of carbolic acid, and scatter lime around your sheds and doors at least once a week, to guard against disease. Have a tight pen; bed it with straw, and sprinkle it with a solution of coal oil; call your pigs into it and spray them with the same solution, and let them sleep there one night in every month, and you will have no lice to feed. You can't afford to feed lice. Four lice, if left alone, will eat more in one month than a hog, and you can't sell them for half so much; yet we hear farmers grumbling about hard times, when they are only feeding three poor little razor-back hogs and ten thousand lice. The hog for the breeding-pen is entirely a different thing from the hog for the pork barrel; that is, the hog that is fat enough for pork is too fat for a breeder, and the hog in condition for breeding is too lean for pork or lard. At six months of age select those which you wish to keep for breeders by the directions given above, and, if possible, select the pigs with solid black feet, as this in the hog, as well as the horse, denotes a strong constitution. Continue to feed the breeders as before mentioned. Pen those you intend for market, and give them all the corn they will eat, and at the end of three months they are ready for market. By this time they should weigh, on an average, 275 pounds, and will sell—on account of being smooth and plump—for the top price, and

net the feeder a handsome profit. The idea of raising a hog, and "puttin' him up to fatten after he is big enough," is bankrupting the farmers of this country; and yet we hear the very men who preach this doctrine say: "We know more about farming than half them institute fellers, and we haven't got time to read the nonsense in the agricultural papers."

Pigs Weak on Their Legs.

Occurring as this affection does in different stocks on the same ground and not always in successive litters of the same sows suggests that it is either due to worms or to a disease like rheumatism, dependent on cold, wet pens. Besides the possibility of kidney worms, similar symptoms may result from the same worms (*Stephanurus dentatus*) about one inch in length, in the liver or spinal marrow; from the larva of the tapeworm of man (*Cysticercus cellulosa*), or of encysted trichina in the muscles or even in the spinal marrow. It may result from any one of the numerous worms of the bowels, from the tiny whip worm up to the great thorn-headed worm of four to six inches in length; or it may be due in some very highly bred swine to a general fatty degeneration of the muscles. Even indigestions, though like the worms more liable to cause fits or thumps, will also at times cause the allied nervous disorder of paralysis. A careful examination of the different parts, but especially of the stomach and bowels, for the worms, will probably show the exact nature of the trouble. The larvæ of the tapeworm may be seen like grains of barley in the red muscle, but the trichina must be sought for with a low power of the microscope. For all forms of worms the same preventive measures apply to a certain extent. Slops from the kitchen or any fresh products of an animal must be thoroughly boiled. The water, unless exceptionally pure, should all be boiled. As pigs will root in the ground and thereby get the worms and their eggs (preserved in the soil) they should have a change of pen, yard or pasture from that formerly used by diseased hogs, or the younger and more susceptible pigs may be kept on a close wooden or cement floor. To get rid of the worms in the bowels, give each pig two ounces of castor oil, and six hours later and fasting give two teaspoonfuls of oil of turpentine well shaken up in one ounce of castor oil. Then give daily for a week three drams of areca nut and ten grains of tobacco in the feed. If the general tenderness to the touch, the stiffness and swelling of one or more joints, the absence of scouring, the variability of the symptoms, worse in cold and wet and better in warmth, sunshine and dryness, and a tendency to shift from joint to joint or from limb to limb indicate rheumatism, give thrice daily 20 grains of salicylate of soda and 10 grains of bicarbonate of soda in food or otherwise. Under the same circumstances the back or limbs may be rubbed actively and often with oil of turpentine.—James Law, V. S.

THE APIARY.

How to Control Swarming.

TO THE EDITOR:—Every season I receive numbers of letters from bee-keepers asking how they can prevent their bees from swarming and how to prevent them from going away. As I have not time to answer each of these inquiries separately, I thought it best to write a short paper on this subject and present it to the readers of the RURAL PRESS.

The prevention of swarming is one of the most perplexing problems of bee-keeping, and one which often baffles the most experienced as well as the novice in bee-keeping. There is no method or device known at the present time which will prevent bees from throwing off a first swarm. This is a natural method of increase and it is useless to try and prevent it; but it is not with first swarms where the trouble comes in, but with after swarms or casts.

I will first explain how I prevent my first swarms from going away, and also how I make my bees hive themselves, and lastly how to prevent after swarming.

I must first explain that I use a small device known as Alley's drone and queen trap. This is a wooden box, the front of which is covered with perforated zinc, the perforations being cut so exact that the worker bees can easily pass in and out. They are not large enough for a queen or drone to pass through. It is divided into two compartments or stories, a wire cone passing from the lower to the upper story. There is also a hole in the wood floor of the upper story, which is stopped with a peg which is pushed through a hole in the side of the trap. I place one of these traps at the entrance of the hive from which the swarm is expected. In due time the swarm issues. The bees go into the air in the usual way and generally cluster on some low bush or tree near at hand. The queen, being too large to pass the perforated zinc, goes up through the wire cone and is trapped. The bees soon find they have no queen with them and all return to the hive from which they issued. If I am away when this happens I have the satisfaction of knowing that the bees cannot go away. The queen will be perfectly safe in the trap for several days. If a swarm has issued during my absence I can easily tell on my return by the unusually large number of bees in the trap. If I wish to make a new swarm, I simply remove the old hive 10 or 12 feet away, place a new hive on the old stand, and place the trap containing the queen in front of the new hive and withdraw the peg, allowing the queen to pass down through the hole into the new hive. This can be done at any time within a week or ten days after the queen was trapped. If this is done in the middle of the day, when most of the old bees are out working, the new hive will contain a large swarm by night.

Now, supposing I am on hand when the swarm issues and I wish the bees to hive themselves. As soon as they have clustered I remove the old hive, placing the new one on the same stand, with the queen trap at the entrance,

etc., as described above. All this takes but a few minutes. The bees miss their queen and return to the old stand, entering the new hive, which now contains their queen; and the bees have practically hived themselves. This is much better than allowing the queen to go out with the bees in the old way. Most old style bee-keepers know the difficulties encountered at swarming time. You are at any time (by the old method) liable to lose a very valuable queen, as well as a swarm of bees, perhaps worth \$5. The bees will cluster in a tall tree, perhaps 40 feet or more from the ground, or in some other inaccessible place, or you may possibly have to follow them for one or two miles before you can secure them. All this is avoided by the use of a simple modern device.

If no increase is desired when the first swarm issues, allow the queen to remain in the trap for three days, and then introduce her to the same colony again by first smoking the bees with a little tobacco placed among the ordinary material used in the smoker. It is not advisable to re-introduce the queen if she is an old one. Any queen can be introduced at that time just as well as the old queen, by using smoke as directed above, and no more swarms will come from the hive that season. As soon as a fertile queen gets control of the combs she will destroy all the queen cells in the hive, and this, of course, prevents any further swarming.

The above is not mere theory, but may have been seen practically illustrated in our apiary, in one form or another, almost every day during the past month. WM. STYAN.
San Mateo, May 27, 1893.

FRUIT MARKETING.

Mr. Newhouse's Views On Raisin Handling.

The Fresno *Expositor* says that a short time ago a committee of gentlemen interested in raisin-growing and packing offered a reward of \$5 for the best essay on the raisin industry. The competition was to cease on Friday, the 26th, when the committee would read the essays and decide which was the best. Nearly a score were handed in, and the committee made their award giving the essay of Mr. A. Newhouse of Louis Eipstein & Co., the palm for general excellence, though several others were regarded as very meritorious. Mr. Newhouse's article is as follows:

The handling and disposing of a raisin crop is a business, not something that one man can do as well as another, but a business that requires ability, business qualifications and business principles. The wind and the rain, plowing and cultivating, cut-worms and humming-bird moths, picking grapes and drying them, etc., etc., should be understood and managed by the grower, the field being a large one in which to exercise his abilities and judgment, but it ceases here. When he puts his raisins in the sweat-box he has done all that he can do, for nine out of every ten raisin growers have not received the business education that is necessary in disposing of his crop. With these facts in view, the raisin growers, embracing not less than 75 per cent of all, should form a company, incorporate, and officer in accordance with the laws of the State. Not being posted as to the number of raisin growers, I cannot approximate figures, therefore will say that the company should have a capital stock of \$200,000, with \$50,000 to \$75,000 paid in, embracing the packing houses now owned by raisin companies. The directors of the corporation should place in each packing house a competent superintendent; the paid in capital is now in the treasury and we are ready for business. The grower who is a stockholder—the company having issued 10,000 shares at \$20 each—takes to the nearest packing house his raisins in the sweat-box, receiving a receipt for same as so many pounds, No. 1, No. 2, etc., from the superintendent. Presenting his voucher to the secretary, who is virtually the head bookkeeper, he receives a check on the treasurer, in accordance with prices previously agreed upon at a stockholders' meeting. The happy grower pays his bills and knows that he has nothing to worry about, is satisfied with his returns for he had a voice in fixing the price he was to receive.

The superintendent of each packing house reports daily all the details of his business to the secretary, who consequently knows how many boxes of raisins are at each house, and with the aid of the directors, directs shipments from the various places. If I have not said anything about uniform pack, quantity and brands, etc., it is because I consider that matter settled, for unless care in selecting and packing is taken, or otherwise honestly handled, no company can hope to exist more than one season.

The fact is advertised throughout the land that the "Fresno Packing Company, incorporated, has bought up the entire raisin crop, or 75 per cent. of it, at least, and is prepared to transact business without the aid of commission men." The dealers are notified individually, that all orders are to be directed to the directors of the company, and same will be filled at such and such prices, F. O. B. Fresno, Malaga, Fowler and elsewhere, and that a draft will be sent with a bill of lading to a bank in the place where the shipper does business. With all this known our company will have orders to fill as fast as the raisins are packed, and returns for same within ten days or two weeks from day of shipment. Its treasury will not be depleted with such management, and within thirty days from the end of the season, or sale of its entire stock on hand, the entire business may be wound up, and no outstanding accounts need be charged to suspense account.

With all the details of a business of such magnitude properly managed, who will say that such an undertaking is not feasible? What raisin grower will be so blind and stupid to not take an interest in this corporation? No other combination of growers or packers can injure this company of mine, and the individual packers, A. B. Butler, Colonel Forsyth and others have no desire to do so. Our company

embraces 90 per cent. of all the raisin vineyards in the county, so the remaining 10 per cent. is too small a factor to be gravely considered. We pay no commissions, so our figures are lower to dealers than they could otherwise be, and if dealers combine against us, we will call in more capital and hold our pack until such time as we can realize our prices. Where will the dealer find raisins out of our hands?

Select your officers for their business qualifications, not for their popularity; pay the directors a nominal salary, pay your secretary all he is worth, \$500 a month if necessary, and all those on whom you are more or less dependent for economical and honest management, a good salary, otherwise the work will not be well done, and the company injured.

Unless my English is at fault I think little can be added in explanation of my ideas. The only obstacles in the way of an immediate organization that come to my mind are possibly the present packing companies, and the usual petty differences and spites of the growers, but if a business-like method is pursued, everything can be in working order in time to handle this year's crop.

I believe an attempt was once made to form such a combination, but no definite plans of action were agreed upon, nor was it organized for business, simply as an experiment.

In conclusion, I will state that I do not own a single grapevine, and cannot tell a Malaga from a Muscat grape without tasting it, but I have the interest of the raisin grower at heart, and a little business experience. Sincerely hoping that I may have been of some benefit to raisin men, I am, Respectfully,

ALPHONSE NEWHOUSE.

New Raisin Exchange.

As a part of the plan of the recent meeting of raisin-growers at Fresno, the co-operative raisin-packers of Fresno, Tulare and Kern counties have decided to form an exchange, and to that end have adopted the following constitution:

First—That the capital stock of the exchange be \$....., divided into..... shares of \$..... each.

Second—Officers: The officers of the exchange shall be a president, vice-president, treasurer and secretary.

Third—The exchange shall be governed by a congress of directors from the co-operative raisin-packing companies who are members of the exchange, one of whom shall be elected president.

Fourth—Compensation of Directors: Each director shall be paid by the company that sends him to represent it on the board of the exchange.

Fifth—Commissions: Each packing company shall pay to the exchange a commission of 5 per cent on all sales made through its agency, but no co-operative company shall be bound to sell exclusively through the agency of the exchange; 2½ per cent of said commission on all sales shall go to a hold-over fund or loan fund, which may be loaned pro rata to the different packing houses at a rate of interest not to exceed 8 per cent. All interest is to become part of the said loan fund; the remaining 2½ per cent of the commission shall be devoted to the expense fund, and from which shall be paid all salaries, rents and other expenses of the exchange, and which shall not at any time exceed the said 2½ per cent. The money left over after paying expenses shall be appropriated to the loan fund.

The exchange shall fix a minimum price for the different grades of raisins and no member shall sell below said fixed price, but such price may be changed at any time by a majority of the directors.

The directors shall not have the power to contract any debt, nor bind any company to any agreement, except as to the price of raisins.

The secretary or manager shall follow the orders of the directors, and shall not have power to act otherwise than as directed by them, under penalty of removal.

Each packing-house shall make a semi-weekly or weekly report of the amount of each grade of raisins on hand; such report shall be private and for the use only of the exchange.

A committee was appointed to draft by-laws.

Representatives of the following concerns took part in the proceedings and will join the exchange: Producers' Raisin-Packing Co., the Traver Packing Co., the Alliance Business Association of Armona, Oleander Raisin-Packing Co., Kingsburg Co-operative Raisin-Packing Co., Easton Co-operative Raisin-Packing Co., and the Lemoore Co-operative Raisin Packing Co. Invitations have been extended to other co-operative packers to join.

It is distinctly understood that the object of the exchange is not to antagonize the commission packer, and thereby create a competition which would lower prices, but rather that all the co-operative companies being welded together in an exchange, might be able as a unit to negotiate with other packers for the purpose of establishing prices, and for mutual protection in all matters pertaining to the marketing and packing of raisins. The commission packers have their organization, and it is felt to be absolutely necessary that the growers, through their co-operative companies, should have theirs.

Another meeting will be held at Selma, June 12th.

What Is this Insecticide?

A Zena, Or., contributor to the *Rural Northwest*, advises all who are thinking of spraying for woolly aphids to examine their trees first for "an insect that is completely cleaning out my stock of aphids." He says further: "It is a bug or fly about one-third of an inch long and nearly an eighth wide, reddish head and body, with dark wings and abdomen. It beats the lady-bird completely. I counted six green aphids devoured by one in about 55 seconds. It seizes the aphid with its pincers and deliberately chews it up, 'bones' and all. One two-year-old apple tree, very badly infested with green aphids, was cleaned out in 36 hours, and I cannot find a single one in my orchards, the first generation having been all killed. They are now at work on the woolly aphids and have almost finished them. This is probably a well-known friend of the horticulturist, but I have often seen the lady-bird approvingly spoken of and never have noticed any reference to this little worker. I am quite sure they have been at their work for years, as I have often been threatened with these two pests, and as often they have mysteriously disappeared."

If the *Rural Northwest* will secure specimens of this insect, and forward them to the RURAL PRESS, we shall be glad to have them identified. It may be that a discovery of value has been made by the Oregon horticulturist.



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It is made of first-class white ash, steel and iron. It is THE WESTERN CHIEF.

Read what is said of it:

Lincoln, Cal., March 8, 1893.
MESSRS. BAKER & HAMILTON.

Dear Sirs:—In reference to the Western Chief Hay Press bought of you last year, we wish to be placed on record as saying that we cannot praise it too much, not only for the amount of work it did but for the ease with which the men handled it. We deem the hardest work connected with the press is for the man to take away the bales. Our average work was 13 tons per day, and average bale 180 lbs. A car loaded by us contained 156 bales, of 180 lbs. each, or 28 080 lbs. in the car. Our heaviest bale was 240 lbs.; but this, of course, was due to the condition of the hay. For superior strength, rapidity and ease of work, we take pleasure in recommending the Western Chief as the best of all. Signed, Yours truly,
WARTEL BROS.

We also sell the Benicia or Improved Petaluma Hay Press.

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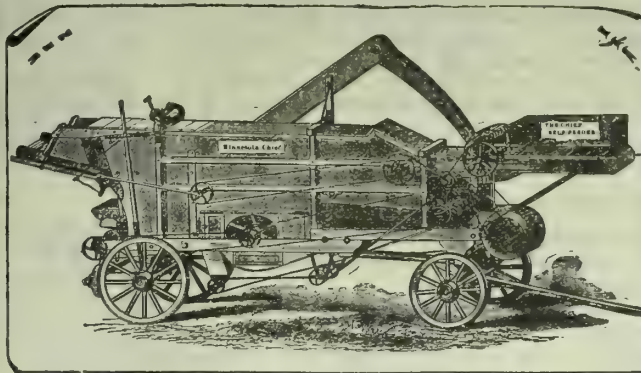
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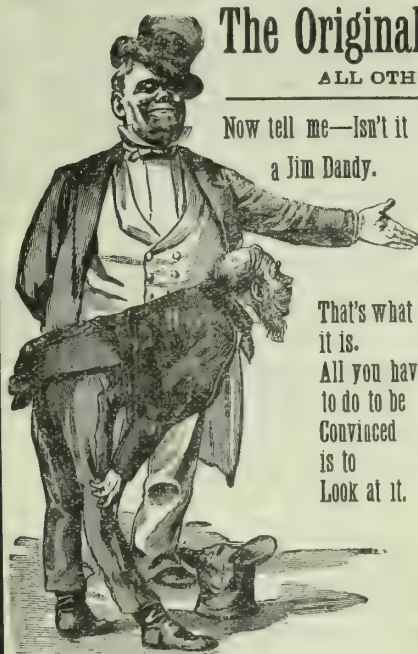
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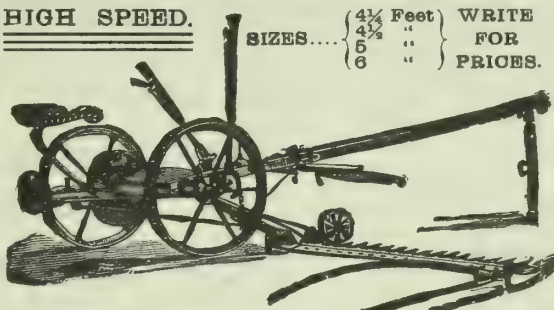


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All you have to do to be Convinced is to Look at it.



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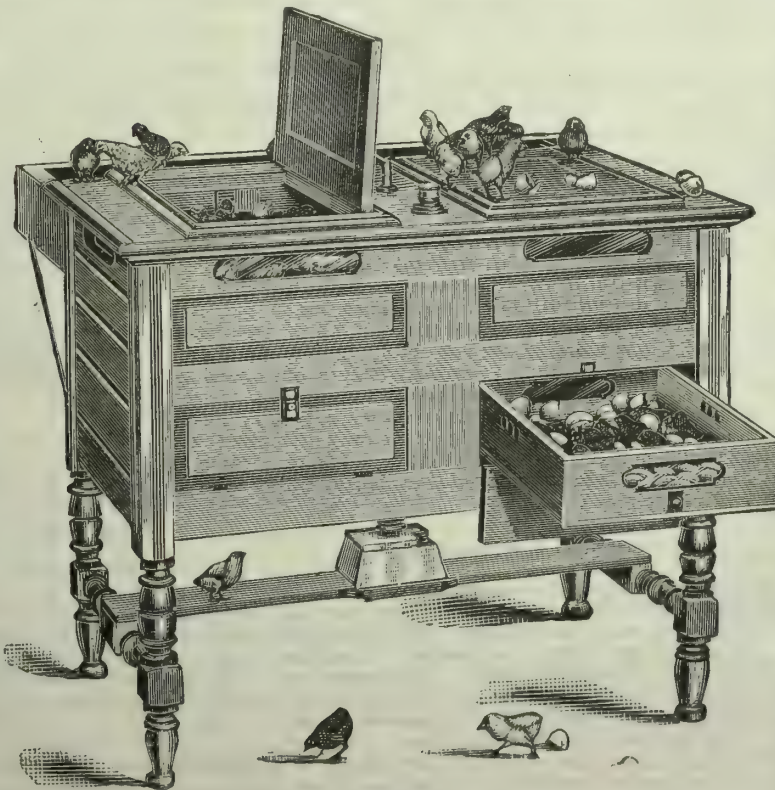
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IS THE BOSS MACHINE FOR HATCHING AND REARING CHICKENS. It is Simple, Safe, Reliable, Practical and economical. Was awarded every Prize offered on Incubators and Brooders at the State Fair held September 5th to 17th, 1892, as follows: For the best display of Incubators in operation, \$25; for the Incubator hatching most chickens during Fair, \$10; for the best display of Brooders in operation, \$10. Also, Cash Prize at Stockton and Silver Medal at San Jose.



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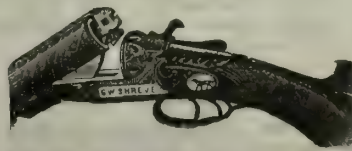
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Is Certainly the Best Preparation of Its Kind in the Market. Ranchers, Stock-Raisers and Horse-Owners of Every Description Will Tell You That It Does Good Work Every Time.

MESSRS. H. H. MOORE & SONS, Stockton, Cal.—GENTLEMEN: In answer to your inquiry, would state that I used your H. H. H. Liniment on my Holland prize-winning cow, "Lena Menlo" for a wrenched shoulder, and it relieved her very much. She calved the next day, and while still suffering from the sprain gave the largest authenticated quantity of milk ever given on this coast (104 gallons per day), showing conclusively the great relief received from your remedy. I consider it a necessity in my stables, and when away from home feel perfectly safe, as inexperienced men can do no harm with it, as they can with the more powerful blisters. Respectfully yours,
Breeder of Registered Holsteins and Berkshires.
Menlo Park, Cal., January 22d, 1889.

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SEND FOR CIRCULAR.
O. S. HALEY, Secretary.

E. P. HEALD, President

POULTRY YARD.

Poultry Care and Diseases.

TO THE EDITOR:—In compliance with your request that I answer a communication of Mr. J. B. Kelsey, in which he desires you to publish some method of cure or preventive for a disease affecting his chicks, I will say: Practically very little is known of the disease or its cure. It may be classed as chicken pox, which it more nearly resembles than anything else in its most salient features. Sores appear on the head at the base of the bill and gradually spread over the whole head, forming scabs and causing great itching, accompanied with fever and listlessness, and resulting, when at this stage, almost invariably in the death of the chick. My experience in the treatment of this disease has been but limited, having had but one visitation of it myself in all my poultry career, and knowing so far of only four others who have been so visited.

If taken in hand at once on the appearance of the disease, a simple and continued application of lard to the parts will be found very effective. Later on, when the disease has taken stronger hold and the sores have formed scales and become more extended, bathe the affected parts in a weak solution of vinegar in water applied as warm as the chick will bear until the scabs are loosened and easily removed, after which apply as before a dressing of lard and repeat as often as necessary. In eight cases out of ten this treatment, if the disease has not assumed too settled a form, will be effective.

In treatment and cure of fowls, as with the human subject, administering one dose and giving them no further care, with the thought that all is then done that is necessary, and that, if that does not effect a cure, the remedy is of "no account," or that the chicken cannot be cured, is a wrong inference. The human patient may require repeated applications of a given remedy, accompanied with patient and continued care and nursing, and it would be unreasonable to expect recovery otherwise; so it would be equally unreasonable to expect the feathered patient to recover from any serious malady with a simple administering of a prescribed remedy without accompanying it with proper care for its comfort and well-being otherwise. In the almost general failure to do this may be found the reason why many cures known to be efficacious under proper conditions of treatment are condemned as merely pretensions and useless.

In connection with this it must be admitted that the common remark that the small value of a fowl as compared with that of other and larger animals will not warrant much outlay or loss of time carries some weight, but if you want to cure your fowls I see no other way unless it may be to prevent their getting sickness among them by observing all precautions necessary to that end, the principal of which are dry and clean quarters both as to roosting-places and range—particularly the roosting-places and the range as far as possible. In the matter of the houses, this may be done by cleaning as often as found necessary to keep the house free from offensive odors. Free use should be made of whitewash with carbolic acid, applied to the walls and roof, taking care that it shall penetrate to every crevice or place where vermin may shelter. While fighting unhealthy odors, it is equally necessary to do away with lice of all kinds, as they are also fertile sources of disease and loss. Close and damp or unclean quarters are sure to be productive of disease.

A proper attention to their requirements in the way of a sufficient supply of food in needed variety, and clean, fresh water, is not to be neglected. As to what constitutes a needed variety, one must decide for himself. In the main, it is principally wheat varied by the addition of boiled or soaked barley; a mush made of bran and middlings, with meat scraps, green feed of some kind and a supply of coarse, sharp sand and shells.

I find, however, that if my fowls are plentifully supplied with shells they do not apparently care for much sand or gravel, the shells seeming to furnish all the "grinding material" necessary.

Fowls may be kept in a healthy, productive condition by the observance of these rules without the necessity for the use of preventives in the way of poultry cures, egg food, or condition powders of any kind, and the "earnest searcher after truth" will find continued dosing as productive of ills with fowls as with humans.

Mr. Kelsey says nothing of the manner in which the chicks have been kept or on what they were fed. Possibly they were exposed to dampness which, from what I have been enabled to observe in my own case and that of the others referred to, would be the probable cause of their taking on the disease. It would be necessary, in my opinion, to remove them to warm, dry, comfortable quarters as the first move in the right direction, changing their food as far as practicable and employing the treatment recommended.

For a preventive I know of none other than dry, clean and comfortable quarters, with pure, fresh water and proper food, given with regularity and judgment. Chickens should have free access to finely-broken charcoal, of which they are very fond, and should be supplied with green stuff in some form—chopped vegetable tops, with occasionally chopped onions.

The business of poultry raising or keeping in numbers is one of constant care and watchfulness. There is always something new to be learned, or the memory of something once known to be revived, as occasion arises for its employment. But, like other occupations, it has its pleasures and it profits also, and is fast obtaining recognition as a legitimate pursuit for "grown men," and one which pays a good interest on the capital invested, whether it be large or small. I look upon 500 hens as being fully the equal of a quarter section of average land in productive ability, if farmed as land is usually farmed. Many times it has proved the better investment. In fact, I have known and

do know of instances in which the poultry has kept the farm going and has been really the only source of profit.

Although two or perhaps three fail for lack of proper care, where one succeeds, still it is becoming more and more a recognized fact that poultry raising is entitled to a position in the front rank of the important interests of the country.

T. B. GEFFROY.

Lodi, May 28, 1893.

Answers to the Same Old Questions.

How many chickens will do well on an acre of land?

What is the best way to keep them to do well and produce the most eggs.

Which are considered the best varieties for a new beginner to keep?

In answering these questions it, says the *Marysville Democrat*, must be kept in mind that location and soil has much to do with the success of the person engaging in the poultry business.

What would prove the best for some breeds of fowl will not be as good for others, which fact will soon be learned where several varieties are kept by one person.

No more than 100 should be kept on an acre of ground, and there should be four separate houses or departments in which to remain at night. These can be made very cheap or to suit the fancy and financial ability of the person.

Mr. Thompson, who resides at South Butte, in Sutter county, has been engaged in poultry raising several years, and he finds the business quite profitable, as well as pleasant.

The editor of this paper has visited his place twice and observed the manner of treatment and how fowls progress under such care. He built small light houses without a floor and constructed the roosts high enough to be out of reach of wild animals, say four feet from the ground. These roosts or bars are placed on a level one with another, because if one is higher than the other all of the fowls will go to the highest. These coops or houses are arranged for twenty-five each, twenty-three hens and two cockerels or roosters. Bars are nailed along each side of these small houses, which in size are about six by ten feet, and the ends stick out at each corner of the house so as to make handles by which to lift the structure and move it. Four men can easily change the position of the house when the ground under them becomes filthy and in this way the fowls are kept healthy with less care. Four of these to the acre will provide for one hundred fowls and the houses should be placed some distance apart, the further the better.

When they are first put in the house shut them up for two days, feeding them well, and whenever fed thereafter give it to them only at the house, then they will not stray away to other coops. Five acres can be used in the same way and if desired increased to fifty, as circumstances and capital will permit. In this way the raising of poultry can be made profitable beyond a doubt, but then care is necessary and the ground should contain grass and other vegetation with plenty of gravel.

As to what particular variety to commence with is a very difficult question, because the breeds are being continually improved under the skillful management of breeders. The Asiatic breeds are all inclined to brood and will want to sit and raise young as soon as the litter of eggs are deposited. However, as a rule, these are all of the larger breed and while they produce a few less eggs in a year they make a larger carcass for the dinner table. Among the best of these are the Partridge Cochins, the Light Brahmas and the Langshan, of which there is but little difference.

Of the non-sitting breeds the White and Brown Leghorns are splendid fowls, as they lay eggs the year through and seldom ever become broody. The white-face Black Spanish are also of a non-sitting variety, and lay a large, white egg, but the young are not as hardy as either of those named. To start in business with one kind of chickens there is probably none equal in all respects to the Plymouth Rock fowls. These are an American breed, originated in Massachusetts about fifteen years ago, being the product of a cross between the Dominique and Black Java. They have been improved by careful breeding until they are probably the best breed known for all purposes. They are good layers of a splendid egg which are darker in color than those of the non-sitting breeds, and of good size, as are the fowls. The young mature quick and are hardy, though they do not feather as soon as other chicks, therefore require warm housing for a few days after hatching. One hundred fowls kept in the way designated will after the first year's expense produce a greater income in proportion to amount invested than horses, cattle, sheep or an orange grove.

Soft-Shell Eggs.

We wish to state to readers that when the hens lay eggs with soft shells, there is nothing that can be given them to prevent the difficulty. The cause may always be traced to one source—overfeeding. If soft-shell eggs are noticed, the hens are too fat. It is because fat is an obstruction to the laying hens that the eggs are imperfect in any respect. The custom is when the shells are soft, to give the hens oyster-shells in order to provide lime for the egg-shells, but the remedy is not known to be effective. Whenever the hens begin to lay eggs with soft shells, nothing can be done to prevent the evil but to reduce the hens in flesh, which may be done by placing them on a starvation diet for awhile, and also compel them at the same time to work for every ounce of food they receive. Active breeds are not so subject to the difficulty as are large breeds that are kept in confinement. The shape and size of the eggs largely depend upon the condition of the hens.—Farm and Fireside.

Why Sitting Hens Cease.

When a sitting hen abandons her nest there is always some cause, as the maternal instinct of the hen prompts

her to remain closely on the nest even when starvation and death stare her in the face. When a hen abandons her nest it is well to look for lice, and the probability is that they will be found in swarms. Another cause in very warm weather may be the excessive heat, due to the location of the nest. In the summer the hen aims to select a cool place for incubation, and she should be so favored when the nest is selected for her.—Farm and Fireside.

How Much Space for a Flock.

The space depends upon the soil and the climate. Ordinarily the rule is to allow ten square feet for each hen in the henhouse; that is, a house ten by ten feet should accommodate ten hens, and the yard should be 10 by 50 feet at least, or larger. On sandy soil a small yard is more easily cleaned, but on heavy soil it would be better to have two yards, so as to change the birds from one to the other as may be necessary.—Poultry Keeper.

Sources of Lice.

Where do the lice come from, in the first place? This cannot be correctly answered; but when you buy hens you may then be bringing lice into the flock, and eggs used for hatching purposes, procured from elsewhere, should be well washed before they are placed in the nest. Filth is also conducive to the rapid multiplication of lice, as it permits them to hide beyond the reach of the remedies used for their destruction.—Farm and Fireside.

Nests for Sitters.

Never make a nest so as to compel the hen to jump down upon the eggs, for though she may do no damage for awhile, yet she is liable to break one or more of them at any time. The nest should be so constructed as to allow her to walk in and place herself in position on the eggs.—Farm and Fireside.

THE FIELD.

Rape Cultivation.

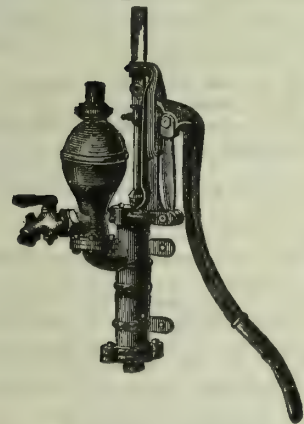
Though until recently comparatively unknown in this country, rape has been grown as a fattening food for lambs in England for many years. It is found in its wild state in California, and its cultivation may be regarded as entirely practicable. The following suggestions of a Canadian journal on the subject will be found of value:

The practice of rape-growing has been introduced in a number of places in Ontario, and especially in the county of Wellington, where it has long played an important part in the finishing of lambs for the Buffalo market. The fattening of lambs on rape has lately been brought prominently before the public by experiments conducted at the Ontario Experimental Station, Guelph. Still, the rape is practically an unknown plant to many farmers, and we would advise all to sow a small area as an experiment. In appearance the plant resembles the turnip, to which it is closely related. The main difference is that rape has no fleshy bulb-like root, but the condition and preparation of the soil are similar. The soil should be plowed in the fall, and well worked in the spring. This plant gives good returns for all manure applied, and, as it is considered one of the best cleaning crops, it will take the place of a summer-fallow. The more work and cultivation given the land before sowing, the less will be required to keep the weeds down after the plants are up. Sow from June 12th to the middle of July in drills as for turnips, 27 or 30 inches apart, with about one and a half to two pounds of seed per acre. Use a common turnip drill. The most satisfactory results are obtained from slightly raised drills; but one disadvantage in this system, which will not be found in flat cultivation, is that the lambs require careful watching or they will be liable to get on their backs between the rows. Do not leave the plants too thick in the row, as they require plenty of room. Start the scuffer as soon as the plants appear, and keep it going, not only to kill the weeds, but also to keep the surface loose and prevent evaporation. The rape should be ready for pasturing by August 1st, if sown about the middle of June, or before the 25th. An acre should carry 10 to 15 lambs from that date to the end of the season. Rape is acknowledged by all to be the best fattening feed for sheep and lambs. Cattle can also be profitably fed on it, but they require more attention. Always feed stock well before turning on rape. If turned on hungry, animals are liable to eat too much, and loss may occur. When buying lambs for feeding, always get the best obtainable, well-bred ones if possible; poor, late culls are dear at any price. If at all possible, plow land used for this crop in the fall, for, after the tramping of lambs in all kinds of weather, it should be turned up to the mellowing influence of the winter's frosts. Great care is necessary when buying the seed; obtain it from some reliable seedsmen, and have him guarantee that it is the right kind. If this is done, and the seed does not turn out to be as represented, damages can be collected from the seedsmen. Last year the rape on the Experimental Farm, Guelph, and also on the farms in that and other parts, was of an inferior variety, supposed to be a hybrid much larger than bird rape; but, like it, ripens seed the first year, and thus was practically worthless for pasture. A variety called the Dwarf Essex, which does not seed the year it is grown, has given general satisfaction. Much seed resembling rape has been palmed off on farmers—among others, a German rape, which is grown for bird food, and, as it produces enormous quantities of seed, it can be sold much cheaper than the true rape for feeding. The true rape is known when the second leaf appears, it being smooth and glossy like the Swedish turnip, while the other varieties have a coarse, rough leaf like wild mustard. Test your seed before you sow; buy early and sow a little in boxes.

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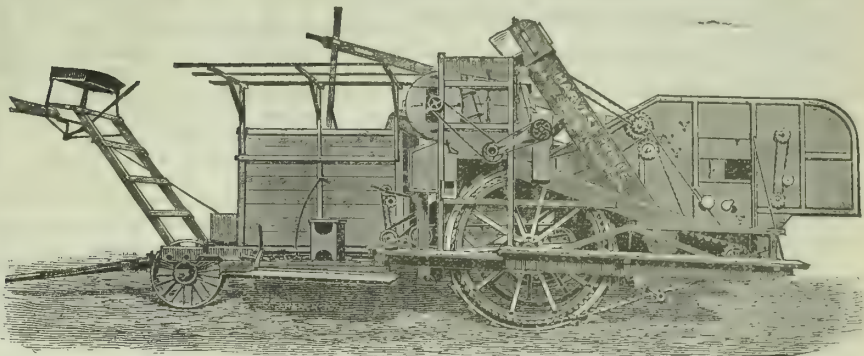
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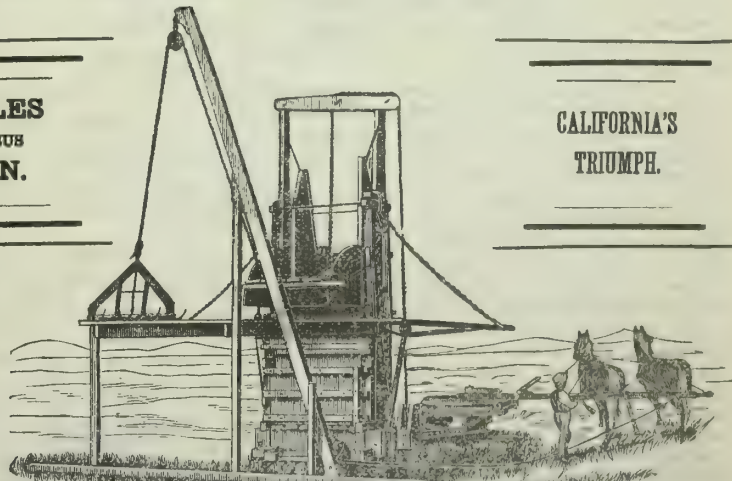
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Parties writing for information should give the quantity of water that can be supplied to the engine, either in gallons, cubic feet or miners' inches; the head or fall from source of supply to point where the engine is to be located, length of drive pipe, height to which the water is to be raised, distance from engine to place of discharge and the quantity of water it is desired to elevate. No reliable information can be afforded without an explicit answer to these inquiries.

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THE HOME CIRCLE.

Awake, Awake.

[Written by John Ruskin, the new laureate, when he was at the age of 47.]

Awake! awake! the stars are pale, the east is russet gray;
They fade, behold the phantoms fade, that kept the gates of day;
Throw wide the burning valves, and let the golden streets be free,
The morning watch is past—the watch of evening shall not be.

Put off, put off your mail, ye kings, and beat your brands to dust;
A surer grasp your hands must know, your hearts a better trust;
Nay, bend aback the lance's point, and break the helmet bar—
A noise is on the morning winds, but not the noise of war!

Among the grassy mountain paths the glittering troops increase;
They come! they come!—how fair their feet—they come that publish peace!
Yea, victory! fair victory! our enemies, and ours.
And all the clouds are clasped in light, and all the earth with flowers,

Ah! still depressed and dim with dew, but yet a little while,
Add radiant with the deathless rose the wilderness shall smile,
And every tender living thing shall feed by streams of rest,
Nor lamb shall from the fold be lost, nor nursing from the nest.

For aye, the time of wrath is past, and near the time of rest;
And honor binds the brow of man, and faithfulness his breast—
Behold, the time of wrath is past, and righteousness shall be,
And the wolf is dead in Arcady, and the dragon in the sea!

Hawk Talk.

[Written for the RURAL PRESS by MRS. C. E. BAMFORD.]

I'M a marsh hawk, called *Circus Hudsonius* by learned folks. I am the farmer's friend, but he does not believe in my family. To be sure, some of us have occasionally eaten one of the farmer's chickens. This has given us a bad name. But if my folks had had nothing but chicken to eat, we would have starved to death long ago. If the farmer only knew what work we are doing for him all the while, he would not deny us an occasional chick from his numerous broods.

We kill field-mice and moles by the quantity. We devour thousands of insects on the farmer's trees. We hunt up the gophers that kill the roots of his vegetables; but often while we are hunting with all our might for our daily food, out comes the farmer with his gun and we have to fly swiftly away to save our lives. I have escaped so far, but some of my folks have been cruelly murdered. We are on the hunt, too, for grasshoppers, and we stop the sparrow in its flight and the young rabbit in its jump, while the squirrel often makes a good meal for our supper. When the farmer kills one of my family he destroys one of his best friends.

If I was good in arithmetic I would reckon up the numerous fruit trees we have saved by devouring the insects, and the hundreds of acres of grain we have preserved for the farmer's use because of destroying his enemies. When very hungry, some of us have proved mischievous to be sure; but, as a whole, we are an industrious, respectable class of birds, and we think some law of kindness should protect us from the hand of man when we are doing so much for him.

Our family is scattered all over North America, and some of our cousins live in Europe, Asia and Africa. Wherever we live we are ever on the watch with our sharp eyes for the farmer's enemies. Our wings are so strong that we can fly a long way and protect a vast extent of country. We build our nests of dry grass and line them with as many feathers as we can pick up in our wanderings. When our four or five eggs hatch we feel as happy and proud of our little ones as the robin-red-breast ever did of his. I've got six little hawks now, over in a certain place; but I'm scared every time I see a man with a rake or hoe lest he has something there that will shoot off and kill me or my little ones.

Sometimes we have a little fun though, just for exercise and to please our little ones. Did you ever see us go through our gymnastic exercises? I'll tell you how the papa hawk does it: He flies way up high in the air, then throws his wings over his back and begins to fall straight down for a long way; he turns over and over until he is near the ground, and those looking on believe he will strike the earth, but the papa hawk knows

what he is about. All of a sudden he stops short and flies up a long way in the sky and does the exercise over again. It is amusing to look at him. Perhaps these evolutions caused the name *circus* to be attached to the name of some of the hawk family.

Once our family was highly respected and was sometimes worshiped among the ancient Egyptians. I'm not heathen enough to want to be worshiped now, but I feel sadly grieved at our downfall. One of my relatives way back was regarded as quite sacred, so that its picture appeared on the ancient monuments and it symbolized wisdom. But how are we fallen! We seem to symbolize "chicken-thieves" now.

Protection is what we want. At one time, to steal a hawk was a felony; and to take its eggs, even in a person's own yard, was punishable with imprisonment for a year and a day, besides a fine at the king's pleasure. But that was when some of my ancestors were renowned as bird-catchers. Men would take a hawk and educate it in the art of hawking, and thus make it of great use to men in their hunting sports.

The old Britons maintained a considerable number of birds for the sport, and hawking was a favorite amusement till the beginning of the 18th century. Persons of rank respected the hawk, and they were often seen carrying a hawk on their hand in the street. In old paintings and seals, this was the criterion of nobility. Sir Thomas Monson is said to have given \$5000 for a "cast" of trained and educated birds. Sir Walter Scott tells folks all about this old sport, so I've heard, in some of his books.

There is also a story of one of my trained ancestors, who, it is said, saved the life of St. Basil. One day as St. Basil was traveling, accompanied by his trained falcon or hawk, he came to a place where he saw water slowly dripping from a crevice in a cliff. Being thirsty, he held his helmet to collect a draught of the fluid. Just as he raised the helmet to drink, my wise forefather dashed against it and spilled the water upon the ground. A second time the water was caught and again the bird dashed it from the man's lips. Then said St. Basil to the bird: "If thou doest this a third time, thy life shall pay the forfeit!"

The slowly dripping water was again collected, and for the third time dashed upon the ground by the hawk. Then in his wrath, St. Basil smote off the head of the bird with his sword and followed the tiny stream up the cliff to an open space in which was a small pool of water covered with slime. On its banks lay a huge poisonous serpent with its head protruding into the pool, while from its mouth dropped poisonous saliva, thus poisoning the tiny stream from which he had filled his helmet. Then it was that St. Basil regretted killing his good falcon which, by some subtle instinct, perhaps by tasting the water itself, had divined the poisonous nature of the fluid and had dashed the water in the helmet to the ground in order to save the life of St. Basil.

It is said that Pope Gregory IX kept a number of falcons, and Charlemagne took great delight in falconry and is said to have kept as many falconers as huntsmen.

I wish I could show you a picture I saw once of King James I of England all dressed up in hawking costume. He looked queer enough in his tall hat adorned with a feather, his belted waist, short knee breeches, long cane in one hand and a large hooded hawk in the other. The head covering of the hawk was for the purpose of keeping the bird in the dark as long as the hunters desired.

I am much indebted to naturalists who are taking great pains to prove that my family are, after all, honest birds, and also very useful. Hundreds of examinations of the stomach contents of my dead relatives prove the fact that we are some of the greatest friends the farmer has, and no sportsman should be allowed to shoot us down at sight. One man says of my family, in his report at Washington, D. C., that in fourteen examinations of the stomachs of hawks, as many as seven of them contained nothing but field mice. Three stomachs had frogs; two, small birds; one, a few feathers, supposed from a sparrow, and also portions of insects; one, a large number of grasshoppers, with a small quantity of hair, undoubtedly that of a rabbit. Now, when the farmers and their boys learn that our family really live on rats, mice, squirrels and insects, and that it is only semi-occasionally that we swoop down to take a chicken, will they not try to have a law made to protect the hawk family from that dreadful gun that has killed so many of my innocent relatives?

Sound and Light.

One of the most wonderful discoveries in science recently, says the *American Mechanist*, is the fact that a beam of light pro-

duces sound. A sunlight beam is thrown through a lens on a glass vessel that contains lampblack, colored silk, worsted or other substances. A disk having slits or openings cut in it is made to revolve swiftly in this beam of light so as to cut it up, thus making alternate flashes of light and shadow. On putting the ear to the glass vessel, strange sounds are heard so long as the flashing beam is falling on the vessel.

Much in Little.

For a wife take the daughter of a good mother.—Fuller.

Ideal beauty is a fugitive never to be located.—Mme. Sevigne.

It never troubles the wolf how many the sheep may be.—Virgil.

Beside one deed of guilt, how blest is guileless wool.—Bulwer.

None but direct villians are capable of willful ingratitude.—Pope.

By sowing frugality we reap liberty, a golden harvest.—Agesilaus.

A frog enjoys himself in water, but not in hot water.—African proverb.

Learn to hold thy tongue; five words cost Zacharias forty weeks of silence.—Fuller.

Where is any author in the world teaches such beauty as a woman's eye.—Shakespeare.

The miserablest day we live there is many a better thing to do than to die.—Darley.

Sometimes a noble failure serves the world as faithfully as a distinguished success.—Dowden.

What you leave at your death let it be without controversy, else the lawyers will be your heirs.—F. Osborn.

Truth is not exciting enough to those who depend on the characters and lives of their neighbors for all their amusement.—Bancroft.

Although a soldier by profession, I have never felt any sort of fondness for war, and I have never advocated it except as a means of peace.—U. S. Grant.

To preserve health is a moral and religious duty, for health is the basis of all social virtues. We can no longer be useful when not well.—Johnson.

The women of the old dramas and the old novels are not more womanly women than the tax-paying, self-supporting women of modern life.—G. W. Curtis.

Thou oughtest to be nice, even to superstition, in keeping thy promises; and, therefore, thou shouldst be equally cautious in making them.—Fuller.

Wisdom may be compared to water, as water leaves the heights and gathers in the depths; so is wisdom received from on high and preserved by a lowly soul.—Talmud.

There is, I know not how, in the minds of men a certain presage, as it were, of a future existence, and this takes the deepest root and is most discoverable in the greatest geniuses and most exalted souls.—Cicero.

When Things Get In the Eye.

One of the most frequent and most annoying of the smaller accidents which are happening to us every day is the getting of small particles of dust and cinders in the eye. What is at first a loose attachment of such a body soon becomes a firm one by the rubbing of the afflicted eye, which is sure to follow. When this happens to a child, try to make him understand the rubbing only makes matters worse, and that it is best to let the free flow of tears called forth by the presence of the irritant wash it out. When this is not effectual, grasp the upper lid by the lashes and pull it well down over the lower lid, allowing it to sweep back over this part, thus cleaning it out. Most foreign bodies get entangled in the upper lid, so that this proceeding is usually effectual if such body is not deeply and firmly attached. If the body still remains, the lids must be everted over a pencil, and all parts, including the ball of the eye, be carefully examined in a good light. The disagreeable sensation may remain several hours or longer after the body has been actually removed, from the irritation already set in.

This can be palliated by freely bathing the lids with very hot water, holding a sponge so saturated over the closed eye. Specks of dirt may blow into the ear, or hard masses of wax may act as a foreign body. Occasionally insects crawl into the ear passage. The safe and only proper way to remove any object from the ear is to employ irrigation with tepid water. Do not let the nozzle of the syringe be pointed straight into the ear, but at an angle, which will prevent the chance of doing harm to the drum. A current of water is thus produced which will clear the channel. No harm can come from using a large quantity of water. There is always danger in using hairpins or any hard, sharp instruments in the ear.—Exchange.

Gridiron or Frying Pan.

[Written for the RURAL PRESS by ADAM FAIRBANKS BATELLER.]

Every one who has camped out appreciates the delicacy of meat or fish cooked over the coals of an out-of-door fire. No improvement has ever been made on the Indian method.

It is to be regretted that so few people, when at home, eat food prepared in this way. If we cannot spit the meat on a stick and hold it over a camp fire, we can reach the same result by the use of a gridiron.

The gridiron should have been, though it was not, invented by some Thoreau who saw the superiority of the Indian way, because its use tells of meats properly, and therefore healthfully cooked. It has been said: "The gridiron is the thermometer of civilization." Only one caution is to be observed and that is in the cooking of pork—that it be thoroughly done. If the meat is what is known as "side meat" or pickled pork, it may be placed over the fire in cold water, heated to the boiling point, and afterwards broiled. With thin slices of bacon, the boiling is not necessary.

To farmers, who are sometimes dependent upon meat of their own preserving, a wholesale condemnation of pork is scarcely in place. It is to be remembered, however, that, with the exception of veal and lamb, pork is the least digestible of the meats. Beef may be preserved by corning or drying, as easily as pork by salting.

When pork is used, however, it should be carefully cooked, never underdone, and prepared oftener in other ways than by frying.

"How I should feel," said a thoughtful woman to a group of girls, "to come round to your homes and find you living in a frying pan."

Just why frying is not a wholesome manner of preparing food, is not often explained. Lean meat, vegetables, bread, and all nitrogenous foods are digested in the stomach, while the intestinal digestion is given the starch and the fats. If bread and butter are eaten together, the bread is disposed of in the stomach, while the butter remains unchanged until it reaches the intestines. If, however, the bread was fried in the butter, the latter would form a coating that the gastric juice could not affect, and both bread and butter would be sent for digestion to the intestines.

A letter from San Francisco to Omaha, if enclosed in an envelope directed to New York, would go to the metropolis. With food, a coating of fat directs everything it encloses to the intestines. The latter might finally reach its destination, but misshapen food stays to overwork the organ to which it goes until it is disposed of.

The intestinal digestion may in time be literally worn out by overwork. The remedy is, abstinence from any food that cannot be assimilated in the stomach.

A dislike for frying prejudices many against fat in any form. This is a mistake, for the body needs fat as it does gluten or sugar. It is important that the fat used be of the best quality, and the kinds easy of digestion should be chosen. Olive oil comes next to cream and butter. Olive culture in this State will in time bring it into common use. Suet and tallow are preferable to lard.

Physical Training.

It is a trying period to a girl's health when she steps from the kindergarten into school. The out-of-door life that she has enjoyed with her brothers is then frowned upon as "coarse and unladylike for such a large girl." It is at this age that her physical training should begin, and it should continue through her school life to keep her in good condition, her muscles well balanced and her growth proportionate to her years. In order that she may be surrounded by the highest sanitary influences it is very essential that her director of physical culture should know thoroughly her conditions, her environment and inheritances, and also know the amount of health she possesses, so as to regulate her expenditures of mental strength according to her resources.

As years roll on, and she arrives at an age when custom demands her to be caged in long dresses and her hair twisted into a knot, her freedom is enslaved to all future—and then, especially if she has not had special care in her earlier years, we must double the watch, so to speak, on her health. The action of many valuable muscles is interrupted, others are neglected altogether, spinal muscles grow lax, the chest droops, careless posture becomes habitual, and consequently the entire internal structure is to a greater or less extent depressed. At this age, society is allowed to make inroads on hours invaluable for sleep, and the girl becomes nervous, petulant, depressed, actually morbid, and from no

fault whatever of hers. It is her environment, and she cannot be relieved of these unfavorable influences without thorough physical training. She cannot be strengthened when her mind is continually concentrated on mental pursuits and hygienic principles ignored.—Mrs. Henry Ward Beecher in Godey's.

Table Etiquette In General.

Gloves are not to be worn at the table under any circumstances.

No argumentative or in any way unpleasant topic should be broached at the table.

There should be no difference between "company manners" and those in daily use.

The napkin is not folded, but is simply crushed and laid beside the plate on rising.

Coffee may be served at any time during breakfast, but should come at the end of dinner.

Do not overload the plate of a guest, or press upon any one that which he has once declined.

Remember the maxim of Confucius: "Eat at your own table as you would at the table of the King."

Never say or do, or countenance in others the saying or doing, of anything rude or impolite at the table.

Never notice or comment upon any accident, but render unobtrusively any assistance which may be necessary and possible.

The side of the spoon is to be placed in the mouth, except in the case of a man wearing a moustache, when the point of the spoon leads the way.

Where wine is served at dinner it may be declined without breach of courtesy, and should no more than any other article be pressed upon the guest.

Teach the children to eat at table with their elders, and do it in a dignified manner. It is impossible to foretell what moment may require them to exemplify their home training.

Letters, newspapers or books should never be brought to the table, though a very important message may be received and attended to, permission being asked of the hostess.—Good Housekeeping.

Keeping a Wife Young.

A certain amount of social life is absolutely essential to all of us—to the old as well as to the young. A woman never grows so old that she ceases to enjoy the company of others, and generally the older she grows the more she enjoys it. It is always a pity to see a man fall into a state which he explains by saying: "Oh, we're getting old, and don't care for so much variety in our lives." In the pure selfishness of his soul he always speaks of "us" and "we," as if it naturally follows that because he is getting antiquated, his wife must keep pace with him in his decline. Men all too often make their wives too old. It is a greater credit to a husband to keep his wife young than to make her grow old. His actions and his habits necessarily influence those of his wife. Let him keep in touch with the world, and both he and his wife will be the better and the younger for it. I like to see a man proud of his wife because she keeps young. Old age is beautiful and has its advantages, but a man makes a great mistake when he rushes a woman unnecessarily toward it. And he does it most perfectly when he deprives her of those enjoyments which every man should give his wife. No economy is so false, so hollow and so misguided as that which seeks to withhold one pleasure from the life of a good woman, a true wife or a loving mother. The best home a man can give a woman becomes "poky," as one woman I know expresses it, if she is asked to live in it 365 days out of every year. The good Lord knows that woman's life in this world is hard enough. She travels a path of endurance and suffering, to which man, be he ever so heavily afflicted, is an entire stranger. It was given to man to make that path as pleasant, as easy and as bright as possible. Every dollar which a man spends for the happiness of the woman of his home will come back to him in double, yea, in four-fold measure.—Ladies' Home Journal.

Care of Bread After Baking.

Remove the bread from the pans as soon as baked, and place the loaves where the air can circulate freely around them, thus allowing the gas which has formed, but is no longer needed, to escape. An old wire window-screen, too small for modern windows, with cleats on the ends to keep them two or three inches from the table, will answer as well as a cooler. Many use a sieve, but that is too small, and leaves the marks of the larger cross wires on the loaf. Never leave the loaves on the table to sweat and absorb the odor of the wood, and do not cover them if you want the crust crisp.

To give the bread that soft, tender, wafer-like consistency, wrap it in several thick-

nesses of bread cloth. When cold, remove the cloth, as that absorbs the moisture and gives the bread an unpleasant taste and odor. Place the loaves in a stone jar or tin box well covered and carefully cleansed from crumbs and stale bread. Scald and wipe dry every two or three days. A yard and a half square of coarse table linen will answer for a bread cloth. Keep a good supply of these in order that they may always be sweet and clean, and never use them for other purposes.

YOUNG FOLKS' COLUMN.

Her Ghost-Book.

[Written for the RURAL PRESS by AUGUSTA E. TOWNER.]



After house-cleaning we have been busy.

"I'm tired," says my chief assistant, "of keeping these piles and piles of old periodicals—moving them and dusting them year after year. Let's send a barrel of them to Whittier—the library's overflowing."

[Whittier is where our southern California reform school is located. It welcomes such contributions.]

I say "yes" to my assistant's proposition. "O dear!" cries the little girl of the house. "O dear! dear! you just must let me look them over first to see if there is anything in them I want for my ghost-book."

"Your ghost-book?"

When the little girl brings me a her scrap-book with this funny name I find it is made up of shadow pictures—all, or nearly all, silhouettes, gleanings from every source, from weeklies and magazines of years and years ago to the dailies of yesterday.

"Silhouettes," I murmur, as I turn the leaves of the quaint scrap-book. "Ah, if I had made a collection years ago when psaligraphy was the rage wouldn't it have been amusing to you?"

"What are you saying, mamma? What's sil—something? and sal—something?"

"One of my word stories, perhaps."

"O—h!" and the little girl plumps herself into a chair, her delighted eyes demanding instant delivery of said story. "Mamma does make the dictionary so interesting!"

"Once on a time nearly a hundred years ago there lived in France an honest man named Silhouette, who was put in charge of the money affairs of the French nation. Times were hard; the country was in debt; money was being paid out faster than it came in."

"The new Minister of State, as Silhouette was called, was expected to think of some way in which all this could be stopped, changed, money made plenty, credit good, or else it seemed as though the whole country would go into bankruptcy—that is, owe lots of money and have none to pay. This would be dreadful."

"Poor, honest, faithful Etienne Silhouette thought and thought, but all his thinking couldn't make money."

"Now, he was economical and thrifty, never in debt. He could think of no other way but for others to be so too; so he declared everybody must look out and see where they were extravagant and reform, economize. He urged this everywhere earnestly. He saw that the wealthy, selfish nobles were ruining his country. They were, but they did not care for Silhouette's advice. His reforms would put a stop to some of their silly, wicked pleasures, so they began to hate him, these wealthy, heartless nobles, and the cruel wits among them began to try and make him seem ridiculous by making all manner of fun of him and his plans. They pretended to take his advice only to sneer at him. They cut their coats short—even wore them without sleeves—to make economy appear grotesque, impossible, absurd. But the thing most done to make Silhouette laughed at was this: Instead of having nice portraits painted in oil, as these wealthy people had been in the habit of doing, some one now introduced the fashion of making portraits just by tracing profiles with a black pencil on white paper or by making the profiles all in black like shadows cast on paper by a candle. When I was a little girl I used to see such portraits as this hanging in the rooms of old-fashioned people. Some of them were taken in colonial days long ago; some were of these very old people themselves when they were young. And oh! they were so funny!"

"But I was going on to say all these fashions started to make fun of poor Silhouette succeeded in making him appear so ridiculous that he became discouraged and gave up and wouldn't be the one to look after money matters any more. But this economical way of making portraits has

been used more or less ever since—more often in jest or caricature—and they have been called after him silhouettes."

"But what was that other kind? Sal—something?"

"Psaligraphy? When I was a young woman, an artist with a keen eye and deft fingers, while visiting at a certain watering-place, saw a lady of peculiar figure and bearing. To illustrate her fantastic gait—something like that of a kangaroo—he cut out of paper full-length reproductions of her in profile. Her posture was called the 'Grecian bend.' There was a rage for these queer portraits by this artist in scissors. They sold for almost any price he asked. I saw many from his scissors. It was wonderful, the deftness and quickness with which he could snip, snip, and there was the portrait!"

When I had told my little girl what the "Grecian bend" was (I had to walk it, while she screamed with delight), I asked her why she called her book a "Ghost-Book."

"Why, because—be-cause—a ghost is something that isn't, but looks like something that is. That's just what these pictures are to other pictures."

And this, I suppose, is little girls' logic.

DOMESTIC ECONOMY.

A Strawberry Symposium.

A perfect strawberry is a feast for the senses, with its rich crimson oval, flecked with tiny seeds, its delicious perfume and its delicately acid flavor. And there are so many good things to eat concoctable from the pretty berry!

Strawberries should never be washed, unless they absolutely require it; then the best way is to put them in a colander and dip that two or three times into a large bowl of cold water; shake out the moisture as gently and thoroughly as possible, and stand the colander and berries near the ice. Do this some time before serving, and before stemming.

A Hot-Weather Drink.—A refreshing drink can be provided for by adding to any syrup left over from sweetmeats enough good vinegar to flavor; boil up; bottle and cork tightly. A tablespoonful to a glass of iced water gives a delicious beverage.

A Sherbet.—Strawberry sherbet needs two quarts of berries; mash thoroughly; cover with two pounds of sugar; let stand over an hour; then press the juice all out; add as much cold water as there is juice, and freeze until slightly hard; beat the whites of four eggs to a stiff froth; stir into the half-frozen mixture and freeze until hard.

An Easy Strawberry Ice.—A strawberry ice that is very delicious is easily prepared. Add a pound of granulated sugar and the juice of two lemons to a quart of ripe berries; mash and set aside an hour; strain through a fruit sieve; add a quart of cold water, and freeze. For a variety, use the beaten whites of two eggs, lightly beaten into the mixture just before freezing. The essential difference between this ice and frozen strawberries lies in hot straining; prepare exactly the same and freeze without passing through a sieve.

Strawberry Sweetmeats.—A delicious strawberry sweetmeat that retains the flavor of the berry wonderfully is made by using a pound of granulated sugar to a pint of large berries. First make a syrup, allowing one gill of boiling water to a pound of sugar; let it come to a boil; then drop in the fruit and boil, very gently, in order not to break the berries, about 10 minutes, or until they are clear; lift out with a strainer-spoon and put in wide jars or tumblers; let the syrup boil down until rich and thick; draw aside that it may settle; then skim; boil up once more and pour boiling hot water over the fruit, having first drained off the thin syrup from the glasses. Cover closely while cooling.

Genuine Strawberry Shortcake.—Sift one quart of flour and two teaspoons of baking

powder together; rub into this four ounces of butter; add a small teaspoon of salt and sufficient milk to make a soft dough; roll out as lightly as possible nearly an inch thick; bake in a quick oven until done, about 20 minutes; then split through with a cord, never use a knife; butter the open halves generously and lay berries as thickly as possible on the lower one; put the other on top and dust heavily with sugar. The berries should first be stemmed, very slightly mashed and well sugared. If they are too large, slice them with a silver knife. Do not prepare them too long before serving, however, as they become pulpy. The shortcake should be set in the mouth of a cool oven a few moments. Serve with it a pitcher of rich cream.

Strawberry Pudding Sauce.—A simple pudding is made very pretty and palatable by serving with it a strawberry sauce. Cream together a cup of sugar and one-half cup of butter; add the white of one egg beaten to a stiff froth, and a cup of ripe strawberries, mashed; beat well together and serve cold. This also makes a pretty dessert, piled high on delicate sponge cake and served with cream. Omit one-half the butter if served this way.

Strawberry Saracen.—Toast very thin slices of stale bread and line the bottom and sides of a china dish with them, after buttering generously; trim the bread to fit the dish neatly; fill the space with strawberries, packed and heaped as full as the dish will hold; sift plenty of sugar all through and over them, and set the dish in a moderate oven for about half an hour. It will be found that the berries shrink a great deal, so they must be plentiful. Serve very cold, with rich, thick cream. This is one of the most delicious desserts imaginable, notwithstanding that there are people who consider it almost a crime to cook strawberries in any way.—Emma J. McLagan, in Los Angeles Times.

Axioms in Cake-Making.

Successful cake-making depends upon about twenty things:

Proper materials.
A correct recipe.
Following directions explicitly.
Compounding the ingredients in their proper order.

Having everything in readiness before commencing to mix the ingredients.

Regulating the temperature of the oven according to the kind of cake made.

Having all the ingredients at the right temperature.

Not suspending the operation of mixing until the cake is ready for the oven.

Beating much or little, according to the kind of cake, and always in one direction.

Whipping the whites of eggs to a coarse, moderately stiff froth rather than a fine, stiff one.

Sifting the baking powder and flour together two or three times.

Folding the flour in carefully instead of taking strong, circular strokes.

Placing in the oven as soon as the baking powder is added.

Greasing the tin with sweet lard rather than butter, and sifting a little dry flour over.

Opening and shutting the oven door very gently during the process of baking.

Not turning while in the oven if it can be avoided.

Keeping fruit over night in a warm room, dredging it thoroughly with flour and stirring it in lightly the last thing.

Lining tins for loaf-cake with oiled paper; or, better yet, with pastry made of flour and water and rolled thin.

Making the paper or paste lining of a tin for fruit-cake or a large loaf-cake an inch higher at the sides to support a paper cover and prevent its baking too hard.—Farm and Fireside.

Were the superfluities of a nation valued, and made a perpetual tax or benevolence, there would be more almshouses than poor, more schools than scholars, and enough to spare for government besides.—Penn.

Highest of all in Leavening Power.—Latest U. S. Gov't Report.

Royal Baking Powder
ABSOLUTELY PURE

AGRICULTURAL NOTES.

CALIFORNIA.

Alameda.

Haywards Journal: The weather during the two weeks past has been favorable to late grain and much improvement has been noticed in the appearance of grain in the valley. The fruit crop will average far below all early estimates. Pears, plums, prunes and cherries are reported dropping after the fruit is formed. Currants will not be a heavy crop, and are in demand. Apricots are light and will evidently be scarce all over the State.

Butte.

Oroville Mercury: A note received by Judge Gray from F. Walker, the promoter of the Butte County Land and Water Co.'s project to put under irrigation the foothill lands of eastern Butte, is to the effect that he is meeting with great encouragement. He is now engaged in canvassing the country to the east and south of Honcut. In that section up to Friday, June 1st, the following had signed contracts: J. N. Armstrong, 73 acres; Chas. Williams, 20; James Forbes, 100; J. D. Forbes, 100; H. King, 500; A. B. Livermore, 120; G. H. Griswold, 80; J. E. Allen, 240; N. J. Walker, 40; J. C. Turner, 100; F. W. Bailey, 40, and three others aggregating 40 acres, making a total of 1455 acres. This, together with the contracts previously signed, now makes the outlook very encouraging, as 4000 acres have been promised and not one-fifth of the territory gone over.

Fresno.

Worms have again appeared in the vineyards west of Fresno, and in several localities people are fighting them with relays of Chinese, who work night and day. The worms work at night, and in some places several acres have been stripped of leaves in a few hours as if a band of sheep had gone through the vineyards. Reports lately say that the district most infested with worms has them under control, and unless the pest appears again the damage will be confined to a few localities. Paris green and ammonia are used as a spray. The worms do not eat the young grapes, only the leaves. It is the common tobacco worm of the eastern States. The pest has not yet been reported in any other portions of the county.

Kern.

The Delano Courier says that a fruit-grower near there has been offered \$150 an acre for his apricot crop, the purchaser to gather the fruit himself.

Californian: For the last two or three years Kern county has shipped the earliest wheat on the coast, and, remarkably enough, it has always come from the same ranch, that of J. M. and O. W. Kimberlin, near Poso. Heretofore these enterprising farmers have been able to get their former shipments into the market in May, but this season the growth of the grain was somewhat backward and it had been feared that some other locality would get in ahead. But this fear proved unfounded and again is Kern the banner early-wheat county. The first carload for the season was shipped on Thursday by the Kimberlins to San Francisco, where it was purchased by S. Blum & Co. It should be added that not only is Kern-county wheat the earliest in the State, but the quality is not excelled by that produced in any other section.

Californian: On the 28th day of May, 1892, E. W. Burr set out some dewberry and blackberry cuttings which he had just received by mail from the East. The largest was not above two inches long, nor larger than a lead pencil. In less than a year they have grown into canes as big as a crowbar, not an attenuated bar either, but a full-size, good for heavy-all-day-work crowbar, and some of the runners have made an actual growth of 150 feet in length. This is almost equal to the historic pumpkin vine which was planted in Rhode Island and harvested in Massachusetts. The dewberry vines have been indeed a sight to behold. Such a wealth of white bloom was never before seen, and the vines are now loaded with all the fruit that they can hold up. He says they are tired already and only for their overhaul they would dew berry well, indeed, this season.

Madera.

Plans are perfected and contracts signed for a large irrigation scheme, whereby water is to be led up 80,000 acres of land in Madera county. The water is to be taken from Kings river in Fresno county and conducted by canals already built to near the bank of the San Joaquin.

Marin.

Marin County Tocsin: P. LeCorney killed a large cinnamon bear in Ross Valley last Thursday, near the residence of Mrs. J. S. Porteous. The animal was a monster of its kind and attracted much attention when brought in to San Rafael. It is shrewdly surmised that this bear was the celebrated Ross Valley lion.

Mendocino.

Zack Hopper, an employee on the Baechtel ranch, near Willits, recently discovered a coyote den and succeeded in killing four half-grown pups. He is confident he will yet capture the old ones. The sheep-owners in that vicinity are much elated over Mr. Hopper's success and so is Mr. Hopper, as the job will net him nearly \$200.

Merced.

Herald: Fred Barch, of Grayson, was in town Tuesday to participate with his comrades of the G. A. R. in the Memorial-Day exercises. He is a type of a happy West-Side farmer, who is strictly in it this year, a bountiful harvest being assured. Mr. Barch said that his 2000 acres will average ten sacks of wheat to the acre. Of his summer-fallow (500 acres), 150

acres were last previously sown to barley, and the wheat on this land promises 50 bushels to the acre. The remaining 350 acres of summer-fallow will yield, it is estimated, 35 bushels to the acre. Mr. Barch will commence cutting barley a week from Monday, and about a week later will commence on his wheat.

Monterey.

Gonzales Tribune: A. A. March, a Gloria Valley farmer, has discovered a way to raise early potatoes in spite of the late frosts prevalent in that section of the county. At the time of planting the potatoes he plants one or two peas in each hill, and the pea-vine, when it grows up, protects the potato and shields it from the frost. The experiment has proved successful with him this season.

Salinas Index: Sinclair Ollason has sold to L. Cornett, for the consideration of \$7000, his orchard at Natividad, comprising 57 acres of bearing trees, less waste land taken by Gabilan creek. Gabilan creek runs through the orchard, and it is estimated that there are 50 acres of good land in the purchase. The orchard is four years old, and Mr. Ollason has estimated that he would gather \$1000 worth of fruit from it this season. It would appear that Mr. Cornett has made a remarkable bargain in buying this place for \$125 an acre. He will build on this purchase, where he will hereafter make his home.

Pajaronian: The Corralitos section bids fair to be the leading orchard district of the county and one of the best of California. Within the past five years the orchard development of that section has been marvelous, and now the little valley and hills around Corralitos are almost a solid orchard. The past winter the orchard section of these foothills has been much enlarged, and before many years the fruit interests of Corralitos will compel railroad connection with Watsonville. Special prominence is given to stone fruits, and their quality is difficult to equal. A visit to the Corralitos hills at this time of the year will reveal a panorama of orchards that is a delight to the eye and an assurance of the staple growth of this marvelous section.

Pajaronian: When the Kirkpatrick ranch was cut up and much of it planted in fruit trees, the judgment of the purchasers was sharply criticized by some of the older settlers. To them it did not seem possible that this tract of land was available for anything but grain crops. The development of this ranch and the splendid growth and showing of the young orchards attest the good judgment of the men who invested in that land. The young apple and prune orchards of the different tracts on both sides of the Santa Cruz road make a showing as good as can be found anywhere, and the small fruit of the Eaton place is going to be a marvel.

Napa.

Calistogian: On the McDonnell farm in Knight's valley last week, two cubs were seen in a tree-top, and one of them was shot. The other was frightened down and killed by a dog. The mother of the cubs was watched for that night but did not return to the place where the cubs had been left by her; the next day, however, she came back and was killed. The killing of the old bear was deemed quite important by the McDonnells, as they have been losing sheep by her depredations. The cubs probably weighed 15 pounds each. Their carcasses were brought to town and a number of Calistogians had the pleasure of eating some of the meat.

Riverside.

Winchester Recorder: Riverside county, like Palestine, is a land flowing with milk and honey. The cattle graze on a thousand hills, and in numerous picturesque dales and valleys—the most beautiful semi-tropical region of the globe. In the back country of Riverside county, stock thrive the year round, without shelter in winter or shade in summer. When San Diego county lost its northern portion, its supremacy as a honey-producing county departed. That honor has fallen to Riverside county, that takes high rank at the very commencement of its career as a honey-producing section. Riverside county will be famous for a good deal more than that.

Sacramento.

Bea: J. D. Lawton, S. Solon Holl and others held a meeting Saturday evening and decided to form an incorporation to be known as the Sacramento Olive Company. The capital stock is to be \$100,000, to be divided into 100,000 shares at the par value of \$1 each. The stock will be disposed of at two cents per share, with an assessment of one-half of one per cent per month. Nearly one-half of the stock has already been subscribed for. The incorporators have 280 acres located about 18 miles northeast of Sacramento, which they propose to plant to olives. This will make one of the largest olive orchards in the world.

San Benito.

San Benito Advance: Thirty acres of new vines have been added to the Santa Anita vineyard this season, and 100 additional acres will be planted next season. The wine from this favored locality is equal to the best imported, and it is the intention of Mr. Bolado to build up a standard brand of California wine. An experiment was made last year with raisins, which was a success, and the raisin industry will be continued on a large scale this season. In a few years the Santa Anita vineyard will give employment to hundreds of hands.

San Bernardino.

Chino Champion: The beet crop on the ranch seems to be increasing in promise with each succeeding day. The past week has been perfect growing weather, and a heavy tonnage is being made as fast as any one could wish.

Some perfect appearing beets are now being brought in, and they will soon be of normal size, when they will begin to mature and take in their saccharine qualities.

San Luis Obispo.

Tribune: Mr. Harry Foreman brought in yesterday afternoon some fine samples of barley from his ranch on the Los Osos, the heads measuring ten inches in length. The whole field will average like the specimens shown, and Mr. Foreman confidently expects a heavy yield.

Santa Barbara.

Santa Maria Times: Present prospects indicate there will be an abundance of fruit trees of the very best quality on the market this season and our orchardists will at last have an opportunity of selecting the best from home-grown stock and at reasonable figures. Trees have always been too high here and too scarce, and people have had to take what they could get and pay a big price for it. The tables have turned and now orchard planting will not be so treacherous and will be more of a success.

Santa Clara.

Gilroy Advocate: Borings for water are in progress on the San Martin ranch. It is probable that much of the land sold recently there in small lots will be planted in vines and trees. Some good, practicable fruit-growers are wanted there to give an exhibit of the adaptability of the soil to fruit culture.

Solano.

Solano Republican: The first full carload of cherries ever sent from Suisun was shipped on Wednesday by the Suisun Valley Fruit Association and consigned to the Earl Fruit Co.

Dixon Tribune: It is claimed by orchardists that T. M. Gates, of this place, who owns an orchard in Vaca valley, has the best crop of cherries in the valley. His trees are few in number, but they are literally loaded down with ripe fruit.

Cor. to Yolo Democrat: A Solano county farmer told me yesterday that there is barley in the vicinity of Tremont that will be ripe enough to cut by Monday. Probably a few fields in the same advanced condition could be found in this vicinity if one cared to look for them.

Dixon Tribune: A ride through the northern end of the county reveals many fine fields of grain and many more which will hardly pay for the cutting. An estimate taken under the most favorable conditions will not make even half a crop. There are strong indications, however, of higher prices than have ruled for some time, and if they materialize will compensate in a measure for the shortage.

Sonoma.

Democrat: Hon. E. C. Hinshaw was in Santa Rosa on Monday. He reports the hay and grain crop and grasses as very short—less hay than he ever saw in his experience. Fruits are fairly good, apples and plums especially so, but Bartlett pears are almost a failure.

Cloverdale Reveille: Said a mountain granger last week: "One can hardly appreciate the immense good done by the late rains to crops in the hills. Farm values in productive possibilities have been increased many fold, and consequently we mountain farmers are correspondingly jubilant."

Democrat: William Hopper, of Knight's Valley, was in Santa Rosa Saturday. He reports the peach and prune crop of that section as first rate and the prospect for grapes the best he has seen. The grain and hay crop will be below the average. The road to Knight's Valley via Long Creek is now in fair condition.

Healdsburg Tribune: From George Young of Alexander valley we learn that the crop of hay and corn in the valley for this year will be a light one. The fruit crop will, however, be an average or a little more. Mr. Young owns and cultivates many acres in the valley and stands in an excellent position to give the information.

Democrat: L. S. Goodman, of Bodega, was in Santa Rosa on Monday. He says the harvest has not yet commenced in that section. The harvest will be late, but the crop will be a fair one. The late rains brought it out wonderfully. There will be a very large lot of potatoes put in in Bodega. They are just now planting. It is a safe crop for the coast people. If the price is good they will be put on the market; if not, they can be utilized for cow feed.

Farmer: Green valley promises a big yield of cherries. . . . The five acres of cherries belonging to William Bones of Occidental will yield more than ever this year. . . . William Duncan of Freestone has six acres of fine apples and the banner hay crop of that section. . . . Peaches require thinning. The last rain was a grand thing for the producers. . . . Reports from Goldridge place cherries under a full crop, the yield in some orchards being very light, in others quite good. Ten-pound boxes of cherries sold at 75 cents last Saturday. . . . About enough prunes hanging on the trees to develop into a fair crop not much if any more than last year. . . . Peaches are spotted, some a little thin, others have none too many on the trees. Rather under the usual yield. . . . Apples promise exceedingly well. The Wightman driers, that are so popular of late years will be brought into general use again this season. . . . William Johnson of Pleasant Hill on the Bloomfield road has a large and varied orchard of fruits. Mr. Johnson is one of the orchardists that firmly believe in the utility of the drier on the fruit ranch. Several years ago his Chinese help left him just as his fruit was getting ready for market. As a last resort he bought a drier of Mr. Wightman on time, and, as a result, his place is to-day free from mort-

gage, and is conspicuous by reason of its handsome and substantial improvements.

Sutter.

Independent: D. H. Arnold, of Colusa, wrote to J. B. Griffin, of Winters, asking if there was any remedy for curl leaf. Mr. Griffin replied that he used bluestone, and added: "We use it as a spray in the fall, after the leaves have fallen, and in the proportion of ten pounds of bluestone to 100 gallons of water." His experience with this is satisfactory.

Farmer: R. C. Kells has had a force of men at work this week thinning plums at his orchard. The plums, which are of the Gross variety, are very thick, and Mr. Kells thinks that the same benefit could be derived from them as well as peaches. Not so many of them are taken off as in the peaches, but the small or deformed fruit is picked, leaving the large and healthy fruit more room and more sustenance from the tree.

Farmer: The orchards in this vicinity are in prime condition and will make a good yield. Apricots are turning, and in a few weeks will be ready for marketing. The crop will not be very large, but of good quality. The peach yield will be large. Thinning this fruit has been about completed. Prunes, plums and pears will yield heavily. The splendid system of cultivation followed by the fruit-growers shows for itself in the heavy foliage of the trees and the healthy condition of the fruit. The young orchards planted this spring are coming out nicely and the trees are making a splendid growth.

Tehama.

Redding Free Press: A swarm of bees have taken possession of the belfry of the Presbyterian church and are making honey, probably for the next pastor in line. Should the ringing of the bell disturb them, they might make it lively for any and all persons thereabouts.

Tulare.

Citizen: The Delta reports some Mt. Whitney wheat on exhibition in Visalia that stands 7 feet 6½ inches high. We go them 2½ better, as we have some common Tule river wheat that measures 7 feet 9 inches in height.

Porterville Enterprise: Henry Hunsaker, with the Hastings brothers, will start two harvesters next Tuesday. There are 4000 acres of grain belonging to Mr. Hunsaker to head, besides 1200 acres belonging to the Hastings brothers.

Citizen: Harvey Raymond has just returned from a trip over the county for the express purpose of sizing up the probable grain crop. He estimates that there will be from a quarter to a third more grain than there was last season, and it will be cleaner and of much better quality. There is far less smut this season than last.

Citizen: Jesse Hoskins, of Lindsay, was in Tulare Friday, and says that apparently no moisture was in the ground for a depth of two feet, yet the grain looked green and would make a fair crop. He said they had been having dews every night until very recently. It is astonishing to old settlers how the grain continues to look so well with such a long dry spell. The cool weather was evidently the secret of such results.

Visalia Delta: Reports and observation from all parts of our county are to the effect that the outlook for the crops during the present season is better than ever before known. Fruit will be plentiful and a most prosperous season is assured. We hear of four cents a pound being offered for apricots. This is more than they are worth and more than the buyer can afford to pay. It is to be hoped no such inflated prices will prevail.

Visalia Delta: Mr. Briggs, owner of the Briggs fruit orchard, four miles southwest of this city, has sold the fruit on his ranch to Messrs. Martin & Sons for the sum of \$12,000 cash. The crop will be taken off about 100 acres, which is equal to \$120 per acre, and represents 12 per cent on an investment of \$100,000. The crop will be 80 acres of peaches, the balance prunes, apricots, pears and peach plums. The apricot crop will be very light, but there will be a heavy yield of peaches and prunes.

Ventura.

The first apricots of the season were brought into Ventura Saturday, May 27th, from the Matilija canyon.

Ventura Cor. to Los Angeles Times: Leading bean-growers report good stands, and the indications are that there will be a fair crop. The acreage planted to beans this year is 20 to 35 per cent less than last year. There is some uneasiness felt among the prune-growers, as the small fruit still continues to fall. The trees are blooming yet, however, and there is still a prospect that the crop will equal last year's, which was about 100 tons of dried fruit. The beemen are jubilant over the present state of the weather, which is just the kind for honey, and the bees are gathering it rapidly.

Yolo.

[[Davisville Cor. to Democrat: The hay-balers have taken the field, and it now seems to be generally understood that the ruling price for baled hay will be \$10 per ton.

Capay Cor. to Democrat: While some localities complain of curl leaf among the peaches, others of short crops of apricots and still others of great injury to the plum crop by the wind, there is scarcely a bearing fruit tree in Capay valley on which the yield will not be fairly good.

Democrat: A few evenings ago while J. D. Lawson was driving over the sewer farm, he saw a young mallard duck of good size, but not strong enough to fly. He got out, captured it and brought it home with him, and it now

seems in a fair way to be domesticated. So far, the only food that it will eat with relish is bluegrass.

Winters Express: Napoleon Viau of Dixon came down from his ranch in Putah canyon on Tuesday last. He informed an Express representative that the orange trees on the ranch, five years old from the bud, have made a prodigious growth, and that this year they are loaded with fruit. His apricot and prune trees have also made a fine growth, but, like those in other localities, have a light crop on them. His peach crop promises to be large, and he has no sign of curl leaf. Altogether, he is satisfied with his prospects.

Yuba.

Four Corners: The cherry season has reached us, as our markets will show, but the outside demand has been so great, at good prices, that we have to keep a sharp watch to supply the home demands for cherry pies and puddings.

Marysville Democrat: The warm north wind of the present week has done some damage, as reported by fruit-growers in this vicinity. These winds are not as hot as they were 20 years ago nor as frequent, yet they produce an unfavorable effect on vegetation.

SPECIAL ANNOUNCEMENT.

We have made arrangements with Dr. B. J. Kendall Co., publishers of "A Treatise on the Horse and his Diseases," which will enable all our subscribers to obtain a copy of that valuable work free by sending their address (enclosing a two-cent stamp for mailing same) to DR. B. J. KENDALL CO., ENOSBURGH FALLS, VT. This book is now recognized as standard authority upon all diseases of the horse, as its phenomenal sale attests, over four million copies having been sold in the past ten years, a sale never before reached by any publication in the same period of time. We feel confident that our patrons will appreciate the work, and be glad to avail themselves of this opportunity of obtaining a valuable book.

It is necessary that you mention this paper in sending for the "Treatise." This offer will remain open for only a short time.

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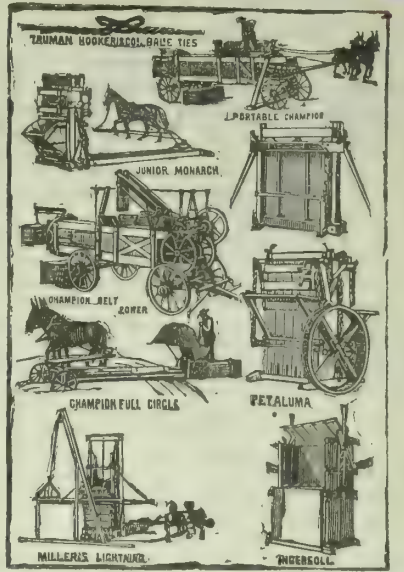
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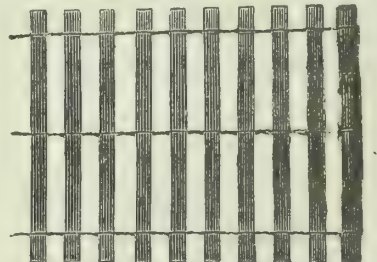
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The above cut shows a section of the Judson 2-ft. Rabbit-Proof Fence. By stretching barbed wires on the posts above it, it will turn any stock whatever.

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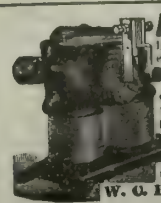


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Future Timber Supply.

The question of our future timber supply and the annual waste from fire is discussed in a special circular sent out to the lumbermen of the United States by Mr. Fernow, Chief of the Forestry Division of the United States Department of Agriculture. As to the demand for timber, Mr. Fernow figures from the census and other returns that we annually use over 22,000,000 cubic feet of wood, or about 350 cubic feet per capita. Of this enormous amount over 4,000,000,000 cubic feet of the best material is converted into lumber; railroad construction consumes about 5,000,000,000 cubic feet, and fencing takes about the same; but by far the larger consumption is for firewood. An uncertain amount is burned every year by forest fires, which rage in the western mountains especially, and the total of wood annually disposed of in some way is probably near 25,000,000,000 cubic feet. The area of the United States covered with wood growth is less than 500,000,000 acres, and for the last three decades an increase of about 30 per cent in consumption is indicated for each decade. With this showing, as nearly accurate as the available statistics can make it, it is well to estimate how long this supply will meet an ever-increasing demand. From the careful records of the German government and those of private forests in Europe, it is known that the average annual growth of wood per acre does not exceed 55 cubic feet, and this includes branches and smaller dimensions down to three inch diameter. wood which is not used in this country. If we confine ourselves to the production of sizes of timber utilized by our wood cutters, says Mr. Fernow, our timber at the age of 125 years would not average in growth more than 35 cubic feet per year, so that our present acreage, even if well stocked and well guarded and managed, would not produce our present annual consumption. And as to our total supply, the most extravagant assumption that can be made, even for the enormous Pacific coast forests, is an average of 10,000 feet B. M. now standing on every acre of our wooded territory. With this assumption our standing timber would be exhausted in not much over 100 years, or the time it takes to produce a good-sized sawlog. Most of the timber we are now cutting is over 200 years old, and for some timbers the end is even now relatively in sight. This is the case for white pine, walnut, yellow poplar and ash.

The remedies suggested are the more careful and thorough utilization of our timber products and especially the prevention of unnecessary waste. The most harmful among the latter are forest fires, which not only destroy or deteriorate in value enormous quantities of timber annually, but also render the soil barren by burning up the leaf mold and seedlings and replace valuable timber by scrub and inferior vegetation.

The Daily Bath.

A daily bath is not only a luxury, it is a necessity. A plunge bath is not within the compass of every one. A sponge bath is always feasible. This may be taken with no appliances beyond the bowl of water, the sponge or wash-cloth, the soap and towel. It is more easily managed with the aid of a large foot-tub, in which the bather may stand while she uses the sponge.

The temperature of the bath is a mooted question upon which doctor and patient disagree. To some persons there is nothing more bracing and invigorating than a cold plunge, while others do not recover for hours from the chill such a bath gives. Certain physicians recommend a very hot bath and assert that it is stimulating in its after effects as is the cold plunge, and less likely to produce ill effects. Nearly all unite in declaring immersion in the tepid bath relaxing, and thus detrimental to health.

The question is one that each bather must settle for herself. What suits one may be positively harmful to another. Certain it is that the hot or warm bath is more cleansing than cold water. The sudden chill of the latter closes the pores and prevents the escape of the effete matter it is the object of the bath to remove. The woman who takes a cold plunge for its after effects should first sponge herself off in warm water and achieve cleanliness before she indulges herself in her "bracer."

Only the best soap should be used in bathing, and many women do not use soap at all, preferring the bags of bran, oatmeal or almond-meal, which may be procured from druggists or other dealers in toilet articles. By the use of these bags the skin is cleansed and softened delightfully. A greasy skin is sometimes benefited by the addition to the bath of one or two tablespoonfuls of household ammonia. Borax is also excellent for this purpose.

The hand may be employed in scrubbing

the person, and may either be bare or covered with a bathing glove of rough Turkish towelling by those who prefer this method to the use of a sponge or wash-cloth. A vigorous rubbing assists the action of the skin.

Whoever feels a chilly sensation after a warm plunge, and experiences difficulty in regaining her normal temperature, should try the experiment of sponging herself off with cold water when she leaves the hot bath, and see if the slight shock will not tone up the skin and prevent any subsequent chill.

The beneficial effect of a bath is greatly heightened by a hard rubbing after leaving it. A rather coarse or rough Turkish towel should be used, and the friction should not be stopped when the moisture has been removed, but continued until the body is in a glow from head to foot. This operation will only require a few moments, and it is well worth the trouble.—Harper's Bazar.

How to Help a Boy Along.

A boy of 15 years of age is, in my opinion, at the most important period of his life. He is at the fork of the roads. What he needs more than anything else is sympathy and advice. It would be strange indeed if boys did not build castles in Spain at that age, and what they need is the practical suggestion of some one who is himself a success in life to guide them. Most people think that boys do not need either sympathy or advice. It is a great mistake. They need it as much as girls. I have employed a great number of boys in various capacities during the past 15 years—good, bad and indifferent—and I have never known one of them to refuse to take advice if it were tendered at the right time, in the right place and in the right spirit. The mistake that most people make in talking to boys is that they lecture them in season and out, persecute them with all sorts of foolish suggestions, and expect more from them than they would a man. If I had any word of counsel to give, it would be: Don't lecture a boy. Don't nag him. Don't persecute him. Don't laugh at him if he has failed in some over-ambitious undertaking. Don't crush him. Don't break his spirits. Give him a chance. Show him his mistake, and then point out exactly what he should do. A wise father, or elder brother, will make a companion of a good boy, rather than act as a stern counselor.—Ex.

The Lucifer Match.

It is not generally known that it is to Mr. Isaac Holden, M. P., that we owe the invention of the lucifer match. The discovery was, he has told us himself, the result of a happy thought. "In the morning I used to get up at four o'clock in order to pursue my studies, and I used at that time the flint and steel, in the use of which I found very great inconvenience. Of course I knew, as other chemists did, the explosive material that was necessary to produce instantaneous light; but it was very difficult to obtain a light on wood by that explosive material, and the idea occurred to me to put sulphur under the explosive mixture. I did that and showed it in my next lecture on chemistry, a course of which I was delivering at a large academy. There was," said Mr. Holden "a young man in the room whose father was a chemist in London, and he immediately wrote to his father about it, and shortly after lucifer matches were issued to the world. I believe that was the first occasion that we had the lucifer match. I was urged to go and take out a patent immediately, but I thought it was so small a matter, and it cost me so little labor, that I did not think it proper to go and get a patent, otherwise I have no doubt it would have been very profitable."—Pall Mall Gazette.

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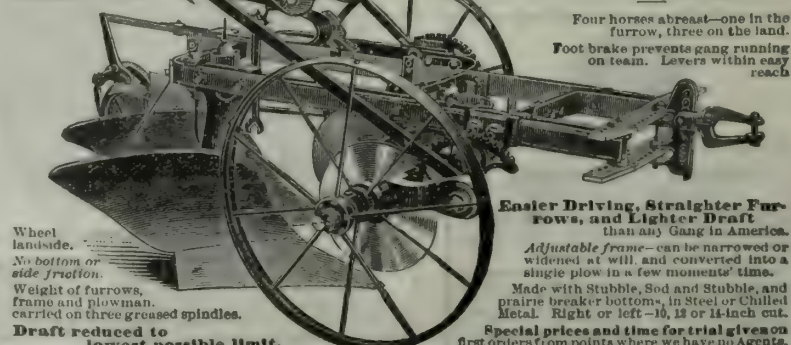
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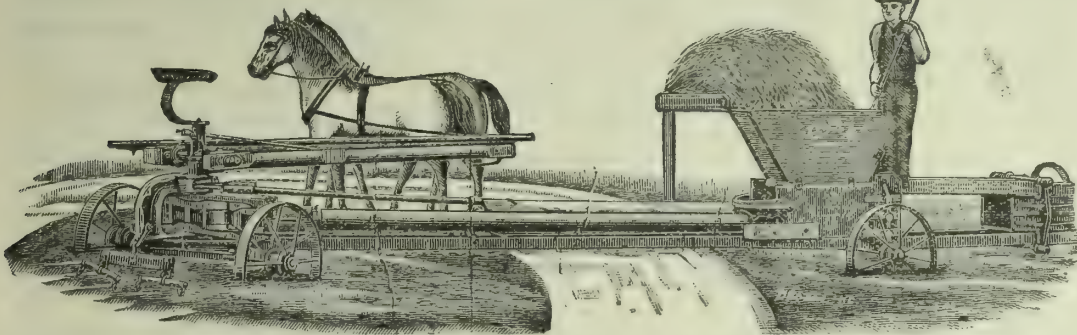
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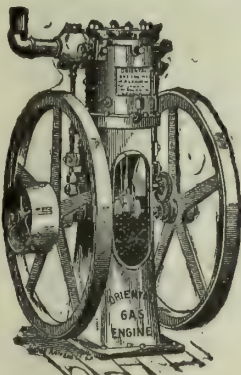


The O. K. presses a bale 17 x 22 inches and any length desired from 2 1/2 to 4 feet. 10 to 12 tons of hay baled with the O. K. can be loaded in one car.

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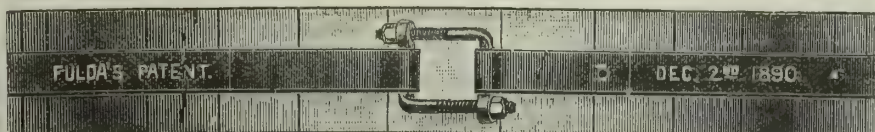
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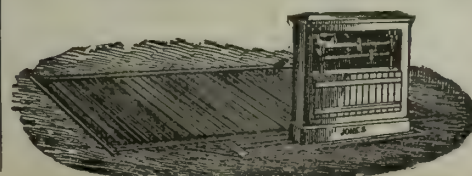
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THE JONES 5-TON WAGON SCALE.
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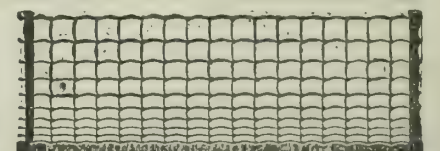
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PATRONS OF HUSBANDRY.

From Worthy Master Davis.

Bro. Brigham, master of the National Grange, is soon to make a campaign of Texas.

Yuba City Grange has a large class on the road to the master's office.

Bennet Valley Grange picnic, May 27th, was a great social success. The grange was 20 years old that day.

Come, Petaluma Grange, let us know what the signs of promise are! How about the coming session of the State Grange?

What is the matter with all of our general deputies? Not a word or line from any one of them lately. Don't weary in well doing, brothers of the plow, spade and hoe.

Strive to elevate and dignify the labor of the farm! Let us know when you succeed. Call for grange help when you fail.

Bro. and Sister P. Hanson of Bennet Valley Grange are visiting the World's Fair.

Haying is well under way. Reports generally indicate a short crop.

Tree fruits have been damaged by heavy winds, and, in a few sections, by frost, during the past fortnight.

Schools are, most of them, closed for the summer vacation. After a short rest, see that the boys and girls have some employment whereby they may earn a few dollars. It is better for them to earn the money than that it be given to them. They will thus learn the value both of money and of labor. I am a friend of the industrious, honest, zealous American girl and the big-hearted, far-seeing, loyal American boy.

What has your grange done toward observing Children's Day? Bear it in mind, and see how many children over 14 years of age there are in the jurisdiction of your grange that are not members. Make a carefully prepared list, furnish each child with a copy of the Declaration of Purposes and an application blank. Then go to work for the good of the order.

The grange tide has turned. While we hope it will not rise as high as it did in the seventies, we do hope to see a high grange tide again. Let the tens of thousands of American farmers who are complaining of the condition of things join the grange, and then and there help to right these affairs. Enterprise, unity of purpose and concert of action will do more for the American farmer than can be stated. These good things can be best gained by the farmer through the non-partisan, non-sectarian, yet progressive, aggressive, conservative order of Patrons of Husbandry. Join and help the grange, my fellow-farmer! There is strength, influence and wisdom in numbers, especially where all are agreed on the line of work.

Report says that B. J. Kendrick, president of the Texas State Alliance, has called a meeting of that body for the purpose of completing a combination with the State Grange of Texas. Particulars are not yet obtainable. We hope that harmony and wisdom will prevail, and that every moral and social virtue will cement the farmers of the Lone Star State.

All along the line there seems to be an unusual interest in grange work. From many subordinates come advices of larger classes and renewed work by the membership. In a few sections there seems to be a lukewarmness. It seems to me, where such a feeling exists, that the officers of subordinate granges ought to hold some private consultations and arrange for a vigorous campaign of their locality. The worthy master and the lecturer are in duty bound to see that the principles and purposes of the order are thoroughly known to their neighbors. This information given, and there can be little doubt of the growth of that grange. What is most needed is enthusiasm. One or two members, who are wide awake and studious, zealous in grange work and willing to make personal sacrifices of time, can soon revive a sleepy or half-dormant or fully dormant grange. But it won't do to preach grange and not practice grange work. No one is more sure of discovering a neighbor's insincerity than a farmer. Let us show by our words and works that we love the grange, that we mean business, and that to say is to do. Won't some one or two or dozen of zealous patrons in a half-flourishing grange put heads and hands together and tell us the result of their efforts. We can tell in one word what will follow such labor. It is sure to be success.

Sacramento Grange has selected Mrs. A. M. Jackman as press correspondent.

Roseville Grange invites Patrons to be with them June 17th.

Temple of Ceres.

The Chairman of the National Committee In Reply to Amos Adams.

TO THE EDITOR:—In the *RURAL PRESS* of May 6th appeared an open letter from Bro. Amos Adams of San Jose Grange, relative to the Temple of Ceres. With a view solely to eliciting all the information possible regarding the proposed building, a copy of that communication was sent to Bro. Leonard Rhone, Chairman of the National Grange Executive Committee, and the enclosed letter has been received. Fraternally, MRS. HATTIE S. JONES. Sacramento, June 5, 1893.

BRO. RHONE'S REPLY.

Mrs. Hattie S. Jones, Chairman Cal. S. G. W. W. Com.:—Yours of the 10th instant received in reference to the "Grange Temple" to be erected in the capital city of our nation. In reply would say that the patrons in the several States where the Grange is active are in favor of building a Temple and are raising money with that object in view.

I have read with interest the newspaper clipping, by Amos Adams, you sent me. Whether the gentleman in question is a patron or not I am not prepared to say, but if he would have expended the same amount of effort to promote the object this communication might do some good; as it is, it only tends to dishearten those that are in earnest.

I was not the originator of the project to build a Temple, but I most heartily indorse it as a necessity. A great many valuable papers are accumulating in the offices of the State and National Granges which will naturally be lost or destroyed if no place is provided to preserve them—in fact many valuable documents are already lost. The object of the promoters of the enterprise is to erect a building for the offices of the National Grange and the preservation of its records; also for a place for our committees to meet in consultation of matters pertaining to agriculture. Many of the rooms on the first and second stories could be rented until such time as the National Grange might need them and become a source of income to the National Grange. Of course the upper story should be set aside as a National Grange hall. This would not necessarily need to be finished at once, but could be reserved until such time as the National Grange would have the means to complete its work, when our organization will have grown larger. It is, however, not necessarily contemplated that the National Grange shall meet annually in Washington.

This, briefly, is an outline of the purposes for which the Temple shall be erected. No doubt many new ideas may be incorporated at such times as necessity will demand it.

In the report of the Executive Committee at the annual session in November last at Concord, New Hampshire, we briefly outlined a plan of action. I also, as Chairman of the Executive Committee, sent suggestions to the National Grange Committee on Woman's Work, many of which were embodied in the late circular sent out by the committee. Mr. Adams would leave the public under the impression by his article that the National Grange was promoting this project for the purpose of making a collecting agency out of the subordinate granges, so that the patrons might be fleeced by a systematic effort, which is wholly unwarrantable and is a reflection upon the National Grange.

It has been iterated and reiterated that the National Grange is not asking contributions from unwilling patrons, but that these contributions are to be free-will offerings of devoted patrons to a good cause, and those who are not willing to give have no right to discourage those who, by their liberality, want to give. Besides, the sums asked are so small that they are not worth while to be considered hardships by any patron, but are made small intentionally so as to enable every man, woman and child in the Grange to have a voice and interest in the Temple as being the Temple of our organization. After every member throughout the United States is interested by small contributions, there are patrons with means who are willing to give liberally, and the National Grange will carry out its pledges in good faith. But I do not think it would be good policy for the National Grange to hastily select a site and invest money before there is a proper response from the patrons all over the country. It will, of course, take years to get all our people properly interested, and must have a beginning, and the response we have received indicates that there is a growing sentiment in favor of the enterprise.

No doubt when the proper time arrives the National Grange will take the proper action in the selection of a location. So far as Pennsylvania is concerned, our people are becoming much interested and

the Committee on Woman's Work is doing its part nobly.

Be free to write to me further on the subject and make any suggestions that you think would promote the cause. Fraternally, LEONARD RHONE. Centre Hall, Centre Co., Pa., May 23, '93.

San Jose Grange Picnic.

TO THE EDITOR:—San Jose Grange was out in full force last Saturday, at Glenn Brook farm. Not only the grangers, but their neighbors and neighbors-in-law helped to swell the crowd. While the grangers were preparing, not for "the good time coming," but for the good time now, at a distance a cloud of dust was seen rising and for a moment all thought Chicago, in order to protect the "White City" from cyclones, had scattered a few over the Pacific Coast. But the consternation of the picnickers was soon quieted by the appearance of several or more carry-alls, coaches and conveyances of all descriptions, loaded down with members from some Methodist church seeking a shady spot, some sylvan retreat, where they, too, could enjoy a quiet picnic; where they could give the social side of nature rational enjoyment; where they could sing Suanee River and Marching Through Georgia, instead of "Hark From the Tombs That Doleful Sound," or "Rock of Ages Cleft for Me." The grangers, after a brief council of war, met the advancing crowd at the outer gate. A short parley only was necessary to admit them to this cosy nook, situated some ten miles west of San Jose, midst timber so dense as to shut out almost entirely the rays of the mid-day sun, giving the serpentine paths a twilight shade, enchanting, weird and romantic. To the west of this typical Glenn Brook lie the vine-clad hills of Santa Cruz county, with Ben Lomond mountain in the distance, down whose rugged side comes the brook, leaping and bounding with merry laughter on its way down to the wood-embowered grass lands constituting the farm where the grangers are building camp-fires and preparing a repast fit not only for the gods to partake of, but for honest grangers also. Right here comes in the question: "Can they of the feathered tribe reason?" Whether it is ever solved by the scientific world or not one thing is certain, that yellow-legged chickens always roost highest just previous to a grange picnic. It is a noticeable fact, however, that a goodly number of them are always found at picnics and Harvest Feasts.

The Falstaffian appearance and the merry countenances of the grangers were proof that they had done ample justice to the viands set before them, and were ready for the musical and literary exercises that were to follow. Col. Hersey, in his usual suave and affable manner, called the multitude to order, and, to prevent being forestalled in his little speech, made the opening address which, on a silent vote being taken, was declared to be the best effort he ever made on these historic camp-grounds. The address was followed with a solo, by Miss Luly Tenny; poem, by Mr. Kingsbury; recitation, by Miss L. S. Woodhams; then a chorus by the throng was given with so much power and volume that it startled our good Methodist friends, who came rushing over to our side of the grounds to see if anybody was fatally injured. After quiet was restored a recitation was given by Prof. Abel Ady; recitation, by Miss Bessie Woodhams; song, by W. E. Woodhams; then followed a chorus by the choir, which had a soothing effect on our Methodist friends; recitation, by Mr. Saunders; recitation, by Mr. G. W. Worthin. The exercises closed with a recitation by Rose Carnes. At the conclusion of the day's recreation it was decreed that grangers who did not attend the picnic were the chief losers. AMOS ADAMS.

From Selma Grange.

TO THE EDITOR:—In compliance with your request I was appointed correspondent for this grange and shall endeavor to give a worthy report of the doings of Selma Grange and any other items that I may deem of interest.

About six weeks ago we initiated a class of four and had an all day session. Harvest feast and literary and musical programme were the order of the day. Brother Shoemaker of Tulare Grange was with us and favored us with an address, which added to the interest of the occasion.

On the 16th inst. our grange picknicked at Emigrant Dam, about seven miles from town. It was advertised as a fishing party, also, but the fish did not bite well that day (as usual) and only one fish was compelled to leave the water. A lady member—Sister G.—"carried off the palm" in securing it.

At our last meeting the "good of the order" was not forthcoming, so the question

box was produced and the following questions taken therefrom and discussed by the members: "How is tile draining accomplished?" and, "What is the best product for sandy soil?"

I regret to say that our Master, Prof. G. D. Hines, has been obliged to tender his resignation as Master, and Paris Allen was elected to fill the vacancy. He is an old member and we feel assured that we have been fortunate in the selection of a presiding officer.

We feel that our order is on a firm footing and progress is our "watchword." We are particularly fortunate in having a goodly number of musicians among our members, which help to enliven the grange hour.

It is the intention to act on the suggestion of the Committee on Woman's Work and have a Flora Ceres and Pomona day at the proper time. We hope also to do something in the line of Temple work.

What more fitting that a grand edifice erected to agriculture?

More anon.

IMOGENE K. ROADHOUSE, Lecturer and Correspondent of Selma Grange.

Selma, Fresno Co., June 2, 1893.

A Big Day at Yuba City.

TO THE EDITOR:—On Saturday last Yuba City Grange celebrated another of those big days that has characterized her behavior for so long, these many months.

The weather was none of the best as old Boreas had been putting in his best licks from the north for two or three days.

It would have been hot had not the gentle zephyr fanned the perspiring populace. As it was, no fires were deemed necessary for comfort and even overcoats were dispensed with.

The meeting was planned for all day, so by ten o'clock our spunky little city became alive with neighboring farmers and their families. Cart-loads of mysterious packages were smuggled into the Farmers' Union banquet hall where nimble fingers manipulated a spread from the same fit for the gods.

Around the corner the great Odd Fellows' hall was filled to its utmost capacity with smiling grangers, and later extra seats had to be provided.

Besides Yuba City, South Sutter, Wheatland, Live Oak and Grimes' Granges had representatives on the floor. Visiting Patrons were also present from Santa Rosa, San Francisco and Oakland. Of these were the smiling faces of Worthy Master E. W. Davis of the State Grange, Mrs. Mary S. Smith of Oakland and last but not least, Brother Holman of the *RURAL*. The latter had been ruralizing farther north for a few days and took us in on his return.

In due time the ensilage was called to order by Worthy Master P. L. Bunce, and after a short session in routine business the great class of 33 was introduced and instructed by Bro. Davis in the higher degrees of the order. This being concluded a procession was formed, led by the presiding dignitaries and their partners, and the march led to the waiting banquet already spoken of, where for an hour all the ills of life took a back seat in the general attack on the good things so generously provided by the matrons. There was enough for all and to spare; appetites good, and judging from the gleeful prattle the feast was thoroughly enjoyed. But this isn't saying much in justice to the occasion and is all owing to the poverty of my language. The banqueters retreated in good order to the hall where later on a literary program was executed of unusual merit and excellence. This was composed of vocal and instrumental music, recitations and impromptu remarks on leading topics.

I cannot close this recital without paying a justly earned tribute to Worthy Master Davis for the excellent and impressive manner of his discourse, to the advancing patrons in private, and to the public after dinner. His themes were more than worthy of the occasion, spoken in the language of a scholar and statesman and more than filled all expectations as evidenced by approving expressions heard in his audience. The occasion will prove one long to be remembered.

It was the largest class instructed at one time in the history of this grange and will probably never be excelled unless we open the doors to the entire community and this we could do with perfect propriety since the material is first-class in every respect. If I am not trespassing too much upon your space Mr. Editor, let me tell the great agricultural public that this is nothing more or less than a farmers' organization, instituted for mutual advancement and protection, to render isolated country life more popular and enjoyable, and to unify scattered interests and sentiment in one common cause. What is narrated above are the incidents the way. If efforts fall short and the crop

light so are the efforts and results in nature generally. The men and women who work with a will surely accomplish more than those who cast a far-away glance at the human hive of industry. The latch-string is outward to the true and the good. If aught is lacking within come and supply it. Let it be only a probationary stage for something better if you will, either here or in the next world, but come, for your own sake and for the sake of the millions that are meeting constantly to devise ways and means to better their condition. Fraternally,

GEORGE OHLEYER.

Yuba City, June 4, 1893.

Strawberry Festival.

Sacramento Grange, No. 12, P. of H., celebrated its annual Strawberry Festival on Saturday, May 27th. The third and fourth degrees were conferred on a class of eight. A collation, of which an abundance of strawberries and ice-cream was one of the chief features, was served in the banquet hall.

After the third installment of banquets had done justice to the repast, Bro. W. W. Greer called the assemblage to order and welcomed the visitors, of whom 40 were from Roseville, and a large number from American River and Enterprise Granges. Yuba City Grange also was represented, and many friends of the order were present. The program was then rendered as follows:

Music by the grange.

The "Peak Sisters," personated by eight pretty girls, with an older lady as leader, and all dressed in costume, then appeared and entertained the audience with their "soul-stirring" songs. They were compelled to reappear, and repeated a musical selection.

W. M., E. C. Bedell of Roseville Grange said the members of other callings were organized for their own protection, but the farmer was content to mind strictly to the tilling of his soil, leaving to others the regulating of prices of commodities, both what he had to sell and buy. He thought farmers would have more leisure if they would take time to attend their grange meetings and counsel together for their own pecuniary as well as social benefit.

Sister Gussie Wilcox rendered a vocal solo.

W. P. M. Taylor of American River Grange told of failures and successes and gave encouragement by saying this grange was slowly gaining.

Mr. and the Misses Green gave an instrumental trio, piano and violin, and responded to an encore.

Bro. Gould of Roseville said that grange was gaining in liberal education, and gave the order much credit as being an important factor.

Bro. J. H. Simon of Enterprise said the large attendance present was to him an evidence of strength. We must not be discouraged if haste is made slowly in accomplishing needed reforms; he was particularly pleased to see so many young people coming into the Grange, as in them was our hope for the future; that through the installation of grange principles in youth, we could confidently expect a harvest later on.

Sister Della Krull gave a pleasing vocal solo and was encored.

Sister D. D. Hull of Sacramento thanked the visitors for their presence, saying that these visits encouraged the local grange and made willing workers more enthusiastic.

Bro. Pilcher of Roseville said he hoped the coming Road Convention to be held in Sacramento would result in practical improvement; that the great need of the country was good roads; that the present system of road making was expensive and inefficient.

Bro. Halverson of American River was called upon for a song and afterward gave a few words for the order and then read the poem, "To a June Day."

After a song, in which all joined, grange was called to order in the fourth degree. A special meeting was called for June 3d, at which time the first and second degrees will be conferred. The next regular meeting will be dispensed with in order to attend American River Grange, June 10th, when the third and fourth degrees are to be conferred.

The grange was then closed in due form.

Fraternally, MRS. H. S. JONES.

Flora's Day in Waterloo Grange.

TO THE EDITOR:—As press correspondent for Waterloo Grange, I submit to you the following items of interest concerning our order and celebration of Flora's Day:

After a short session, at the regular meeting, on May 27th, the date set for the celebration of Flora's Day, Waterloo Grange opened its doors to about 200 patrons and friends to listen to a select program and view the grand floral exhibition, arranged by the floral committee.

After a selection from Waterloo Grange

orchestra, the Worthy Flora, Sister Daisy Brittsan, delivered her welcome address, followed by several recitations and songs. Ten prizes were awarded to the exhibitors who succeeded in making the finest and most artistic displays, and eight members carried home rewards in remembrance of Flora's Day of '93.

The worthy master called for remarks from visiting members, and Bro. M. T. Noyes of Stockton Grange responded, announcing the celebration of Flora and Children's Day on the first Saturday in June at Stockton. Worthy P. S. M. Overhiser also made a few remarks, being much pleased with our floral exhibit.

The young folks passed away the few short hours of the old week in dancing, while the old looked on with recollections of younger days, and all went home feeling that this grand old order of Patrons of Husbandry will forever flourish.

Fraternally, G. R. DRULLARD.

Stockton, Cal., May 28, 1893.

From Bennett Valley.

TO THE EDITOR:—Berries are ripe and in great abundance in this valley at present. Although they are late this season the crop is good and the berries are large, with a bright color and a most delicious flavor. There are five places where they are cultivated quite extensively, and they have all been contracted for at a very satisfactory price. When comparing the productions of this valley, strawberries, when properly cared for, can be rated among the first. With good care and the season favorable they have been known to produce as high as five tons per acre, with the price averaging from seven to ten cents per pound.

At my last writing everything looked withered, but since then the long-looked-for and most welcome rain came; crops of all kinds have a different appearance.

Haying has commenced; grain bids fair, what little there is. Owing to the late wet winter there is not much.

The keeping of the humble hen is receiving considerable attention this spring.

The picnic is in the past, but not to be forgotten by those participating. The day was perfection itself. Most all the granges of the county were represented, besides hundreds of people who are not members of the order. In every respect the picnic was a grand success. The morning hours were devoted to speeches, lectures, and music by the band. At one o'clock all retired to the grove to enjoy a good old-fashioned picnic dinner.

In the afternoon games and dances were in order, in which young and old people alike were seen until late in the evening; then, like all other good times must, sooner or later, came to an end. This is a good hint, so I will close this letter at once.

May 29, 1893.

W. L. W.

Lodi Grange Discusses the Money Situation.

TO THE EDITOR:—San Joaquin County Pomona Grange held a very interesting meeting the first day of June and considered the following:

Resolved, First. It is right and just, both to the debtor and creditor, that all legal tender money should stand upon equal footing in its capacity and power to pay debts.

Second. It is unjust and burdensome to permit any creditor to contract with his debtor to compel him to pay in only one form of legal tender money.

Third. It is the duty of all States to give equal value and recognition to all forms of lawful money made legal tender by the United States, and the power to contract to debase one form thereof is unpatriotic and practically nullifies the power to coin money given by the Constitution exclusively to the general Government.

The above was discussed pro and con all the afternoon, but no vote was taken upon the resolution.

A committee was appointed to look after the equalization of the assessment roll of this county for this year.

We conferred the fifth degree upon a large class in the evening with the usual feast of Pomona consisting of strawberries and cream, after which a literary programme was rendered.

J. D. HUFFMAN, Secretary.

Lodi, Cal., June 4.

A Field Day for North Butte.

TO THE EDITOR:—North Butte Grange has not yet elected a correspondent to the RURAL PRESS, but will do so at its next meeting.

Our grange is getting along finely. At our last meeting we conferred the Third and Fourth degrees on a class of eight, which

makes us now about 70 members. Had a Harvest Feast, had visitors from Yuba City and March Granges, and had a good time generally. We have had some very interesting meetings lately, and a good attendance.

On last Tuesday our grange gave a grand picnic at Thresher's Grove, on Feather river. The weather was not as fine as we would have liked it, the north wind blowing hard all the forenoon. But still we had quite a large crowd from the surrounding country. We expected to have Bro. E. W. Davis, the worthy master of State Grange, as orator of the day, but were disappointed, as he did not come. In his absence, Bro. Geo. Ohleyer gave a short address; also Mr. J. A. Wilkinson of Live Oak made some remarks which were very appropriate. Bro. B. F. Walton of Yuba City also made a few remarks.

Every thing passed off nicely, in feasting, and dancing, and boat-riding, and racing, and other games; and everybody was well pleased and satisfied with the day's enjoyment of fun and pleasure. D. FISHER, Live Oak, May 26, 1893. Master.

A Silver Jubilee.

[Correspondence American Grange Bulletin.]

It will be remembered by all who are familiar with the early history of the grange that it was started at the top. The National Grange was organized in Washington, D. C., by the seven "founders" before any State or subordinate granges were in existence. But in the spring of 1868 O. H. Kelley, who had first conceived the idea of such an organization when on a trip through the South, started out to introduce the grange to the farmers and put it to the real test of its value and lease of life.

At Fredonia, Chautauqua county, N. Y., in a region of fine farms largely devoted to fruit, in sight of the blue waters of Lake Erie, he found good soil and willing hands to take up the work, and there, in April, 1868, the first real farmers' subordinate grange in the world was organized.

Twenty-five years have passed since then, and on April 20 and 21, this year, the anniversary days were celebrated with a program covering both days, and morning, afternoon and evening sessions in a large opera house filled with thousands of patrons, while beautiful decorations of fruits, flowers, grains and mementos of early days, with music, original poems, essays, speeches, presentations, receptions and bountiful meals served in two large halls belonging to the old grange, together with the presence of officers of the National and State Granges, all made up a picture, marked an important event in grange history, and all revolving around the honored guest who had come from his home in Florida to be present and greet the grange he had organized 25 years before—Bro. O. H. Kelley, the founder of the order of Patrons of Husbandry, the man of faith and works that carried it over all obstacles to success.

None the less honored was Sister Caroline A. Hall, she who first proposed the admission of women into the order, and who cheered and aided the early workers in their darkest hours. The recent death of her mother prevented her from being present, but she sent a letter, not only to Fredonia Grange but to the "order at large," full of the spirit of fraternal love.

Bro. Kelley and Sister Hall were each presented with silver souvenir spoons as mementos of the occasion, and Bro. V. E. Dodge, Fredonia's first master, received a handsome set of silver.

Bro. L. McKinstry, a charter member of Fredonia and its first lecturer, delivered the address of welcome. In the course of his remarks he said that when the grange was first organized its members had no idea of making it practical in the farming line, and few were actual farmers. Now the grange has 250 members, nearly all of whom are bona fide farmers. During the 25 years the order has spread into every State of the Union. No other organization has proved so efficient in uniting farmers for the protection and advancement of their interests. But the order has had a higher value than in the line of material interests. It has served to stimulate and improve the social side of farm life, and the education that has been gained in the grange has brightened the life of many a family that would have otherwise led a lonely existence.

Bro. Kelley in his reply said that over 800,000 names of charter members are now recorded in the national office. From the Grange have sprung the Alliance and numerous other farmers' organizations. Our order was the first secret society that ever admitted women to full membership; its growth shows what may be accomplished by woman's influence.

In business of all kinds woman is showing herself as capable as man. Socially she has always been the peer of man and the time is not far distant when she will be his equal politically. My convictions are that women are the most honorable and reliable part of the human family and, like all sensible men, I have always been an ardent admirer of women.

Mrs. B. B. Lord, P. M. of Chautauqua County Pomona Grange, in her closing remarks said: "Our anniversary has brought us so much of pleasure, gratitude for the work of the past, pride in its present and hope for its future. Patrons, your work is before you. Shrink from no effort which will advance the prosperity of the order in which our hope for the future is centered. Be not deceived by the sophistry of the politician, and let no other creed, no matter how alluring its prospects may be, tempt you to swerve from your allegiance to the only organization devoted to the interest of the farmer and his family. Four hundred years of American history has been written; our golden opportunity is to improve by the errors of its past and make its future brighter, nobler and grander than its present."

Mortimer Whitehead, N. G. Lecturer, was one of the speakers, and in closing said: "We live in a time of anniversaries. This year we celebrate Columbus and his discovery of a new world. They who gave us the Grange discovered a new world for agriculture. All honor to the day we celebrate, and all honor to those who made it possible."

The Secretary's Column.

EXECUTIVE COMMITTEE MEETING.

The Executive Committee of the State Grange of California will meet at the office of the Secretary, 220 Market street, San Francisco, Cal., on MONDAY, JUNE 12TH, 1893, at 10:30 A. M. All persons who have business to come before the Committee, will please take due notice and govern themselves accordingly.

E. W. DAVIS,

Chairman Ex. Com. C. S. G.

A. T. DEWEY, Sec'y.

STATE GRANGE FINANCIAL STATEMENT.

Receipts during April, of general fund, \$164.40; disbursements, \$173.90; balance on hand and in the treasury, \$566.68. Receipts of lecturers' fund, \$68.85; disbursements, \$10.15; balance, \$2083.68. Total balance, \$2650.36. Receipts during May, of general fund, \$54.90; disbursements, \$92.00; balance on hand and in treasury, \$529.58. Receipts of lecturers' fund, \$21.85; disbursements, \$123.00; balance, \$1982.53. Total balance, \$2512.11. Most of the returns come in during the last month of the quarter and the first month of the following quarter. Hence the income for this and next month should be larger than for the past two months.

THREE ROOMS have been secured at the World's Fair for headquarters for P. of H. from all sections of the Union, relating to which further mention will be made.

Notes.

Miss Etta Blodgett has been appointed correspondent by North Butte Grange.

Brother Amos Adams has been named by San Jose as its Grange correspondent.

Grass Valley Grange will celebrate Children's Day, June 8d, by a picnic. June 17th, he same Grange will give a grand floral entertainment. Bro. B. F. Frisbie and other speakers will deliver addresses at the open meeting in the afternoon and the flower show and program will be given in the evening.

Twine Binders.

The growing demand for Twine Binders marks the improvement in our methods of farming. The first successful binder made was manufactured by Walter A. Wood and used wire, later Mr. Wood introduced the first twine binder, a machine which has been brought to such a state of perfection that it is in use in almost every grain section of the globe. The Wood Twine Binders are extensively used in California and the demand for them is increasing as their advantages become better known.

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The Valves and working parts of the Fulton Pump can be removed, repaired and replaced without taking the pump out of the well.

Pumps fitted up for all depths of wells, ready to put in.

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Six lines or less in this directory at 50c per line per month.

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M. D. HOPKINS, Petaluma. Registered Shorthorn Cattle. Both sexes for sale.

P. PETERSEN, Sites, Colusa Co. Importer & Breeder of Registered Shorthorn Cattle. Young Bulls for sale.

JOHN LYNCH, Petaluma. Breeder of Thoroughbred Shorthorns. Young Stock for sale.

CHARLES E. HUMBERT, Cloverdale, Cal. Importer and Breeder of Recorded Holstein-Friesian Cattle. Catalogues on application.

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R. G. HEAD, Napa. Importer and Breeder of Land and Water Fowls. Send for New Catalogue.

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O. H. DWINE, Fu ton, Sonoma Co., Cal. Shropshire and Crossbred Shropshire-Merino Rams for sale.

J. B. HOYT, Bird's Landing, Cal., Importer and Breeder of Shropshire Sheep; also breeds Crossbred Merino and Shropshire Sheep. Rams for sale.

R. H. ORANE, Petaluma, Cal. Breeder and Importer. South Down Sheep; also Fox Hounds from Missouri.

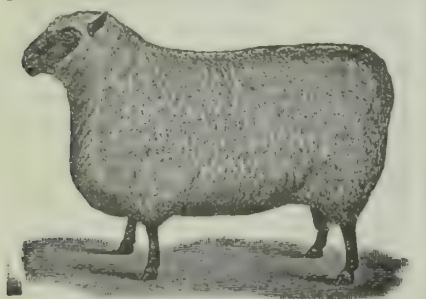
SWINE.

P. H. MURPHY, Perkins, Sac Co., Cal.—Breeder of Short-Horn Cattle, Poland-China and Berkshire Hogs.

T. WAITE, Perkins, Cal., breeder of registered Berkshire Hogs and Plymouth Rock fowls.

J. P. ASHLEY, Linden, Cal. Breeder and Importer of Thoroughbred Swine. Small Yorkshire Victoria, Essex and Poland-China. Superior Stock, Low Prices.

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Is prepared to quote prices on the best stock of Oxford Down Sheep to be had in England. Parties wanting first-class stock should write for particulars and induce their neighbors to join them. Import will arrive in June. Write at once.

EGGS! EGGS! EGGS!

S. C. BROWN LEGHORNS, S. C. WHITE LEGHORNS. EGGS \$2.50 per setting; \$4 for two settings; \$5 for three settings. White Leghorn pen headed by "Volante," score 96. Brown Leghorn pen headed by "Imperial," score 93. Send for circular. Satisfaction guaranteed to all.

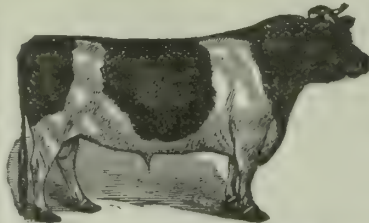
FRANK A. BRUSH, Care Santa Rosa National Bank, SANTA ROSA, CAL.

California Inventors

Should consult **DEWEY & CO.** AMERICAN AND FOREIGN PATENT SOLICITORS, for obtaining Patents and Copyrights. Established in 1890. Their long experience as journalists and large practice as Patent attorneys enables them to offer Pacific Coast Inventors far better service than they can obtain elsewhere. Send for free circulars of information. No 220 Market St., San Francisco, Cal.

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This herd comprises Seventy Head, ALL REGISTERED PURE-BRED Holstein-Friesian Cows and Bulls, choice pedigrees, comprised of the "Artis," "Netherland," "Aagie," "Cliden" and "De Brave Hendrik" families; among them a number of fresh Milch Cows. Every animal will positively be sold. This herd is the best in the State, and here is a rare chance to buy the best of this great breed of cattle.

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WEDNESDAY, JUNE 14, 1893, AT 11 A. M.

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KILLIP & CO., Auctioneers.

.....BEST MODERN STRAINS OF.....

POLAND-CHINA

.....PIGS FOR SALE.....

Sired by first class imported males. My Brood Sows, imported from the East, are the admiration of everybody, being fine individuals and, like the Boars, rich in such blood as Tecumseh, the most famous hog that ever lived, King Tecumseh his greatest son, Tom Corwin 2d, whose owner refused \$1000 for him, Cora Schellenberger, whose produce sold for \$3900 before she died, and other prize winners at Eastern State Fairs. Inspection invited and correspondence solicited. Parties giving timely notice will be met at station. Ranch one mile from station.

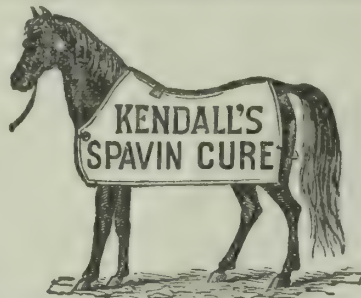
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MANHATTAN STOCK FOOD.

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Genuine only with RED BALL brand. Recommended by Goldsmith, Marvin, Gamble, Wells, Fargo & Co., etc., etc. It keeps Horses and Cattle healthy. For milk cows; it increases and enriches their milk.

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Dear Sirs:—I have used your KENDALL'S SPAVIN CURE for the last twelve years never being without it but a few weeks in that time and I have made several wonderful cures with it. I cured a Turb of long standing. Then I had a four year old colt badly Sweeneyed; tried every thing without any benefit, so I tried your liniment, and in a few weeks he was well and his shoulder filled up all right, and the other, a four year old that had a Thoroughpin and Blood Spavin in the same joint, and to-day no one can tell which leg it was on. These statements can be proven, if necessary; the four year olds are now seven and can be seen any day at Cottage Grove, Or.

S. Z. PAXTON.

—Price \$1.00 per bottle.—

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HOW TO RAISE TURKEYS!



The numerous diseases that are usually prevalent among very Young Turkeys may be prevented by the use of

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Dovetailed Hives, Sections, Comb Foundation, Foundation Machines, Extractors, Smokers, Honey knives, Alley's Traps, Perforated Zinc Honey Boards, Shipping Cases, Cans and Cases for extracted Honey, Bee Tent, ROOT'S GOODS, and everything required by the trade, wholesale and retail.

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Short-Horn BULLS

Calves, Yearlings and 2-year-olds

FOR SALE.

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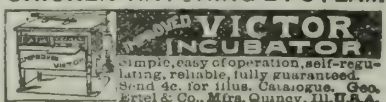
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85 Fine Engravings showing the positions and actions of sick horses. Gives the cause, symptoms and best treatment of diseases. Has a table giving the doses, effects and antidotes of all the principal medicines used for the horse, and a few pages on the action and uses of medicines. Rules for telling the age of a horse, with a fine engraving showing the appearance of the teeth at each year. It is printed on fine paper and has nearly 100 pages, 7x10 inches. Price, only 25 cents, or five for \$1, on receipt of which we will send by mail to any address DEWEY PUBLISHING CO., 220 Market Street, San Francisco.

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Importers & Breeders of Red Polled Cattle. We have 200 head of Full Bloods and Crossbreds on Devons, Bulls and Heifers for sale. Address communications regarding Cattle to MECHAM & FRITSON, Petaluma, Cal.



MECHAM & HINKLE,

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The flock was imported or bred direct from imported stock. The Shropshire excels all mutton breeds for a cross on the merino—giving more wool and mutton than that from any other breed. Pure and Crossbred Rams and Ewes for sale. Direct inquiries regarding Shropshires to MECHAM & HINKLE, Petaluma, Cal.



H. MECHAM,

Breeder of American Merino Sheep Without Horns. The only flock in the United States. When we bought our sheep East 24 years ago, among them was a ram without horns. He grew to be a fine large sheep, shearing at 2 years old, a 12-month's fleece, 85 lbs. of long white wool.



I have bred from him and his get ever since and have never made an out-cross and never used the same ram but one year on the same flock. My rams at two years old weigh from 160 to 180 lbs., have a strong constitution, without wrinkles, and will shear on an average about 25 lbs., a 12-month's fleece, of long white wool. Rams and Ewes for sale. P. O. Address Star Point, Sonoma Co., Cal. R. R. Station, Petaluma.

I call the attention of every owner of Horse or Cow to my

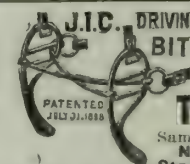
Remedy for Colic in Horses or Cattle.

CURES EVERY CASE in 5 to 20 minutes when every known remedy fails.

PREScription.....25 CENTS.

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IT WILL CONTROL THE MOST VICIOUS HORSE.

75,000 sold in 1891. 100,000 sold in 1892.

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S. F. MARKET REPORT

Market Review.

SAN FRANCISCO, June 8, 1893.

The week has developed no encouraging feature in wheat; but, on the contrary, matters appear to have gone from bad to worse, and attempts to stop a continued decline in prices have been unsuccessful. The situation is very singular. In spite of the fact that reports of growing crops in the world are unfavorable—in the United States very much poorer than for several seasons—the market has not been able to sustain itself. Ordinarily, reports of damage to growing crops, either at home or abroad, would stimulate activity and bring about an advance in quotations. The causes which depress the market are two-fold, viz.: The serious financial crisis, and the large stocks of old wheat on hand. The more potent factor just now is the financial stringency, which in Chicago, the chief speculative center, amounts to little less than a panic. Bank failures have been numerous, and the confidence of buyers is much shaken and their resources considerably limited. It is, of course, impossible to tell just how long the present uneasiness and uncertainty will prevail; but financiers confidently look forward to a better condition of things in the near future. It is a noteworthy fact that none of the great banking institutions of the country have gone under, and that the failures have been chiefly confined to minor institutions. But their difficulties have, nevertheless, been a powerful influence in tightening the money market and disturbing values in wheat and other commodities.

During the flurry which occurred in Chicago during the week prices for June wheat went down sharply. The cause was largely the financial situation and reports of bank failures. The market has since partly recovered, and prices yesterday showed improvement and there were indications that the market would recover its lost ground.

The visible supply of wheat in the United States is gradually diminishing, and it may be hoped that by the time the new crop comes in, it will have reached reasonable proportions.

Reports from the Middle West confirm recent expectations of a large shortage in the wheat yield. Our statement, several weeks since, that the deficit would in all probability be somewhere in the neighborhood of 100,000,000 bushels—a falling off in the yield of about 20 per cent—bids fair to be realized. Conservative estimates are now that the yield will be about 425,000,000 bushels—a falling off from the output of 1892 of 90,000,000 bushels. This shortage should very much more than offset the unusual abundance of old stocks of wheat, and enhance values, especially in view of the fact that foreign crop reports do not now indicate an average yield; but, as stated before, the financial crisis has been a demoralizing factor.

In California, recent favorable weather has considerably improved crop prospects, and grain will yield better than thought a few weeks since. In the northern counties, if there are no new unfavorable conditions, from one-half to two-thirds of an average yield may be expected. In the San Joaquin and southern counties all grains now show up very well, and the output there will be full. On the whole, it may now be expected that the California output for 1893 will be somewhere in the neighborhood of 30,000,000 bushels against 38,000,000 last year. Carry-over stocks, however, will be somewhat in excess of last year.

First Carload California Wheat.

On June 2, the first carload of this year's California wheat arrived at Port Costa, having been shipped from Delano, Kern county. It was raised on the ranch of J. M. and O. B. Kimberlin, near Poso, Kern county. This is the fourth year that the Messrs. Kimberlin have made the first shipment of new wheat to this market, and the last three consignments coming to Bunn & Co. In 1888 the first carload came from Reedley, in Tulare county. The above are the only occasions when new wheat was shipped in May. In 1888 Modesto, Stanislaus county, had the honor of making the first consignment. The crop this year is a fortnight late.

Following table shows dates of arrival of new wheat at tide water:

Year.	Month.	Price.
1859.....	July 14.....	\$1 90@3 00
1860.....	July 3.....	1 50@1 55
1861.....	July 11.....	1 50@1 62
1862.....	July 24.....	1 62@1 65
1863.....	July 25.....	1 50@1 60
1864.....	July 9.....	2 80@2 95
1865.....	July 12.....	2 20@2 25
1866.....	June 23.....	1 50@1 60
1867.....	June 17.....	1 65@1 70
1868.....	June 18.....	1 90@2 00
1869.....	June 15.....	1 40@1 45
1870.....	June 9.....	1 70@1 80
1871.....	June 23.....	2 30@2 37
1872.....	June 10.....	1 80@1 85
1873.....	June 7 (at Vallejo).....	1 75@1 80
1874.....	June 11.....	1 65@1 67
1875.....	June 2 (at Vallejo).....	1 65@1 67
1876.....	June 9 (at Oakland).....	1 75@1 77
1877.....	June 2 (at Vallejo).....	2 40@2 45
1878.....	June 13.....	1 70@1 75
1879.....	June 20.....	1 65@1 70
1880.....	June 24.....	1 00@1 05
1881.....	June 7.....	1 25@1 40
1882.....	June 6.....	1 67@1 70
1883.....	June 19.....	1 65@1 70
1884.....	June 20 (Port Costa).....	1 75@1 80
1885.....	June 2.....	1 42@1 45
1886.....	June 5.....	1 30@1 35
1887.....	June 10 (Port Costa).....	1 75@1 80
1888.....	June 15 (Wheatport).....	1 17@1 20
1889.....	May 24.....	1 37@1 40
1890.....	May 20.....	1 30@1 35
1891.....	May 23 (Port Costa).....	1 02@1 05
1892.....	May 23 (Port Costa).....	1 52@1 55
1893.....	June 2 (Port Costa).....	1 35@1 40

The San Francisco Produce Exchange yesterday issued its customary report of grain, etc., remaining

in this State on June 1st. The figures compare as follows with those for the corresponding date in 1892:

Stocks of—	1893.	1892.
Flour, bbls.....	83 327	120,517
Wheat, cts.....	4,485,923	2,100,149
Barley, cts.....	1,309,102	913,049
Oats, cts.....	57,240	48,786
Rye, cts.....	9,725	5,831

Flour shows a comparative decrease of 37,190 bbls this year, while the following gains are shown for the other articles: Wheat, 2,385,774 cts.; barley, 396,053 cts.; Oats, 8,454 cts.; Rye, 3,894 cts.

On June 1st in previous years the stocks of wheat and barley were given as follows:

June 1—	Wheat.	Barley.
1891.....	1,626,562	352,882
1890.....	4,801,063	1,004,457
1889.....	2,924,430	2,052,630

The quantity of wheat on the 1st instant was the largest with one exception, for the given five years, 1889-93. The same also applies to barley.

European Crop Report.

From *Beerbohm's Daily List* of May 19th we make the following summary of European crop prospects for the week previous to that date:

Rains have ended the long drouth. France.—General rains, and prospects improved; but expectation of improvement thought to be exaggerated, just as reports of drouth were formerly exaggerated. As a matter of fact, rain too late to benefit crops greatly.

Germany.—Wheat fairly satisfactory.

Hungary.—Rain has improved spring crops.

Austria.—Wheat crop may improve with better weather.

Italy.—Grain has suffered much injury from drouth, but extent not known.

Roumania.—Good prospects.

South Russia.—Rains, improving prospects.

Central and North Russia.—Very cold, with frost and snow doing damage.

New Barley.

New California barley arrived during the week, the consignment consisting of two carloads. One came from P. Fabian & Co. of Tracy; the other came from Madera.

Since 1870 the dates of arrival of new barley in this city, and the prices at which the first lots have been sold, have been as follows:

Year.	Date.	Price.
1870.....	June 19.....	\$1 20½
1871.....	June 12.....	1 57
1872.....	June 6.....	1 40
1873.....	June 5.....	1 10
1874.....	June 9.....	1 45
1875.....	June 20.....	1 35
1876.....	May 30.....	90
1877.....	June 30.....	1 55
1878.....	June 11.....	80
1879.....	June 30.....	75
1880.....	June 24.....	64½
1881.....	June 21.....	90
1882.....	June 12.....	1 65
1883.....	June 25.....	95
1884.....	June 28.....	90
1885.....	June 16.....	1 25
1886.....	May 26.....	1 28
1887.....	June 3.....	1 15
1888.....	June 6.....	92½
1889.....	June 1.....	75
1890.....	May 31.....	1 00
1891.....	June 6.....	1 42½
1892.....	June 6.....	1 05
1893.....	June 3.....	91½@92½

Other Grains.

Sample market for barley has been quiet during the week. Crop prospects have recently very much improved, and, as stocks on hand are abundant, values have shown a weakening tendency. Old brewing, however, is not too abundant, and the demand is fairly good, though brewers complain that the demand for beer is not what it ought to be with warmer weather. Feed is dull.

For oats the market shows no improvement. There is talk of a drop of figures, but it comes from buyers. They are not disposed to trade at present quotations.

About 9000 sacks of corn came in this week and overstocked the market. When the surplus is disposed of, there ought to be improvement.

Coast Grain and Flour Trade.

The exports of wheat and flour from San Francisco during the months named were as follows:

Month.	Flour, bbls.	Wheat, cts.	Oats, cts.
July.....	81,862	20,405	9,008
August.....	110,645	20,869	3,880
September.....	100,254	50,818	39,671
October.....	127,063	81,281	38,366
November.....	112,017	124,988	62,386
December.....	83,702	134,490	29,754
January.....	71,231	141,261	15,993
February.....	71,810	75,858	6,908
March.....	71,693	67,841	11,321
April.....	76,880	40,235	14,955

Fruits.

The demand for oranges in the East shows much improvement, but it comes rather late. The orange crop is nearly disposed of. Besides, the entrance of deciduous fruits in the market will tend to divert attention from the oranges. Mediterranean Sweets, a late variety, are now in the Eastern market, and selling at about \$2.25 f. o. b. Quite a number of trees of this variety are growing in southern California. One Los Angeles firm has 100 carloads at Riverside. Another late orange is the St. Michaels, of which a carload has just been sold at \$2.75 f. o. b. Locally, receipts of oranges are still quite abun-

The Judson Fruit Company,
308 and 310
WASHINGTON STREET
San Francisco, Cal.

We are now better than ever prepared to receive consignments of all kinds of perishable products, such as Fruits, Vegetables, Eggs, etc. Our facilities for cool, dry storage and packing for long-distance shipping cannot be excelled. It is our constant aim to make our consignors and our customers stay with us.

THE DAIRYMAN who is doing business for Profit must use the **IMPERIAL RUSSIAN CREAM SEPARATOR**. This machine is Perfection. The Best and the Cheapest of all. No Engine and No Engineer required. Simple and Safe. If you do Not use it you are Losing Money with every pound of milk. Capacity of different sizes from 500 to 2500 gallons per hour. Duplicate parts of Sharpless Separators kept on hand. Balancing Bowls and general repairs of Separators a Specialty. Send for Catalogue to **A. J. VAN DRAKE**, Pacific Coast Agent, 203 Fremont St., S. F.

dant, and prices rule about the same, except for fancy varieties, for which the demand is good and the market firm.

New Madeline pears and Cherry plums are now in the market, and peaches have already been shipped. The pears came from the Sacramento river, and are reported hard to sell, though \$1 per box is the ruling quotation. Apples, being green, are in light demand. Cherries have sharply declined during the week, though the market is in good condition, the demand being active and receipts not too abundant. Cherry plums do not meet eager demand, being green. Strawberries are in good supply and trade is very good. Currants are coming in more freely and prices have declined.

There is nothing to be said of dried fruits, except that stocks are low and the new season is likely to find a fair demand. It looks now as if quantities of fruit dried will not exceed those of last year, if at all. Conditions are favorable for a prosperous year.

Vegetables.

New corn is shown in the market and sells from 15¢ to 20¢ per dozen. Tomatoes are also here. Early frost killed most of the tomato vines in the southern country, and the market has been entirely bare of this particular variety of vegetables for months. Last week, however, the Judson Fruit Company reported the receipt of a box of tomatoes from Los Angeles that sold at the fancy figure of \$5 for the box. String beans are in good supply. Asparagus arrives freely and meets a good demand. Summer squash has been reduced in price.

Potatoes are firm and receipts not more than abundant. Market for onions is steady.

Provisions.

While California bacon has been reduced in price, there is no change in conditions. The feature of the week is the beginning of operations by the Cudahy Packing Company at Los Angeles. Complaint is made that hogs in California are few. Seven cents is offered for live hogs. The Cincinnati Price Current, June 1, contains the following review of the situation:

"There does not appear to be much enlargement in the shipping demand for the product, although inquiries from distributing localities are of a more encouraging nature than previously. It is believed the domestic demand will assume more urgency in the near future, but the prevailing high position of values continues to restrict demand for foreign consumers. Our correspondence continues to indicate an unusual extent of losses of young pigs. It is difficult, however, to judge satisfactorily as to how this general condition exists, and as to how much it may have a bearing on future supplies; but there is little ground for building calculations of a positive tendency to liberal supplies of marketable hogs for many months to come—possibly a year. As compared with the recent past, the incoming months may show some increase."

Poultry and Eggs.

Poultry continues in about the same situation from week to week. There has been a decline in some lines, but the market generally is in fair condition, supplies are not heavy and the demand is good.

Eggs have shown a more material advance during the week than for a long time. The market is stronger, though some dealers complain of dullness. The receipts of eggs at this port were as follows:

Sources.	Dozen.
California.....	368 83½
Oregon.....	2 040
Eastern.....	304,200
Total.....	475 07½
April.....	458,75½
Increase.....	216,520

Butter and Cheese.

Butter is in large supply and it is said that some dealers are shading quotations in order to effect sales. Cheese is also weak and consignments plentiful. The receipts of butter and cheese at this port in May were as follows:

Sources.	Butter.	Cheese.
California, lbs.....	2,323,600	673 300
Oregon.....	41,400	36,800
Eastern.....	53,100	
Totals.....	2,365,000	765,200
April.....	2,206,200	787 400
Increase.....	158,800	
Decrease.....		22,200

Honey.

Reports of the new yield are to the effect that it will be large. This claim is, however, disputed.

(Continued on next page.)

HORSE COLLARS

—AND—

SADDLERY GOODS.

Davis & Son's Horse Collars are not filled with Self-Pulverizing Cork.

The U. S. Inspector of Harness Supplies and Horse Collars selected Davis & Son's make—both harness and collars. And so will all persons who want a solid, broad-faced, smooth collar which does not pinch the neck nor roll about unsteadily for three months before it settles down to a fitting shape or set squarely back on the shoulder. If you want a collar not stuffed with wads but our collars, as all other makes on this coast are wad collars. All wad-stuffed collars flatten down in a short time so that a sweat collar is needed to protect the horse from the wads or rags of straw. Davis & Son's Collars are all put under a powerful shaper or press before finished, which so disfigures them into a perfect shape, which allows the collar to set with its whole face against the shoulder. When a wad-stuffed collar is brought under this force it shows the old wad-stuffed collar to be merely a Puff Ball. Send or bring in to our factory in this city any collar and see this done, and see what a Pan Cake you have been selling to the people for collars. Our Boston Team long straw collars have no wads. The Rod of our Great Machine is supplied with small teeth on its lower surface like a fine saw. It picks up and carries with it as it flies through the straw a long straw in each tooth all of which are deposited in the collar, one behind the other, with more precision and regularity than human skill could ever accomplish, thus avoiding all lumps and wads, not even two straws crossing each other.

HAME ROOM.

No Collars on this Coast or elsewhere have as good Hame Room as the Davis & Son's Collar.

410 Market St., San Francisco.

SULPHUR WICKS

—FOR—
Bleaching Fruit.
Purer, Cleaner and Cheaper
Than Other Forms.

UNIFORM RESULTS INSURED.

They are sulphur melted onto strips of burlap, 10 to the pound. One of these for each tray or number of trays, and the dried fruit all looks alike. Samples sent by mail. Address, J. A. DURAND, 823 Front St. S. F.

For Sale at a Bargain.

1 "DANIEL BEST" TRACTION ENGINE, Largest Size.

1 "DANIEL BEST" COMBINED HARTESTER, 20-Foot Out.

This machinery all in good order at King City, Cal. Owner gone out of farming business there.

Address A. L. REED, King City, Cal.

Or EDWARD FRISBIE, Redding, Cal.

Bowens Academy,

University Ave., Berkeley.

BOARDING AND DAY SCHOOL
For Boys and Young Men.

Special university preparation, depending not on time but on progress in studies.

T. S. BOWENS, M. A. Head Master.

PACIFIC RURAL PRESS!
Is the Largest Illustrated and Leading Agricultural and Horticultural Weekly of the West. Established 1870. Trial Subscriptions, 50c for 8 mos. or \$2.40 a year (till further notice). DEWEY PUBLISHING CO., 320 Market Street, San Francisco.

The Markets.

(Continued from preceding page.)

some claiming that estimates of a heavy yield are an exaggeration. Recent weather, they say, has not been at all favorable. Prices have declined in expectation that the crop will be larger than last year.

Wool.

Wool has weakened and declined during the week and there does not seem to be any early prospect of improvement, though late advices from the East are encouraging.

Miscellaneous.

The flour trade is in unsatisfactory condition and prices are weak.

The new crop of hay is to a large extent supplanting old stocks and prices for the latter are weaker. Hops are very dull.

Grain Futures.

Liverpool.

The following are the closing prices paid for wheat options per cwt. for the past week:

	June.	July.	Aug.	Sept.	Oct.	Nov.
Thursday.....	58 1/4	58 1/4	58 1/4	58 1/4	58 1/4	58 1/4
Friday.....	58 1/4	58 1/4	58 1/4	58 1/4	58 1/4	58 1/4
Saturday.....	58 1/4	58 1/4	58 1/4	58 1/4	58 1/4	58 1/4
Sunday.....	58 1/4	58 1/4	58 1/4	58 1/4	58 1/4	58 1/4
Monday.....	58 1/4	58 1/4	58 1/4	58 1/4	58 1/4	58 1/4
Tuesday.....	58 1/4	58 1/4	58 1/4	58 1/4	58 1/4	58 1/4

The following are the prices for California cargoes for off coast, nearly due and prompt shipments for the past week:

	O. C.	P. S.	N. D.	Market for P. S.
Thursday.....	29 3/4	30 3/4	29 3/4	Better
Friday.....	29 3/4	30 3/4	29 3/4	Easier
Saturday.....	29 3/4	30 3/4	29 3/4	Inactive
Sunday.....	29 3/4	30 3/4	29 3/4	Dull
Monday.....	29 3/4	30 3/4	29 3/4	Neglected
Tuesday.....	29 3/4	30 3/4	29 3/4	

To-day's cablegram is as follows:
LIVERPOOL, June 7.—Wheat—Higher prices asked, but no advance established. California spot lots, 5s 1/4; off coast, 2s 3/4; just shipped, 3s 6d; nearly due, 2s 3/4; cargoes off coast, firm; on passage, firmly held; Mark Lane wheat, quiet; French country markets, tone generally firm; wheat and flour in Paris, fair; weather in England, hot forcing.

Eastern Markets.

The following shows the closing prices per bushel of wheat for the past week at

New York.

	June.	Aug.	Dec.
Thursday.....	74 1/2	77 1/2	82 1/2
Friday.....	74 1/2	77 1/2	82 1/2
Saturday.....	74 1/2	77 1/2	82 1/2
Sunday.....	74 1/2	77 1/2	82 1/2
Monday.....	74 1/2	77 1/2	82 1/2
Tuesday.....	74 1/2	77 1/2	82 1/2

The following is to-day's telegram—per bushel:
NEW YORK, June 7.—June, 74 1/2; Aug., 74 1/2; Dec., 81 1/2.

Chicago.

	June.	Sept.	Dec.
Thursday.....	62 1/2	71 1/2	76 1/2
Friday.....	62 1/2	71 1/2	76 1/2
Saturday.....	62 1/2	71 1/2	76 1/2
Sunday.....	62 1/2	71 1/2	76 1/2
Monday.....	62 1/2	71 1/2	76 1/2
Tuesday.....	62 1/2	71 1/2	76 1/2

The following is to-day's telegram—per bushel:
CHICAGO, June 7.—June, 64 1/2; Sept., 70 1/2; Dec., 75 1/2.

Local Markets.

WHEAT.

	May.	Dec.
Thursday, highest.....	\$1 35	\$1 37 1/2
lowest.....	1 30	1 32 1/2
Friday, highest.....	1 35	1 37 1/2
lowest.....	1 30	1 32 1/2
Saturday, highest.....	1 35	1 37 1/2
lowest.....	1 30	1 32 1/2
Monday, highest.....	1 35	1 37 1/2
lowest.....	1 30	1 32 1/2
Tuesday, highest.....	1 35	1 37 1/2
lowest.....	1 30	1 32 1/2

*Milling.
†New.

The following are to-day's recorded sales on Call:
Wheat—Morning—Informal Session: December—100 tons, \$1.37 1/2 per cwt. Regular Session: December—600 tons, \$1.37 1/2; 600, \$1.35; Seller 1893, new—100 tons, \$1.37 1/2; 200, \$1.37 1/2; 300, \$1.37 1/2; 400, \$1.37 1/2; 500, \$1.37 1/2; 600, \$1.37 1/2; 700, \$1.37 1/2; 800, \$1.37 1/2; 900, \$1.37 1/2; 1000, \$1.37 1/2; 1100, \$1.37 1/2; 1200, \$1.37 1/2; 1300, \$1.37 1/2; 1400, \$1.37 1/2; 1500, \$1.37 1/2; 1600, \$1.37 1/2; 1700, \$1.37 1/2; 1800, \$1.37 1/2; 1900, \$1.37 1/2; 2000, \$1.37 1/2; 2100, \$1.37 1/2; 2200, \$1.37 1/2; 2300, \$1.37 1/2; 2400, \$1.37 1/2; 2500, \$1.37 1/2; 2600, \$1.37 1/2; 2700, \$1.37 1/2; 2800, \$1.37 1/2; 2900, \$1.37 1/2; 3000, \$1.37 1/2; 3100, \$1.37 1/2; 3200, \$1.37 1/2; 3300, \$1.37 1/2; 3400, \$1.37 1/2; 3500, \$1.37 1/2; 3600, \$1.37 1/2; 3700, \$1.37 1/2; 3800, \$1.37 1/2; 3900, \$1.37 1/2; 4000, \$1.37 1/2; 4100, \$1.37 1/2; 4200, \$1.37 1/2; 4300, \$1.37 1/2; 4400, \$1.37 1/2; 4500, \$1.37 1/2; 4600, \$1.37 1/2; 4700, \$1.37 1/2; 4800, \$1.37 1/2; 4900, \$1.37 1/2; 5000, \$1.37 1/2; 5100, \$1.37 1/2; 5200, \$1.37 1/2; 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California Crop Prospects.

[Summary of Report of Observer James A. Barwick for Week Ending June 3, 1893.]

Haying is over, crop short and price high. Harvesting commenced and variously estimated at from one-half to three-fourths of a crop.

Colusa County—The northerly winds have damaged the grain crop considerably. Contra Costa County—The outlook for hay and grain in this county, with the exception of the marsh grant and vicinity, is not promising.

Sonoma County—Immense crops of hay, wheat and barley are assured in the reclaimed tule lands bordering on Sonoma and Petaluma creeks.

Tehama County—Weather pleasant for hay-making. Owing to poor prospects much wheat will be cut for hay. Potato crop good.

Solano County—Cherry crop badly damaged by heavy winds, but from reliable reports (papers) crops in the Suisun valley were not damaged to any great extent. (Vacaville)—Cherry crop up to the average. (Putah Creek)—Wheat and barley prospects not up to the average. Fruit, however, will make a good showing.

Santa Cruz County (Watsonville)—Prospects for blackberry crop good.

Sonoma County—Reports show prospects for potato crop good. (Coleman Valley)—Crops looking bad after so much heavy wind. (Geyserville)—The cherry crop this year, as a general thing, is small.

Sutter County—Apricot prospects for large crop not good.

Kern County (Tehachapi)—Crop prospects are not flattering.

Tulare County (Visalia)—Reports and observations from all parts of our county are to the effect that the outlook for crops during the present season is better than ever before known. Our apricot trees are full. Our prune crop is large. Pears give the same promise of large results. The reports from the East are rather discouraging to the fruit-grower there, but encouraging to the fruit-grower here. In regard to the vineyards, the outlook was never better.

Lake County—(Upper Lake)—A very seasonable week has improved all crops. Hay will be scarce, also grain. Fruit looks well, particularly prunes. Grapes never appeared better. Grain hay is being cut on upland.

Yuba County—(Wheatland)—Grain is beginning to show the effect of northerly winds of the past few days, and, should they continue much longer, considerable damage will result to the already light crop.

Siskiyou County—(Yreka)—The grain, grass and fruit crops of this county promise a full yield.

Nevada County—(Nevada City)—Haying generally commenced throughout the county; yield considerably below average. Grass is drying in foothills and stock being driven to summer pastures on higher ground.

Placer County—(Newcastle)—Weather very favorable; grain hay nearly ready to cut; will be a fair yield. Cherries abundant and peaches a fairly good crop.

Alameda County—(Livermore)—North winds and heat have hurried haying very much. Barley will soon be ripe and ready to harvest. Much of the wheat crop intended for grain will be cut for hay. On the whole, prospects unchanged.

San Joaquin County—(Lodi)—The weather for the past week has been generally favorable to all crops. The fruit crop of all varieties will be light. Wheat improving. Watermelons making rapid growth, but are very late.

Monterey County—(San Ardo)—The weather for the past week was not very favorable to late-sown grain, with dry, hot winds and hot wave toward end of week. Fruit promises a full crop.

San Luis Obispo County—(San Luis Obispo)—The hay crop is of good quality, but rather light. Beans coming on nicely. Fruit doing very well. Cool weather has helped pasture. Dairies doing well.

Santa Barbara—(Santa Maria)—Prevailing weather foggy at night and morning; favorable for grain and all summer crops. Beans are not a full stand. Cold ground prevented a uniform sprouting; but those up are doing well. Potatoes poor. Apricots and peaches light; other fruits good. Haying all done; a very good average. Heading begun.

BICYCLES are machines by means of which muscular power can be used in locomotion to better advantage than in walking, and persons using their muscles in this way are, as the word velocipede expresses, swift-footed. Mechanics estimate that six miles can be ridden on a bicycle with no greater expenditure of power than is required in walking one mile.

A CHATHAM MIRACLE.

DR. CARL VERRINDER'S VICISSITUDES OF TORTURE AND OF HEALTH.

He Survives Them All, and Recounts His Wonderful Deliverance from Poverty and Death, and His Restoration to Prosperity and Vigor of Mind and Body—Good Words for the A. O. U. W.

(Chatham Planet.)

In a Raleigh street residence there lives with wife and one child—a little ten-year-old daughter—a musician known throughout Ontario, if not the whole Dominion, as a prince among pianists, organists and choir masters—a veritable maestro and "Wizard of the Ivory Keys," and no one who has ever listened to his manipulation of the great organ in the Park Street Methodist Church, or heard him evoke "magic music's mystic melody" from the magnificent Decker Grand in his own drawing room but will declare that his eminence is well deserved, and his peers can be but few among the professors of Divine Art. The door plate bears the following inscription:—

CONSERVATORY OF MUSIC.

DR. CARL LEO VERRINDER,
Director.

To sit, as did a *Planet* reporter a few days ago, in a very atmosphere of sweet harmony, created by Dr. Verrinder's magician-like touch, was an experience that might well be envied, and one calculated to inspire the most sentimental reveries. But sentimental moods finally vanish and leave one facing the sober and practical side of life. The music ceased and the conversation took a turn leading to the real object of the reporter's call.

"There are stories abroad," said the newspaper man, "regarding some extraordinary deliverance from death, which you have met with recently, doctor. Would you object to stating what foundation there is for them, and, if any, furnish me with the true facts for publication." Dr. Verrinder shrugged his shoulders and laughed. "I have not," he replied, "been given to seeking newspaper notoriety, and at fifty-five years of age it is not likely I shall begin, and yet," said the professor after thinking a moment and consulting Mrs. Verrinder, "perhaps it is best that I should give you the circumstances for use in *The Planet*. The story of my rescue from the grave might fittingly be prefaced by a little bit of my early history. We resided in England, where, though I was a professor of music, I was not dependent on my art, as I had acquired a competence. My wife was an heiress, having £50,000 in her own right. Through the rascality of a broker she was robbed of almost all of her fortune, while by the Bank of Glasgow failure, my money vanished forever. It became necessary for me then to return to my profession in order to live. I do not speak of it boastfully, but I stood well among the musicians of that day in the old land. My fees were a guinea a lesson, and it was no uncommon thing for me to give twenty in a day. We came to America, landing in Quebec, where I anticipated getting an engagement as organist in the cathedral, but was disappointed. Subsequently we moved to St. Catharines, in which city I procured an organ and choir and soon had a large clientele. Later, in order as I thought to better my fortune, I took up my residence in London, first filling an engagement with a Methodist church and afterwards accepting the position of organist in St. Peter's Cathedral. In those cities I made many warm friends, and their tributes and gifts I shall ever retain as among the most precious of my possessions. It was while living in London and pursuing my art with much earnestness and labor that I received a stroke of paralysis. Perhaps—here the speaker rose and stretching himself to his full height, thus displaying his well-built and well-nourished frame—"I do not look like a paralytic. But the truth is I have had three strokes—yes, sir, first, second and third, and they say the third is fatal, ninety-nine out of one hundred. Yet here you see before you a three-stroke victim, and a man who feels, both in body and mind, as vigorous as he ever did in his life. My ultimate cure I attribute to my testing the virtues of a medicine whose praise I shall never cease sounding as long as I live, and which I shall recommend to suffering humanity as I am now constantly doing, while I know of a case and can reach the ear of the patient. After removing to Chatham I had not long been here when my health further began to give way. Gradually I noted the change. I felt it first and most strongly in stomach affection which produced constant and most distressing nausea. It grew worse and worse, I myself attributed it to bad water poisoning my system. One doctor said it was catarrh of the stomach. Another pronounced it diabetes, still another a different diagnosis. I kept on doctoring, but getting no relief. I tried one medicine after another, but it was no use. Grippe attacked me and added to my pain, discomfort and weakness. At last I took to my bed and it seemed that I was never going to get well. Nothing of a nourishing nature would remain on my stomach. No drugs seemed to have a counteracting influence on the disease which was dragging me down to death. My wife would sit at my bedside and moisten my lips with diluted spirits, which was all that could be done to relieve me. Besides three local doctors who gave me up, I had doctors from London and Kingston whose skill I believed in and to whom I paid heavy fees, but without receiving any help or encouragement. It is true that a stomach-pump operation afforded temporary relief, but yet I felt that my peculiar case needed some special and particular compound or remedial agent which I knew not of. But at last, thank God, I discovered it. I had been for eighteen months a miserable wreck, unable to work, unable to eat or to sleep properly. My means were becoming exhausted. My poor wife was worn out in body and spirit. Suddenly the deliverer came! Pink Pills! Yes sir! Pink Pills—God bless their inventor or discoverer!—have rescued me from the jaws of death and miraculously made me what you see me to-day, hearty, happy, with a splendid appetite, a clear brain, a capacity for work and an ability to sleep sound and refreshing sleep—a boon that only a man who has experienced the terrors of insomnia can rightly appreciate. Bear in mind, my friend, I am no wild enthusiast over the supposed merits of this medicine. I have tested the virtues of Pink Pills and am ready to take oath to their efficacy. No one could shake my faith in them, because what a man has thoroughly proved in his own experience, and what he has had confirmed in the experience of others—I have prescribed the pills to other sick persons and know what extraordinary good they have effected in their cases—he ought to be convinced is so. I shall tell you how I came to try them. A fellow member of the A. O. U. W., the brethren of which order had been more than kind to me during my illness, recommended Pink Pills. I knew nothing about what they were or what they could accomplish. In fact, I am rather a skeptic on what are termed "proprietary remedies." But I started to take Pink Pills for Pale People, made by the Dr. Williams' Medicine Co., Brockville. From the very first, one at a dose, I began to mend, and before I had taken more than a box or two I knew that I had found the right remedy and that to the Pink Pills I owed my life. In nine months I have taken twelve boxes—just six dollars' worth. Think of it my friend! Hundreds of dollars for other treatment and only six dollars for what has made a man of me and set me again on the highway of health and prosperity. There is some subtle, life-giving principle in Pink Pills which I do not attempt to fathom. I only knew, like the blind man of old: "Once I was blind; now I can see!" God, in the mystery of his providence, directed my brother of the A. O. U. W. to me. I took it, I live and rejoice in my health and strength. I have no physical malady, save a slight stiffness in my leg due to grippe. I feel as well as in my palmiest days. My prospects are good. All this I gratefully attribute to the virtues of Pink Pills for Pale People, "and now my story is done!" as the nursery ballad runs. If anybody should ask confirmation of this tale of mine, let him write to me and I shall cheerfully furnish it. The Pink Pills were my rescuer and I'll be their friend and advocate while I live!"

The reporter finally took his leave of Dr. Verrinder, but not without the professor entertaining him to another piano treat, a symphony played with faultless execution and soulful interpretation of the composer's thought.

Calling upon Messrs. A. E. Pilkey & Co., the well-known druggists, the reporter ascertained Dr. Williams' Pink Pills have an enormous sale in Chatham, and that from all quarters come glowing reports of the excellent results following their use. In fact, Dr. Williams' Pink Pills are recognized as one of the greatest modern medicines—a perfect blood builder and nerve restorer—curing such diseases as rheumatism, neuralgia, partial paralysis, locomotor ataxia, St. Vitus' dance, nervous headache, nervous prostration and the tired feeling resulting therefrom, diseases depending upon humors in the blood, such as scrofula, chronic erysipelas, etc. Pink Pills restore pale and sallow complexions to the glow of health, and are a specific for all the troubles peculiar to the female sex, while in the case of men they affect a radical cure in all cases arising from mental worry, overwork or excesses of whatever nature.

These Pills are manufactured by the Dr. Williams' Medicine Company, Schenectady, N. Y., and Brockville, Ont., and are sold in boxes (never in loose form by the dozen or hundred, and the public are cautioned against numerous imitations sold in this shape) at 50 cents a box, or six boxes for \$2.50, and may be had of all druggists or direct by mail from Dr. Williams' Medicine Company from either address. The price at which these pills are sold make a course of treatment comparatively inexpensive as compared with other remedies or medical treatment.

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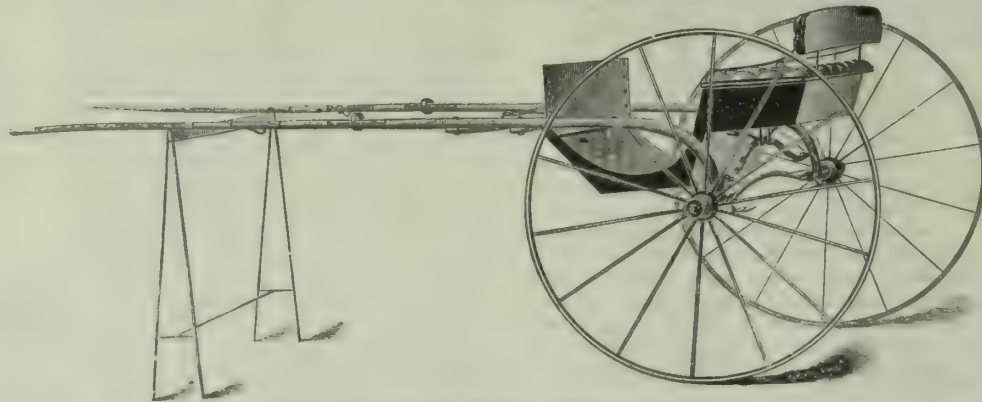
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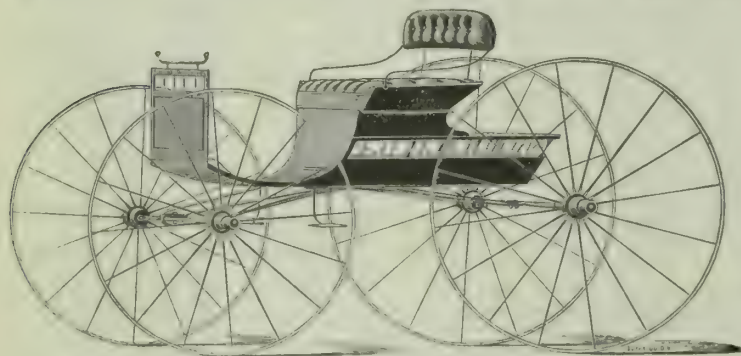
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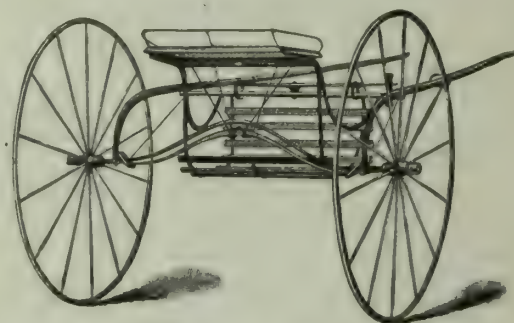
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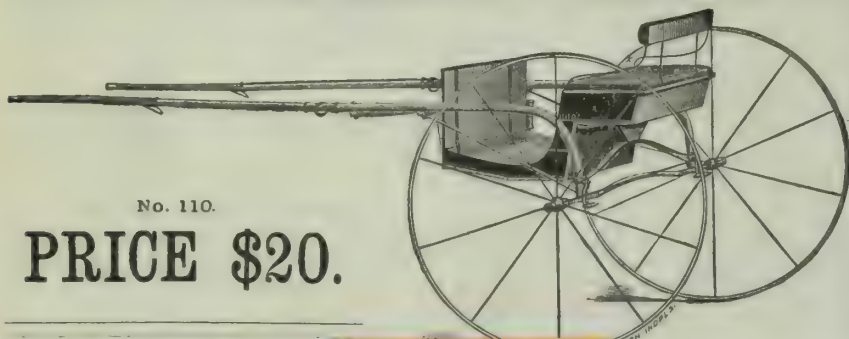
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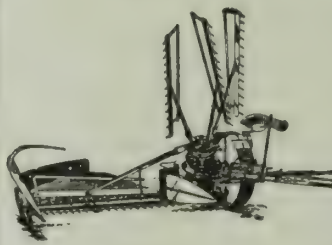
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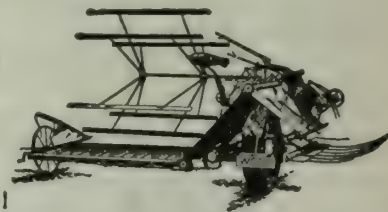


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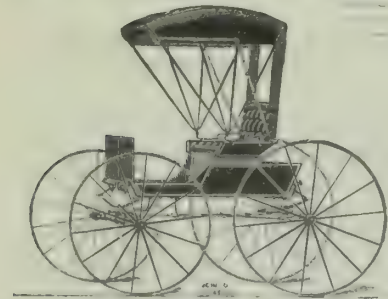


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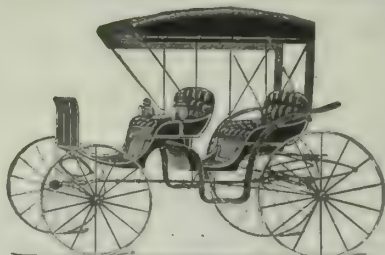
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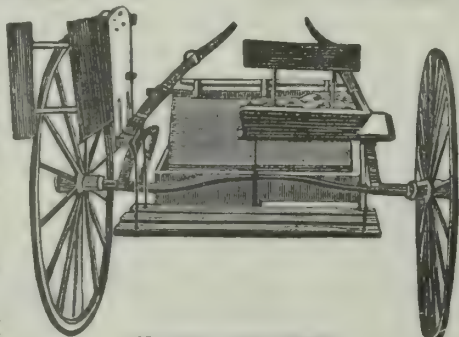
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Vol. XLV. No. 24.

SAN FRANCISCO, SATURDAY, JUNE 17, 1893.

THE DEWEY PUBLISHING CO.
Office, 220 Market St.

Oak Parks and Fruit Farms.

The oak knows what good soil is. It is true that the oak does not always get all the good soil it wants, and it shows its short rations by its diminished breadth and structure. On the other hand, it rises in majesty and extends until it canopies a good part of an acre, providing it has a pre-emption claim on good, deep valley soil. There are many species of oak in California, and all have interest and merit, but the great white oaks of the valley command homage from all who contemplate their symmetry and grandure.

The extension of the arable area of the State has called for the removal of myriads of oaks, and their remains have dispelled the chill of winter ever since the Argonauts fleeced the aboriginals of their ancestral possessions; still, oaks are abundant in California, and give a park-like appearance to great areas of the valleys and foothills. Our earliest agriculture waged little warfare on the oaks. The earliest stockmen had such seas of land to range over that they cared little for that the oaks shaded. The grain-grower also had so much land that he did not care to undertake such heavy axeing as the oaks demanded. It has been possible to too graze and to grow some grain beneath the oaks and they have stood to

footsteps of the oak. It is not the ground covered by the spread of the oak, but the immediate seat of the trunk, which refuses good growth to the young tree, consequently it is only a tree here and there which shows a hard lot.

As has been intimated, some of the best fruit regions of the State have been reclaimed oak parks. The plantation on such valley lands is constantly increasing. Our engravings on this page show such lands in the upper Sacra-

THE WAR BETWEEN the sheepmen and the authorities of San Bernardino county has resulted in a partial victory for the former. A county ordinance was recently enacted prohibiting the driving of sheep over public highways in bands of more than 100. The object was to prevent spring migration to the mountains, where sheep do much damage to the undergrowth and impair the value of watersheds. A test case was the other day brought before Superior Judge Otis, who decided that the ordinance was unconstitutional, being unreasonable. Sheepmen are still liable to a tax of six cents a head, and the authorities will doubtless find means of rendering their lot an unhappy one. There is much to be said on both sides of the question, but it will probably happen in San Bernardino, as it has elsewhere, that sheep ranges will be encroached upon by agriculturists year by year until the area of freedom is very much limited.

THE ANNUAL MEETING of the stockholders of the Florida Fruit Exchange was held at Jacksonville last Thursday. The annual report of President Fairbanks showed the growth of the industry in Florida had increased from 600,000 boxes in 1885 to 3,900,000 for the season just closed. The average net price to growers at the nearest railroad or steamboat station was



COTTONWOOD CREEK IN TEHAMA COUNTY.



ORCHARD LAND, COTTONWOOD PARK FRUIT COLONY.

FRUIT LANDS AMONG THE OAKS IN TEHAMA COUNTY, SACRAMENTO VALLEY.

shade the stock and to punctuate with green the vast yellow fields. If such industries had always prevailed the oak would have been slowly thinned out as fuel needs or prices invited the saw and axe.

The extension of the orchard and vineyard area has well-nigh swept the oaks from the local landscape. Smaller valleys, like the Vaca valley, which have shown such peerless soil and climate for fruit, have been given to orchard almost from side to side, and none but the pioneers remember the great oaks of the early years. Only here and there, near a residence or in a creek corner or on the highway, stand survivors of the race of mighty oaks. The oak tree is a weed in an orchard. It displaces many trees. It rises before the plow or cultivator as a high rock confronts a navigator. It must give way, and powder and fire are invoked as cheap annihilators. But even then its influence remains. Trees seldom thrive in the immediate

mento valley, in Tehama county, where a large fruit interest is being established. The colony plan is, in some cases, being employed, as in the Cottonwood Park Colony, whose lands and surroundings are shown in the engravings. There are also important individual and corporate enterprises. The picturesqueness of such situations is in itself inviting, and the profit in such enterprises, if well managed, seems assured by the common experience of the State during the last decade.

IT IS REPORTED from Washington that during the 11 months ended May 31, 1893, the value of export breadstuffs was \$173,069,261, and during the corresponding period the preceding year \$272,476,023, a decrease of \$99,406,762. Of this decrease \$64,674,765 was in wheat, \$21,015,317 in corn, \$10,037,184 in rye, \$2,943,875 in oats and \$737,671 in barley, cornmeal, oatmeal and wheat flour.

\$1.31 per box—an increase of nearly 20 per cent over the average of the previous year. President Fairbanks claims the coming crop will exceed in volume all previous yields. A conservative estimate places it at fully five million boxes, of which over four million will be marketed. It is the purpose of the Fruit Exchange to market a considerable portion of this crop in England and other foreign countries.

THE JERSEYS ARE AHEAD in the dairy test at the World's Fair. But it is not to be expected that it will be proved the Guernseys and Shorthorns are not first-class breeds. We do not mean to detract from the merit of the Jerseys' performance when we say that a good part of their success is no doubt due to their greater thoroughness of preparation. Careful and intelligent selection of cows was made, and the result is precisely what might have been expected.

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ALFRED HOLMAN.....General Manager

San Francisco, June 17, 1893.

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The Week.

The great work of the fruit harvest presses closer, and it is a most encouraging fact that the labor supply appears to be ample. Reports to the State Board of Trade from different parts of the State state that good workers can get employment, but there will be no occasion to call upon the idle or dissolute, and they need not invade the country in the hope of dictating terms. This adequate labor supply is one of the most encouraging features of our progress in fruit. It is chiefly owing to the disposition of all—but notably of women and children—to earn honest dollars in the fruit harvest. The effort and the reward do them good and their willingness is a boon to the fruit grower. Soon the labor will begin and hold for months between the earliest and the latest fruits. All who desire engagements should not delay in securing places in advance. May they all have a busy summer and a happy one.

Great Cry and No Wool.

It is telegraphed from the World's Fair that in the northern gallery of the Agricultural building there have been erected two long rows of glass cases, running parallel, for the purpose of displaying exhibits of wool. These cases have been paid for by the different States pro rata. Splendid exhibits are made under the names of most of the wool-producing States of America, but when the California case is reached it is found to be empty.

In connection with this statement we are given the following lecture and exhortation:

California State Commission is not to blame for this deficiency either, for long ago they paid their pro rata for the cases. The lack of an exhibit of California wools is due solely to the wool-growers themselves. The commission made repeated requests of them to send on samples for exhibition some time ago. As yet no attention whatever has been paid to them. As a result California lacks representation in a department in which it could first rank had the wool-growers only enough ambition to send on a display. Are there no wool men in California who will take the pains to send on twenty pounds of selected wool each of the different species grown by them? The wool would be all returned in good order at the close of the fair, as it would be used for nothing outside of exhibition purposes.

Thus it appears that the California Commission made

a great cry and secured no wool. We do not like to find fault, but it is almost too plain to close the eyes upon that the Commission during its whole life relied too much on the "great cry" plan of collecting the California exhibit. In the case of wool it would have been exceedingly easy to have secured a fine display by approaching personally a dozen producers who handled different breeds and securing from them good samples of their spring clip for exhibition. Such men do not travel by the circular route and they pay little attention to general exhortations in the newspapers, but they could have been readily secured by personal solicitation from any reputable person who knows wool and woolmen. It is hardly fair to claim that the Commissioners' responsibility in this matter ended when they paid their show-case assessment. It would seem that ordinary curiosity would have prompted them to ask each other: Where is the wool for those cases? Have we the personal promises from two or three breeders of Spanish-American Merinos, French Merinos, Franco-Spanish Merinos, grade Merinos, and of the several breeds of coarse-wooled sheep which are grown in California, that they will supply representative samples? The trouble, we imagine, is this, and possibly in some other directions, that too much reliance was placed by the Commissioners in a corps of wide-awake gentlemen of good executive ability, but whose actual knowledge of California products and producers was very limited. They were good, perhaps, at broadside circular solicitation, but for the sharp-shooting in selection of special exhibits and in securing the personal interest of producers they were, through lack of knowledge and acquaintance, unfitted. For this reason we do not enjoy the fling which is made at the wool-growers that they are to blame because the California show-case is in the same condition as Mother Hubbard's cupboard. We believe that the Commission or its employees are to blame, and will remain in blame until they right the error, so far as possible, by employing the method of personal solicitation now which they should have used before the spring clip was made. It will take more hunting now to get the wool, it is true, but it cannot be had otherwise unless some enterprising wool-growers who read this article are prompted to save the credit of the State by destroying the vacuum in that case for which California has paid. We hope they will do it.

While we are in a growing mood we must express the deep conviction that those critics are right who write from Chicago that Californians have made a mistake in concentrating California displays so largely in the State building and doing so little in the main competing departments. The exposition is so vast that the ordinary visitor will have little time for the sideshows in the State buildings no matter how fine they may be. We shall, too, be omitted from the work of the juries and have only our own claim that our displays are better than others. As a matter of fact the California big head which has so largely characterized our effort at Chicago will greatly reduce the realization of benefit from our participation in the fair. We hope as the months go by that this apprehension may be allayed, but we would vastly prefer to see California prominently displayed in every regular department in the fair than to know that she has a peerless collection which people generally have no time to consider.

Hanging Up the Scalps.

It is announced that it will require an order from the Supreme Court to get the State to pay out any more money on account of coyote scalps. The State Board of Examiners has set its foot down on the business and says that the only power which can make it audit these claims is the highest tribunal of the State.

Since the passage of the act by the Legislature of 1891 the State has paid out in coyote bounties something like \$200,000, and at the same rate, if the State had not quit, much more than that sum would have been paid out by the time the next Legislature meets.

The last claims the State paid were for the quarter ending September, 1892, and since that time over \$80,000 in claims have accumulated.

As the law directs the examiners to take up the claims every month, these coyote claims will be taken up and passed, without approval, from month to month. Had the Legislature provided a special appropriation the examiners would be compelled to audit these claims, but as no such action was taken, the Governor, Attorney-General and Secretary of State do not propose to allow the general fund to be used as it has been.

Although the coyote act has been decided constitutional, the Board of Examiners contend that, in want of a special appropriation, it is an open question whether those claims can be paid out of any fund in the State treasury. The examiners themselves will not bring suit to settle the question; the person interested will have to do it.

Last year, when we invited readers of the RURAL to

give their experience and observation as to the result of the coyote warfare for State money, several very strong letters were written and duly published in our columns. It was clearly shown that great benefits had been derived from the slaughter of the marauders. When the subject came before the Legislature last winter a showing was made for the law favorable enough to prevent its repeal, although the city element, in press and people, made a strong fight against this concession to the sheep and poultry interests. We believe that the money spent for coyote scalps has been repaid many times in the protection of small stock from their ravages and that in some regions the warfare was so well waged that the varmints were well nigh cleaned out. Naturally large expenditures would be made at first when the coyote supply was large and available, but subsequent immunity can be had at small aggregate cost. It seems to us that the bounty should stand and just claims be paid. Possibly more stringent rules should be adopted to prevent importation of scalps and other frauds, but a price on the head of every coyote would be but an insignificant interest rate on the value saved to the State.

A PROJECT IS ON FOOT at the town of Placerville, El Dorado county, to establish a cannery. The matter is yet in embryo, but there seems a fair prospect that the public may take hold and give substantial encouragement to the promoters. In urging the importance of the enterprise, the *Republican* very well says: "A cannery well managed will economize the resources of the county, save fruit that would otherwise go to waste, tend to raise the average price of fruit received by the grower, give employment to a number of persons, and in general increase the average prosperity by home industry." That is the truth in a few words. A cannery that yields no direct profit is nevertheless of much benefit to a community. Its greatest value lies in the fact that it affords an avenue for the disposal of surplus fruit products, regulating the market for and enhancing the value of fresh fruits.

A SOLANO COUNTY PAPER warns the community to expect harder times this season than for many years, owing to a partial failure of crops, and the prevailing financial stringency. It declares that the single-crop farmers are in much worse condition than others and advises all hereafter to diversify. The advice is good. The farmer who depends for an income upon the result of one crop, be it grain, or potatoes, or one variety of fruit, commits a grave error. If his crop fails he is altogether deprived of an income, and his only resource is the money-lender and the mortgage. Experience teaches that single-crop farmers, when once in debt, are rarely free from the shadow of an impending foreclosure, or, at least, of a coming interest-day, with nothing to meet it. Farming for one thing alone is a good deal like staking all on one shake of the dice. It is risky business.

GRAIN-GROWERS IN THE SAN JOAQUIN VALLEY have ample reason to be convinced of the value of irrigation. It transpires that uniformly good crops will result wherever there is natural sub-irrigation, and that in other places crops are uneven and in many places amount to little or nothing. It is not too much to say that in some parts of California artificial methods of irrigation are a vast improvement over natural, and man does more for growing crops than nature. That is to say, natural forces and supplies, when controlled and regulated by man, yield highest and best returns. Providence has done much for California. But California has helped itself in no inconsiderable extent.

WE are already receiving gratifying response to our invitation to those who succeed in fruit-drying to describe their methods for our special issue on that subject. We anticipate an experience meeting on fruit-curing which will profit all who participate. Let us ask again for volunteers to contribute information which will enable the inexperienced and the unsuccessful to produce better dried fruit. By a little interest and effort just at this time it is possible to add much to the aggregate value of California dried fruit, and this means a step toward wider prosperity and comfort. We welcome help toward that end.

THE DAIRYMAN'S UNION is reaching out for markets. It proposes to establish an agency at Seattle, Wash., for the purpose of supply of the Northwest trade. It is believed that an important trade can be secured in this manner, and a portion of our surplus products advantageously disposed of. The Dairyman's Union has been a good illustration of the benefits of co-operation. It did not attempt to do too much. It knew that the child must creep before it walked. Now that it has securely entrenched itself as a factor in California trade, it finds it safe and advisable to enter other markets.

From an Independent Standpoint.

The follies of the reception given the Infanta Eulalie at New York have been more than matched at Chicago, whither the Princess went last week to view the Exposition. Not content with making geese of themselves, the Chicago toadies have made geese of their children, who are of course too young to know better, though not, unfortunately, too young to gain impressions to their everlasting damage. When the Mayor paid his respects, he bowed and scraped like the traditional dancing-master and warmly kissed the royal hand. When Eulalie visited the Exposition, a hundred thousand Chicagoans, so the report says, "did homage" to the royal visitor, and, among other flub-dubs, troops of school children walked before, scattering flowers along her path. When she went to church, there were such eager and pressing crowds of oglers that the police with difficulty maintained the peace. Of course all this is in wretched taste, and it bores and disgusts the Infanta just as it does the American public in general. On Sunday, after an experience exceptionally unpleasant, she said plainly that she was wearied with the formality with which she had been surrounded ever since her arrival in Chicago; that she wanted to be a democrat in a democratic country, and see the fair like any other visitor. Speaking for her, Commander Davis, who is acting for the Government, said: "There must be no more formal receptions tendered the Princess. Unless she is permitted to see the fair without being fatigued by the tiresome formal receptions, she will return to Spain. She will not be presented to any one else while in Chicago." It is a just, though a severe rebuke to the toadies and sycophants of Chicago that the Princess is sick and tired of them and wants to be let alone.

The political system of this country is based upon a principle which directly negatives the principle which the Infanta Eulalie represents. The very existence of our Government is a protest against monarchy. When visitors, especially those related to other political systems, come here they want naturally to see how our plan works. We have the opportunity, by generous and self-respecting entertainment in our own best style, not only to teach them something, but to show our country and ourselves in a creditable light. This is what the great mass of common-sense people would like to do; but they are not allowed to do it, because the tom-fools, dudes and sycophants rush to the front and insist upon misrepresenting and humiliating the country. That the Infanta is as much disgusted as most of our own people are, displays her own latent good sense, though it does so at the expense of our own folly. To her and to the whole European world, the incidents of her reception at New York and Chicago seem to have demonstrated that we are a nation of toadies, and that when we talk about American independence and self-respect we are simply "blowing" about things of whose meaning we have no real conception.

We trust that it will be many a long year before the United States entertains another "royal" visitor. If all the tom-fools could be housed up during such visits they would be well enough; but as this is not possible it is better that royalties should stay away until the spirit of common sense gets a stronger growth in the country.

On Thursday last the Republicans of Ohio nominated Major McKinley for another term as Governor. This is very generally supposed to be—and it was without doubt so intended by the Ohioans—as the first move in the next presidential game. But independent of this speculative element of interest, the nomination is most significant. It indicates that the Republicans of Ohio, and presumably of the tier of States of which Ohio is the geographical and political keystone, are in a temper to stand by the old guns and fight the coming battle on the old lines. Current Republican sentiment in Ohio, if the McKinley nomination may be taken as meaning anything, is solid for protection and for the gold-valued dollar.

In accepting the nomination, Major McKinley said nothing notable—in fact, said nothing at all excepting to criticize the administration. He blamed Cleveland for not calling a special session of Congress to deal with the financial situation. He declared that the business of the country was being paralyzed because of the fear of tariff revision; and he thought the only hope of relief was in the Republican party. The Democratic party, he said, was not prepared to grapple with the problems of the time, because it was broken into factions, and he predicted a do-nothing policy. And so on. It was a great occasion, for he had the ear of the whole American people. It was not a great speech, for it did nothing but work over old ground. No new principle or plan of action was suggested—nothing in the way of new information or new light was put forth.

We do not share in the worship of Major McKinley which is just now so general. Of his fine social and moral

qualities it would indeed be impossible to say too much, but it takes a good deal more than fine manners and good morals to make a national political leader. Now while McKinley has a thousand graces of person and character he has no capacity to open men's minds, no magic to set the band to playing and drums to beating in men's hearts. He has not a trace of that quality which made the name of Blaine a bugle-cry on every field of political strife. Compared with Blaine, McKinley is at once a better man and a poorer leader. At this time and three years from now the Republican party wants a bolder, hardier spirit at the head of its forces. It wants a leader who can either raise up new issues or put fresh life into old ones, and such a leader will spend more time in looking and pointing and leading on than in looking backward and finding fault.

Such a leader the Republican party must have, and he is not yet in sight. The party has a set of basic principles which have stood the test of time and trial, and which give it standing and respect in defeat as in victory. It has an incomparable record. It has its forces organized in every State and county of the nation. It has a full half if not the larger part of the talent and wealth of the country. But it has no great national leader. Mr. Edmunds is too cold and too old. Mr. Sherman is not available for the same and for other reasons. Ex-President Harrison has had his turn and is played out. Mr. Depew is too close to the corporations. Tom Reed isn't big enough. Mr. Evarts is a back number. The man is not in sight, but if the party is to hold its own, he must be found.

At the last meeting of the local grange at Yuba City, Mr. B. F. Walton proposed, as a subject for future consideration, a resolution calling on the Government to establish a system of parcel carriage and delivery as an adjunct of the National Postal Service. Here is a subject at once practical and timely; and if the grange will take it up and push it as it did the project for a Department of Agriculture, it will win. As everybody knows, the mails are practically closed against merchandise; and the reason for it is not because parcel carriage is not an easy or legitimate department of postal service, but because it is by itself a profitable business. The natural and proper expansion of our mail service has been limited and hindered by the influence of the express companies. This is the plain truth; the express companies have headed off all attempts to make the postal service do a work that is very much needed. The chief sufferers are the people who live in the country, for the express charge stands between them and the choice of markets. It affects them in another important way, namely, by making it possible for the local merchant to screw up prices under the protection against competition which this express charge affords him. There will of course be a powerful combination of interests against the project of enlarging the postal service to include the carriage of parcels. It will include the railroad companies, the express companies, the city transfer companies and a large part of the mercantile interest; but it is right, and in the end it will win. In our judgment, it is far more important as related to the interests of the country than the much-lauded project of rural mail delivery.

A chance remark made to a San Francisco reporter last week by Rev. Thos. Spurgeon of London gives the "Standpoint" an opportunity to preach a little sermon. Mr. Spurgeon has just been called by his father's old congregation in London to stand in his father's pulpit. He was in this city Thursday on his way home to answer this call, and, speaking of it to a *Chronicle* man, he said: "I am thought to have the tone and gesture of my father and much the same manner of speaking, and it was because my father's old congregation thought I resembled him in this way, so they said, that they wanted me to come. I shall try rigidly to preach on the same lines as my father and carry out all his ideas."

Now if young Mr. Spurgeon follows this plan of proceeding on his father's lines and carrying out his father's ideas, he may accomplish a respectable career, but it will be relatively a small and weak one. No man ever yet achieved great success by imitating anybody else, and no man ever will. The elder Spurgeon was a truly great and wonderful man, but his "lines of work" were his own—the expression of his own heart and mind. Young Mr. Spurgeon could not do better than to form his own character upon the precepts of his father—to learn from his father's life and work the lessons of faith, of industry, of sincerity, of charity, of human brotherhood, and of absolute Christian consecration. But having learned these lessons, let him speak with his own "tone;" let him form his "manner of preaching" upon his own impulses and temperament; let him regulate the "lines" of his labor upon the conditions and necessities of his own times rather than upon the times in which his

father worthily lived and labored. There is no other way of success, for no man ever yet successfully worked another man's vein.

Few of our readers, perhaps, are very much interested in young Mr. Spurgeon, but most of them are interested in the development and in the future of their own children, and what we have said about this young man applies to the sons, little or big, of every father in California. Fathers should strive to teach their sons independence, and not imitation. An imitator is a mere human parrot, or, at best, a human machine limited in its development to the questionable standard of the "copy." You—we address each father personally—are living in the nineteenth century, amid conditions which grow out of and fit the time; your son's career will be in the twentieth century amid conditions as different from to-day as to-day is different from '49. Now, the *qualities* which made a successful man in '49 are the same as those which make a successful man in '93; and they will be the same twenty years and twenty centuries from now. In future times, as in past times, self-control, integrity, industry, and economy will make a thrifty and prosperous man. Teach your son these cardinal principles, discipline him in their exercise and, with them as a basis, teach him independence, allow him to live his own life, to work on his own lines—in short, to be his own man, and not his father's or any other man's echo.

ONE LEADING ORANGE-GROWER at Duarte, Los Angeles county, has been figuring up results for the season and finds that his oranges netted him nine cents a box. While nine cents' margin of profit is considerably better than nine cents' loss, it is hardly enough. But it may not be that much in future to the orange-grower, at the present heavy increase of production, and with unsystematic and unintelligent methods of marketing. The producers must organize in self-protection, or the future of the industry cannot be foretold.

THE PHYLLOXERA seems to be making slow and sure progress in the vineyards of Santa Clara valley. Wm. Pfeffer, of Guberville, ventures the alarming prediction that the destruction of all *vinifera* vineyards in Santa Clara, and all over the State, is only a question of time. Mr. Pfeffer assumes of course that no specific remedy for the deadly pest will meantime be found. Planting of resistant vines may be an expensive process, but it is at present the only recourse of vineyardists whose preserves have been invaded by phylloxera.

SAN JOSE LAST WEEK SHIPPED 15 carloads of cherries to the Eastern markets, weighing 365,365 pounds. The fruit movement is fairly begun and before the season is ended it is predicted that a maximum of 10,000,000 pounds per week will be attained. Last year high-water mark was 8,000,000 pounds.

THE PLAN FOR CO-OPERATION of horticulturists of Sonoma county has taken definite form. It is proposed to hold a meeting at Santa Rosa, June 24th, for the purpose of effecting an organization. The fruit-growers of Sonoma have concluded that the way to co-operate is to co-operate.

THE FIRST COMPLETE CAR of peaches and apricots of the season was sent to Chicago June 11th by the Vacaville & Winters Fruit Company. The shipment was 12 days later than last year. The Vacaville district is keeping up its record for early fruits in 1893 as in other years.

THE PRODUCTION OF CALIFORNIA insect powder is increasing. The work of gathering buhach on the plantation near Merced is nearly completed, and it appears that the yield will be in the neighborhood of thirty-seven tons as against thirty tons last year.

THE FRUIT-PACKING SEASON around Santa Rosa opened this week. The cannery and a number of warehouses are running. It is thought that peaches and pears will be a light crop, but that fully 500 tons of prunes will be marketed at Santa Rosa.

DR. THOMAS MCCLAY, president of the State Board of Veterinary Surgeons, was recently thrown from a buggy near Petaluma. He had his arm dislocated at the elbow joint and was seriously injured.

Holstein Cattle Sale.

The sale of Holstein cattle, belonging to C. E. Humbert, took place on June 14th, when all animals catalogued were sold at fairly satisfactory prices for the times. Thirty-eight cows, heifers and calves sold for \$1775, an average of \$46.70; the highest-priced cow, Maude, \$110; the next highest being \$100. Twenty-four bulls sold for an average of \$33.50, the highest price paid being for the 3-year-old, San Mateo; the next highest was \$77.50, paid for a yearling.

The cattle were all in good condition and showed the effects of good care.

The Logan Berry.

TO THE EDITOR:—I take pleasure in sending you a drawer of the "Logan berry." This berry is a cross between a blackberry and a raspberry, and originated from seeds taken from plants growing together. The vine trails on the ground like a dewberry vine and grows with us without irrigation 8 to 12 feet in one season. The leaves are very much like those of the raspberry—a dark-green color and quite large. The thorns are very sharp, but short, and inclined to be soft and by no means severe on the hands. The fruit when left on the vines becomes quite dark, but not black. The leaf stalks and hulls are much like those of a raspberry. The vines are exceedingly prolific and bear enormous crops. It will hardly be worth my while to give you a further description of the fruit, as it will speak for itself, or you can judge for yourself.

This berry is a strong evidence of the possibilities of what may be done by the intermixture of plants belonging to the same family, and is a field for those inclined to experiment in that direction. We have no means of knowing whether these plants came from the seeds of the raspberry or blackberry, but we do know it is from the mixture of the two plants—that is, the flower of one was fertilized by the other.

The berries are very early. They usually commence to ripen about the middle of May, and last for a month or more, so that they are all ripe and gone before blackberries come in. For jams or jellies they are hard to beat.

JAMES WATERS.

Pajaro Valley Nurseries, Watsonville.

We are under obligation to Mr. Waters for a very fine specimen of this interesting fruit and for the very good description of the plant and the fruit which we publish above. We have had the Logan berry under observation for several years, and have long been convinced of its striking merit and interest as a novelty and of its desirability as a table fruit. As Mr. Waters is now shipping the fruit to the city trade, its commercial standing will soon be demonstrated.

The Logan berry originated with Judge Logan of Santa Cruz, who is an expert horticulturist as well as prominent in the public affairs of his county. The fruit is very large when well grown, exceedingly handsome, and, when ripe, is delicious and with a flavor which mystifies as well as delights. It seems to us the fruit presents exceptional internal evidence of a cross and mingles the distinct characteristics of its putative parentage in a most wonderful manner. We have often wondered that it was not seized upon before by the plant propagator. Fortunes have been made out of varieties far less interesting and valuable.

Bluestone for Curled Leaf—The Elberta Peach.

TO THE EDITOR:—Enclosed find clipping from Napa Register of yesterday. I would like to ask if any other fruit-grower has tested the bluestone remedy, and if so with what effect:

D. H. Arnold wrote to J. B. Griffin, of Winters, asking if there was a remedy, and he says he uses bluestone. He says: "We use it as a spray in the fall, after the leaves have fallen, and in the proportion of 10 pounds of bluestone to 100 gallons of water." His experience with this is satisfactory.—*Colusa Sun*.

Also, I would enquire into the merits of the Elberta peach, so greatly recommended by Eastern nurserymen. With me, and also with a neighbor, it curled very badly both this year and last.

W. F. MOYER.

Napa.

Bluestone spray has been favorably reported upon by a number of growers and so has the Bordeaux mixture. Most striking freedom from curled leaf has followed the use of the sulphur salt and lime spray in the winter for scale insects.

We would like to hear more about the Alberta peach. Probably several can give us their observations on its hardiness, etc. The first fruit we have seen was shown at the Horticultural Society last fall by Leonard Coates of Napa. Tell us how the tree stands the California climate, etc.

Daniel Flint at the Fair.

He Gives Readers of the "Rural" Some Impressions and Some Advice.

TO THE EDITOR:—Several of my friends have said to me, "We shall look to the RURAL PRESS to learn what you think of the Columbian Exposition." After looking it over the best I could for 11 days, the magnitude of the exposition grew on me to such a rate that I have shrunk from the herculean task of describing it and given a clear field to the multitude of pencil-pushers and Hoe's latest-improved presses. You may read the tons and tons of descriptive articles about it, get the best maps of the grounds, make yourself master of the location and objects of the buildings, play upon your fancy and imagination with a liberal dash, and that will be a slight effort toward its realization. It is as great a marvel of conception as it is of enterprise. It is the eighth wonder of the world. It is an object-lesson and a school of concentrated education that only years of travel and the closest observation could attain. I will say to all that can possibly see their way clear, do not fail to see the greatest aggregation of ancient or modern times. Adjectives have lost their force and are as feeble in the description as an air-gun would be against modern ramparts. We only use mimic language and pantomime.

Perhaps I can do a kindness to some of my friends and the readers of the PRESS who contemplate a visit to

Chicago: The first requisite is to clear your feet of corns and bunions and your head of fossils. If you have a pair of shoes that you have formed an intimate acquaintance with, bring them, for you will prize them as high as you do your first marriage certificate. If you have a good supply of fossils, leave them at home and come clear-headed. Leave your trunks at the depot until you are located. Do not pay any one for a room until you have seen it. Take the elevated steam road that runs into Jackson park on Sixty-third street. Get off cars outside of grounds, opposite Buffalo Bill's show to the left hand and north. There are any quantity of hotels within one, two and three blocks of the grounds whose charges are reasonable and rooms rather small. We paid \$2 for our room and \$2 for our meals, without lunch. Good meals for 50 cents, and even 25 cents; lunch in park from 30 cents to \$1.50 each, according to taste and finance.

A good many of the exhibits are not completed yet and will not be until July. I should say a person who cannot come but once should come in September or October, but there is more there now than is in position than a person can do justice to in ten days, and it would seem almost folly for a person to attempt it in any less time.

Two classes of persons are in attendance at the fair—one to spend or disburse and the other to make or receive; but the order of book-keeping is reversed, for the disburser begins his exercise first. It only costs 50 cents to get into the grounds and visit all the exposition buildings, but if your curiosity gets the best of you and you want to ride in a gondola and swift-gliding craft, ride in wheel chairs, see the streets of Cairo, Irish village, old Vienna, Java village, Turks, Esquimaux, the Islands of the Sea and other things almost without limit, you will pay from 25 to 50 cents for such luxury.

If you are going to Chicago to get the full benefit of the fair, I should say take rooms close to the grounds, for you will be so tired when you leave the grounds you will want to get to your rooms at once and will not want to run around much at night. Eleven days was all we could hold of the exposition at one sitting, but we expect to take another shot at it in July before returning to California, when we think everything will be complete. The California building, with its display, affords as much attraction as anything on the grounds.

DANIEL FLINT.

Lansing, Mich, June 7, 1893.

A Letter from Texas.

TO THE EDITOR:—Here we are out in Southwest Texas, a sunny summer land where roses may bloom in the open yard all the year. Bee county is 70 miles southeast of San Antonio, 190 miles west of Houston and 40 miles from the coast at Aransas Pass. You will understand why our climate is mild better when I tell you that we are seventy-five miles south of New Orleans, about on a line of the orange-growing district of Florida. But the heat of our summer is tempered by the ever-refreshing sea breezes.

With us at the present writing early corn is in roasting ear, cotton is blooming and watermelons are beginning to ripen. We have had good seasons and all these crops are assured this year, also fruits.

This is a great winter vegetable country, which is quite a profitable industry for northern shipment. Almost all fruits, except apples, including oranges, do well. But our great leading farm crop is cotton. The staple is fine and yield heavy, because of the long picking season—July to December.

But it must be remembered that while we are the west for the south our country is very new and undeveloped. It is a natural range-stock country with green grass all the year and it is only recently that the big pastures have begun to be cut up and offered to farmers in small tracts, fine lands at \$5 to \$10 per acre, easy payments. This is bringing us an influx of good people as these facts become known.

Bee county is a gently rolling prairie country, some open, some brush, timber enough for posts and fuel. Soil, a sandy loam, very fertile, resting on a red clay subsoil. Roads hard and excellent. County has two railroads. Beeville is county seat, 2500 population, good growing town, excellent schools, churches and society.

Our climate is not only mild but very healthful. Air dry and pure; no swamps, stagnant water or malaria; breezes fresh from the salt sea and invigorating, many people with throat and lung troubles come here to get a new lease on life. But what we want is good people to help us develop this grand new country, seeing is believing and I will gladly give any information in my power to health and home hunters.

J. W. MAGILL.

Beeville, Texas, May 30, 1893.

To Prop or Not to Prop.

TO THE EDITOR:—This is a question of great interest at present to many owners of Tulare's overburdened fruit trees.

Mr. Lake of the Chapin ranch, near Tulare, has already used 6500 feet of lumber on his 45-acre prune orchard and is likely to need 10,000 feet more. His method is to cut 1x4 stuff into 6 to 8 feet lengths and use four lengths as posts about the tree and four others tied on top of them as beams to hold up the branches. As his trees have only four or five years growth, sticks of this length reach more than half way to the ends of the over-hanging limbs.

Paige & Morton use 2x3 posts with 1x4 nailed across about five or six feet from the ground. These props they place wherever the weight of the fruit is likely to split down the crotch of the tree, or break off a large limb near the body. Others use a long scantling to set up in the centre of the tree to which they run stay ropes from limbs in every direction. They expect the weight of fruit on one side of the tree will nearly balance that on the other. Still others apply the same principle of compensation by running a bale rope around the tree that prevents the branches from spreading so far as to break.

Mr. M. J. Rouse of Visalia (now in charge of the famous

Briggs orchard for which \$12,000 was lately paid for the fruit as it hangs upon 90 acres of trees) says that he has tried many ways of propping and almost always had the limbs break at the point where they were supported.

The Prune Tree Trained to Avoid Propping.—As there is little hope of raising a tree strong enough to sustain the immense weight of fruit produced by Tulare prune trees, Mr. Rouse proposes to make the ground do the work by so training the branches as to have a large number of slender limbs starting from the base of the tree and gradually spreading as the fruit gains in weight until the ends rest upon the ground. When the fruit is gathered and branches relieved from the strain they nearly recover their original upright position.

To develop this habit of growth he went over his prune trees planted in spring of '93 a week or two ago and pinched back the terminals to within twelve or fourteen inches of the old wood. Already they are sending out many shoots from the remaining buds that will form the future top desired. Mr. Rouse is very careful not to shorten back the prune, but to let it develop its full tendency to form slender branches that will bend without injury. That the writer prefers prevention to propping is proven by pinching back his own little prune trees, according to these suggestions.

FRANK S. CHAPIN.

Gleanings.

ISN'T IT ABOUT TIME the scale-bug was under weigh for foreign climes?

ORANGE SHIPMENTS from Ontario this season foot up 200 carloads.

MAYBE IT WAS A WET SPRING FOR GRAIN, but that don't prevent summer-fallowing.

WHITEWASH WAS NOT MADE only for chicken lice. It looks first rate on a back-yard fence.

A COLD-STORAGE WAREHOUSE at Fresno, for the benefit of the raisin and fruit industry, is under way.

HOW OUR FRUIT IS PACKED is of more interest to Tulare county this year than is the action of Congress, truly remarks the *Tulare Register*.

A SUTTER HEN has laid an egg 6½x7½ inches in circumference; and the turkeys of Sutter county are said to be hiding their heads in shame.

IF THE LUMPY JAW WERE TRANSFERRED from cattle to several Denis Kearneys who are howling that the country is going to the demnition bowwows, it might do a power of good.

A VALUED EXCHANGE, in course of a long article, advises producers in capital letters to "sell when a fair price is offered." Good advice. But this don't include a Chicago Fair price.

GROWERS AROUND SALEM, OR., say they will have only half a crop of strawberries. Half a crop, however, is a good deal better than no strawberries, sagely remarks the *Salem Statesman*.

THE SALEM *Statesman* of June 7th chronicles the advent of the first strawberries in that part of Oregon. California was something like six weeks earlier, and even then it did not think it was doing very well.

THE LOS GATOS *News* gives a simple formula for arriving at the truth of a fish story, thus: The angler claims 300; cut off the two ciphers at the right, divide the remainder by 3 and deduct 1 from the quotient.

THE SAN JOSE *Mercury* arises to remark that "in all this controversy about the proper way to receive royalty, we would be pleased to have Eastern society acquire some better ideas on the deportment of the Chinese."

THE CREAMERY AT POINT ARENA, Mendocino county, now has 460 cows producing 9183 pounds of milk per day, and one day last week the butter-making process yielded in a few minutes 570 pounds of choice, sweet butter.

"AN ENGINE of one-hat power running all the time is more effective than one of 40-horse power standing idle," said the late George William Curtis. But a cat of 40-horse power running all night is an abomination and an incentive to crime.

"AFTER THE DR. BRIGGS HERESY CASE, WHAT?" excitedly asks the *Pomona Progress*. We don't know, but we rather think the cholera would lighten up the gloom into which the public has been plunged during the unholy wrangle over the late Presbyterian doctor's trial.

THERE ARE BUT FIVE SALOONS in Butte outside of Chico, Oroville, Gridley and Biggs. These four towns contain 29 out of the 34 saloons now doing business in the county, says the *Oroville Register*. Dr. Keeley would starve to death if he depended on the agriculturists of this country to furnish students for his justly celebrated institute.

F. S. LYTAKER of SONOMA COUNTY is 77 years old. One day in May last he chopped and corded up a rick of wood 24 feet long, four feet wide and four feet high, and all he had to drink was water from the old well. Mr. Lytaker evidently does not think the well water has been detrimental to his health, remarks the *Santa Rosa Republican*.

MARYSVILLE CANNING COMPANY SHIPPED a carload of canned fruits to New York City Wednesday. The freight rate is down to 50 cents per 100 pounds, a low rate for 3831 miles haul, which is the distance by the Sunset route. Now if the railroad company will show like appreciation of the needs of the fresh-fruit shippers, we may all be happy yet.

MR. CORBETT, THE PRIZE-FIGHTER, it is announced by an admiring daily press which has faithfully chronicled the minutest doings and most trivial sayings of the great bruiser, was considerably disappointed over his reception in the home of his birth. The public had commendably small curiosity to see the pugilistic star on the stage. There is hope for the stage yet.

A LOS ANGELES JUDGE rendered a decision compelling a nurseryman to pay an orchardist damages because he had sold the latter a lot of peach trees which proved to be of varieties different from and inferior to those ordered. The ruling based the measure of value upon the difference between the orchard in its present condition and its value, under ordinary circumstances, with trees upon it of varieties ordered.

THE SOLANO *Republican* notes the vast improvement of modern methods of harvesting grain over ancient, when stalks were cut down with a scythe or cradle. The latest improvement is a hillside harvester, which is to be used on the ranch of J. B. Hoyt, in the Montezumas. Some day, perhaps, the perpendicular hills can be sown with grain, and all the uncultivated mountain space in California be utilized. Perhaps.

HERE IS A PUZZLE that has been racking the brains of Riverside people for the past few days: A young lady went into the postoffice, and, throwing down a dollar, asked the clerk to give her four times as many two-cent stamps as ones and the balance in three-cent stamps. The clerk, after figuring on it awhile, told the lady to call around just before the opening of the World's Fair and he would give her the stamps.

PUBLIC AFFAIRS.

The Marketing of Meats.

A Farmer Contrasts the New Method with the Old—Abattoirs.

TO THE EDITOR:—There are now three new abattoirs in operation in this State, planned after the fashion of the great abattoirs of the East, and through which it is expected there may be a complete revolution in the raising, buying, handling and sale of meats.

Meat-raising has not been a profitable occupation in this State for want of a reliable market, which seems strange considering that millions of dollars' worth have been imported annually for many years from Eastern markets, where the prices or first cost have been higher than here, and to which from one to two cents per pound must be added for transportation. Even to-day you may find in nearly every grocery store in this State Eastern hams, bacon and lard, and all the various portions of beef in cans, in such an attractive and convenient shape as to induce even the farmer himself to stock up his pantry with it at perhaps 10 to 15 cents per pound, when he is selling his best animals at four or five cents per pound dressed. This may be accounted for in the fact that in many cases there is no meat market near by, or to kill for his own use a carcass is more than can be used without its spoiling, while the canned meat will keep and is always ready and easily utilized.

Pork is also shipped here in large quantities, both salted green, smoked and pickled, as well as lard therefrom, which is less excusable as there is no better country for raising and curing pork than this. It is now conceded that barley and alfalfa, as food for hogs, are unequaled, and that five pounds of barley will make one pound of live pork; yet it seems that our people have preferred to buy their pork elsewhere at high prices and raise barley to sell at very low prices, and from which, if the cost of threshing, bagging, hauling and transportation to market is deducted, there has not been a living left.

This can be explained in saying that the market for live hogs has been so limited that a few hogs more than just sufficient enabled the dealers to make rates so low at times, and very often indeed, that the producers would net a loss.

The result was that millions of dollars worth have been imported at high cost, and yet no market for our own farmers. One reason why our own pork was not desirable was because it was not properly raised or cured. The farmer could not afford to grain his hogs well, because it did not pay, and it was not cured well for want of proper facilities.

Now that the abattoirs have come, with cheap transportation to all parts of the world, there is no reason why Chicago prices cannot be paid here for any quantity of pork that may be raised, and the surplus not required shipped abroad. This, in fact, should have been done for many years past, and the State would no doubt have been largely enriched and perhaps doubled in population ere this through the profitable employment it would have given our people.

This would apply to beef also, as the surplus could have been barreled and canned and sent away by the shipload from here just as well as from elsewhere. The best and largest tracts of pasture land on the coast were very naturally taken up in the early settlement of the country, when land could be had very cheaply by cattlemen, who gradually increased their holdings from their large profits until a few men owned pretty much all that was choice. Having a monopoly of the feed, they were at all times enabled to dictate prices for stock to those compelled to sell through want of feed. Controlling thus the bulk of the stock, they controlled the markets for dressed meats, and became more wealthy than any other class of citizens.

Farmers generally raise more or less stock, which, in the aggregate, would figure up largely; but, as the home market was limited, and no shipments to speak of abroad, they have generally found it difficult to sell their stock, except perhaps a few choice animals at low prices, while the remainder had almost no sale except to the large cattlemen at absurdly low prices.

By the old method the retail butchers (especially those outside of the cities) were compelled to scour the country night and day, with untold industry, to secure such stock as they might need for their trade, and then be forced to take stock that was unsuitable, or kill in heated blood, or sell before it was cool, or have a hot spell and spoil their meats. Thus they lost their money, their customers and their own good natures.

The farmer, by the old method, had to wait for the appearance of the butcher and take about what he would offer for his stock, as competitors were few and no general market to send to.

The consumer in the country had to suffer, because he could not rely on his butcher for what he wanted. So it frequently would happen that, notwithstanding there was an abundance of meats at all times in the country at moderate prices, the consumer could not get the quality or kind he wanted, at the time he needed it, even at high prices.

It seems now that the difficulty has been in the system of buying, slaughtering and selling, and in not finding a market for the surplus abroad. Thousands of people have been wasting their time in buying, driving and slaughtering animals in a barbarous way, on a small scale, when hundreds might have done the same much better and more economically. The farmer has wasted his time in waiting at home to sell a few animals at a time, at an uncertain valuation, to each butcher as he came along, when he might have sold the whole of his stock of all kinds—good, bad or indifferent—to one person, or sent them to a general market himself, where all could be closed out at full market prices.

By the new method of having stock of all kinds concentrated at a few points, there will be greater competition

among buyers, and the public would be informed more correctly as to market values. Besides, the economy of doing business on a large scale, and putting to use every scrap and portion of the animal slaughtered, must, with reasonable competition, inure to the benefit of the farmer.

The Eastern States, Argentine Republic, Australia, New Zealand and other countries are shipping refrigerated and canned meats abroad for long distances with remarkable success, and as meats can be shipped to Europe from here as cheaply as from Chicago, there is no apparent reason why it should not be done. The prices for meats here should be governed by foreign markets in the same manner as the price of wheat is fixed, and as both are staple articles in large demand, there is no reason why there should be any more difficulty in selling meat than wheat.

If all the meat product of a locality was shipped to a central point, in a wholesale way, by trains, steamers and barges, and then killed, cured and refrigerated in a large way, and distributed exactly as required by the consumers of that locality, and any surplus packed and shipped abroad, there would be no occasion for the excessive competition and rivalry such as now exists in the meat markets in order to dispose of their products, any more than there is in disposing of wheat or any other staple product that has the world for a market.

Heretofore the market for animals not fat, and cows, sows, bulls, steers, etc., has been very limited at merely nominal prices; while the world's market for second and third quality is always large. Therefore this country has been deprived of a market for the majority of their meat products by not having the modern abattoir to prepare them for market.

The modern abattoir will, in fact, take all of the meat product of the farmer at any and all times, whether it is old or young, fat or lean, thoroughbred or scrub, and in any quantity, and pay cash therefor, at full and well-established market rates; and then all that will be necessary for the farmer to do is to raise all the stock as best he can, and feel assured that it will all sell whenever he may think, as he does with his wheat, that the time and market are favorable.

Marin County, June 10, 1893.

FARMER.

HORTICULTURE.

Apricot Aliases.

TO THE EDITOR:—In an editorial in your issue of June 3d, you say something which reminds some of us down this way of certain peculiar experiences we have had as to names for the apricot. You say that the Large Early in central California is neither large, early nor a good bearer.

We here should very much like to know what you call the Large Early, and if what you call the Large Early is the same thing we raise under that name, my husband is decidedly of the opinion that it is *not* the same. There is a Large Early stock, so-called, hailing from central California nurseries that is, as you say, neither early nor large and does not bear. We had some trees and had to bud them all over. There was an orchard in Tustin of Large Early, so-called, and from that section so barren it had to be put into other fruit. But these (and other such trees we know of) are *not* the Large Early we have. This variety (which has its center in Santa Barbara and does splendidly there) is a beautiful fruit, fine, large, delicate translucent yellow, and so early it is nearly all picked in our orchard before we begin on the Early Moorpark, and it *always* bears a fair crop in our orchard, though under such climatic conditions as we have had this year it does not do so well as the Early Moorpark. It is evidently a more sensitive tree; but it is a quicker growing tree than the Moorpark, larger, with larger fruit, more luxuriant looking, bigger leaved, etc.—a handsomer tree altogether. During nearly 12 years in California I have hardly ever heard any housewife, or any one who eats apricots, express any opinion but a decided preference for the Large Early, or *white apricot*, as it is usually called.

Now as to the apricot we call the Early Moorpark. We are in a quandary about that. We have bought apricot trees called the *Royal*, the *Blenheim* and the *Wilcox*, which were identical with that which we have been taught to call the Early Moorpark, or *red apricot*, as it is called. I think few have the Late Moorpark. It is a shy bearer here, but we keep a tree or two; it is such a big, rich-flavored apricot—so fine for preserves and candied fruit, in spite of its tendency to have a hard spot on one side or cracked cheeks. Still there are those to whom the mushy flavor of the Late Moorpark is distasteful; but eaten after being canned whole I have yet to find any one who did not think it the king of apricots. It ripens after all the other apricots are gone.

As to the shy-bearing variety called the Large Early, we think it possible that some one had a seedling which bore well at first and thus so named it; then, as a mature tree, it did not do so well. This is often the case and seems a profitable solution of the mystery.

Santa Ana, June 5, 1893.

AUGUSTA E. TOWNER.

Twenty Cents a Pound for Figs.

TO THE EDITOR:—Mr. Raymond, the pioneer of Miramonte, Kern Co., after a very successful business career, turned his experience and capital toward the development of a new industry in an unsettled country, and certain features of his methods are worthy of special note and careful analysis. He sought "the most direct and economical contact between producer and consumer," as the grange Declaration of Purposes says.

1. *Produce something that a prosperous customer wants.* Mr. Raymond chose the white Adriatic fig, and was so careful to study the needs of the tree, to gather every fig by hand at the proper stage of maturity, to turn, press and

spread in curing, as to be able to guarantee every fig. Then he sent East and had a special package made from light, pressed tin to hold one pound, and had it made highly ornamental. In this he packed the figs in a distinct method of his own, so that when the lid is removed it looks as though the box contained a coil of rope. He intends that every one who opens a box of his figs shall remember that it was different from any other and that every one was a good fig. By such means he hopes that the sale of one box may find him a customer for the next.

2. *He consults the interest of the dealer.* When he makes up his mind to introduce his goods to a certain market, he takes pains to learn the standing of retail grocers, and after making his selection, sends a sample of his figs with the proposition to make him sole agent for that city, to consign no more fruit than he can easily sell, and to wait until the fruit is sold for his pay. Thus, the merchant is called upon to invest no capital and assume no risks, and is well pleased with a 20 per cent commission on sales. So far he has only three or four customers, and they fairly quarrel for a great many more figs than Mr. Raymond can supply. If such a man as the late Dr. Glenn or Mr. A. T. Hatch were to push the production and they could market their output so successfully as this, Smyrna would soon lose its prestige as the home of the fig. It had always been a mystery how Mr. Raymond could get 20 cents a pound for his figs, but after an interview it is a mystery no longer.

FRANK S. CHAPIN.

The Albright Fruit Ranches.

TO THE EDITOR:—A few days ago I found it convenient to visit these well-known fruit ranches. They are located about one mile south of Placerville. The soil here is a mixture between slate and lava, and, after being irrigated, holds water for a great length of time.

The first ranch visited was that of W. H. Albright, who has a good selection of commercial fruits. The French prune does well here. Most of the trees are young and are just commencing to bear. I was shown French prune trees that were grafted on almond stock, and an adjoining row which was grafted on peach root. Those on peach roots were heavily loaded with fruit, while those on almond had very little fruit. Those on almond stocks, however, had made a very vigorous growth, and will in time give large returns in fruit. From the evidence here presented, it seems that by using the peach root as a stock for the French prune, they will commence bearing earlier.

Bartlett pears here at this ranch are an average crop and look very well.

Of apples there is a large crop, the two principal varieties being Winesap and Spitzenburgh.

In Mr. W. H. Albright's peach orchard, the Orange Cling and Wilcox Cling predominate. He believes that these are the two best varieties for shipping. The Wilcox Cling is a very heavy bearer. I noticed, also, that curl leaf was almost absent from this orchard. It was here that the famous Albright Cling originated. It is a peach somewhat resembling the Orange Cling. It is a large, beautiful yellow peach, tinted with a rosy red on one side, and possesses a splendid flavor. It is a very desirable canning variety. In the order of ripening it is later than the Orange Cling, which makes it of extreme value to all peach growers.

Mr. Albright's orchard of Hungarian prunes looks and promises well. The trees are all too young to bear yet.

The Nonpareil almond is being tested here. It is described as being a very heavy bearer, and droops with its load of nuts, which are very thin-shelled. Out of a pound of nuts of this variety, it is stated that ten ounces of kernels can be produced. This variety does not require bleaching. A few English walnut trees had a fair crop on. Orange trees grow here but Mr. Albright thinks that they can never be made profitable at this elevation.

The vineyard is composed of Muscat grapes and will yield a large crop. This vineyard is over 30 years old. Mr. W. H. Albright's ranch contains about 22 acres which are well cultivated and taken care of.

After leaving Mr. W. H. Albright's place I soon arrived at Mr. C. W. Albright's place. At this ranch everything presented an air of "thrill, alertness and prosperity." I was shown the famous new freestone peach trees which Mr. Albright is extensively cultivating. This variety he has named "Albright's Late Freestone." It is an immense and heavy bearer, and a very late ripener. Peaches average 9½ to 11½ inches in circumference. The prevailing color is a glowing yellow, with rosy, crimson cheeks. It is said to be very rich, sweet and deliciously flavored. The pit is medium size. The keeping and shipping qualities of this peach are the very best. The old, original tree that I was shown was loaded down with green fruit. It is a heavy, vigorous grower, with dense, green foliage, and singularly free from curl leaf. In fact it presented as good or a better appearance than any tree in his orchard, and this is saying considerable. Being such a late variety, and being possessed of such a superior flavor and color, it will undoubtedly prove of great value to fruit-growers.

Mr. C. W. Albright has quite a fig orchard; the varieties being San Pedro, White Adriatic, which does exceptionally well, and White Vedona, which is a small fig but very superior for drying. It is an extremely prolific variety. The fig trees at this ranch are all young, but have made a marvelous growth, and were loaded with fruit. A fig orchard properly taken care of should pay well in California.

Mr. Albright cultivates most extensively the Albright Cling. He also has quite a number of Tragedy, Petit, De Agen, Prunus Simoi, and a good collection of apple trees, all of which look exceptionally well. Olive trees flourish well here, but whether they will ever be a paying crop I cannot state. Coe's Golden Drop plum and the Silver prune, which many persons claim are similar or identical with each other, are widely different. In this orchard the Silver prune is a very superior fruit. The tree is a rapid, beautiful grower, and very prolific; while Coe's Golden Drop plum is a very poor

grower and a poor yielder. Mr. Albright reports having sold his Silver prunes at from \$2.75 to \$3.37 1/2 per box in New York city last season. The method of grafting that Mr. Albright prefers for grafting old trees is superior to any method that I know of. About ten inches from the ground a notch is sawed from one-third to one-half way through the trunk of the tree. A chisel or sharp hatchet is next used, and an inclined piece is removed, which leaves an abundance of room for inserting the scions. This is greatly superior to the old style of cutting a tree entirely off. When grafting by the old method, if both scions failed to grow, the old stock would many times die, and if only the scion grew, then one-half of the tree would die and would prove a harbor for fruit pests, and would, no doubt, cause the premature death of the tree. By the above method, a crop of fruit is obtained from the tree and the young scions can be making a vigorous growth. There is very little danger of the scions being knocked out, as the old tree protects them. After the scions get started to growing well, the old tree can be used as a stake. I think that this method of grafting should be more generally followed when grafting old trees. S. L. WATKINS.

Grizzly Flats, Cal., June 2, 1893.

California Leads in Fruits at the Fair.

TO THE EDITOR:—Chicago is the mecca to which many a California farmer journeys this summer, here to observe what progress has been made in the lines of the world's work that most concerns him; here to compare notes with his co-laborers throughout this and other countries. Here already quite a number have gathered, some to stay weeks others to remain days.

Does California present a creditable appearance in matters pertaining to agriculture in general, horticulture in particular? is a question often asked by those who are not fortunate enough to attend this wonderful fair. Installations are not yet complete, but commendable progress has been made, though the greater part has been accomplished during the last five or six weeks. One thing is apparent: When all things are ready, when plans have been perfected, California's exhibit will attract as large numbers of sight-seers, if not larger, than other State buildings—this because "Californians do not do things as others do," as one has said, and by reason of the uniqueness of the display.

Already a large number of the native and ornamental trees of California in great variety have been planted, some gracing the grounds surrounding our State building, others in the form of orange and lemon groves in the horticultural court and in the Midway Plaisance. These attract much attention. The one tree that occasions the greatest surprise to the strolling sight-seer is the 123-year-old date palm from San Diego that lifts high its feathery branches under the tall dome of the California building.

The display of fruits, oranges, lemons, and all varieties of deciduous fruits in jars, in boxes, in various receptacles, is very attractive and very complete. Many counties of our State have no exhibit. None should have failed here. They should have had pride and enterprise enough to at least have made a partial showing. Exhibits of products are the largest and best-paying of advertisements. On every hand one hears persons from near and far say that they will surely visit a State that has such a climate, can produce such varied fruits and grains. Through years to come the good results accruing from the State exhibit will be felt.

Criticism is not the object of this letter. California, as has been above said, will make a very creditable showing. Possibly a more elaborate, a more showy, a completer one might have been installed. States nearer Chicago make a larger exhibition of grains, particularly corn, but all are far and away behind the Golden State in the display of fruits. Some of the displays of corn and other grains in State buildings are beautiful creations of artists of no mean skill. Especially may this be said of Illinois, Iowa, Nebraska and other corn-producing States. The originality of design, the attractiveness of the grouping are a wonder, a surprise to visitors from a distance.

Everybody will profit by a visit to this fair. Farmers, whatever special lines they pursue, may gain much information that will be of great use to them in the future. The attendance is large. It will be larger during the months to come.

Farmers in the Mississippi valley and in neighboring States have suffered much this year from heavy and protracted rains. Many things do our brothers in this section of the country have to contend with that we of California know nothing of by practical experience in the State we love so well. If any California tiller of the soil is disposed to grumble at the climate of his State, a year's residence in another will bring about a complete change of heart. Here in Chicago deciduous trees are just leafing out, grass is very short, grain in this part of the State is only a few inches tall, corn-planting has been delayed by rains, and the list may be extended.

Living expenses here are fair. There is not, as a general thing, a disposition to charge extortionate prices. One can spend days, weeks, months in inspecting the wonderfully varied, beautiful, novel attractions of the fair, and then will regret that so soon he must leave the sight-seeing. But Californians will never regret leaving far behind them this changeable, often disagreeable climate.

Bank failures and depression in financial circles generally are noted. Several banks and prominent firms have suspended of late, and the end is not yet. How this will affect the business of this section in general remains to be seen. Some observers think the future holds more of financial embarrassment than now appears on the surface. It is time there was a reaction in favor of the farmer, especially the grain-producer. Wheat was quoted at a lower figure in this city last week than for 30 years. This one citation will show the state of the market here and in adjoining States.

There is much gambling incident to the sale and the trans-

ferring of grain in this market. A private letter from Kansas or Minnesota or other State where wheat is raised to any amount; a telegram, or an item in a newspaper may raise or lower the local market several points. There seems to be very little legitimate dealing. Feverish excitement often characterizes the grain market. Speculation is rife. But it is not always the one who makes haste to get rich who prospers. The farmer who is content with a moderate income, who gets the peace, comfort, enjoyment from life that it is his privilege to obtain, who is not forever fretting and fuming about the future, enjoys far more of life than the feverish speculator.

May, here in Chicago, was a month of changeable weather. Warm days would be followed by cold ones. Then would come unwelcome rains. June opens up quite fair and pleasant. Warmer weather is expected, a larger attendance at the fair and continued additions to the attractions of the "White City."

Chicago, Ill., June 5, 1893.

Rotten Roots of Citrus Trees.

At the Los Angeles Chamber of Commerce on May 31st, an interesting lecture was delivered by Prof. C. W. Woodworth of the University of California, under the auspices of the Farmers' Institute of Southern California and the Los Angeles Horticultural Commission.

Mr. Abbot Kinney of Lamanda Park occupied the chair, and introduced Professor Woodworth in a few well-chosen words.

"The subject for discussion to-day," said Professor Woodworth, "resolves itself into two diseases, which are the principal ones which will take our attention. These two are of the greatest importance, and are sour root, or rotten root, and the crown knot or root knot."

"In considering the question of these diseases, we must first become acquainted with the physical nature of the tree. The life of a tree depends a great deal upon the water-carrying condition of the trunk. When we start with the lower plants we notice that they receive their sustenance and their moisture and give it out over their whole surface. When, however, the plant becomes differentiated, so that there is a portion in the air and another in the ground, the latter becomes the chief source of water supply for the plant. This moisture, passing up through the stem of the plant, is given off through the sides of the stem and the leaves. When we consider the larger plants or trees, we notice that their stems or trunks are protected by thick bark, which keeps the inside tissue from the atmosphere and allows the moisture to pass through it from the roots to the leaves, from which it is evaporated into the atmosphere. This bark, which protects the trunk of the tree, has no pores and effectually prevents any evaporation through it, as in the lower grades of plants. Every plant is composed of minute cells which are full of moisture. These cells on the outside of a tree dry up and become filled with air instead of moisture, and thus produce the bark. If the bark is removed the underlying cells dry out, become dead and impart their dried-up condition inward until it affects the inside living tissues of the tree and endangers its life. Another form of disease which may endanger the tree in much the same way is that produced by certain minute parasites. Every organism is composed of cells which in a living, healthy condition will be taking in food and exuding refuse matter unceasingly. If a cell is in a perfectly healthy condition it can, by the force of its exudations, keep out and prevent foreign cells from growing upon it. If not able to do this, the parasite once in place, continues to grow and eventually destroys the cell in the same way that the healthy cell would have destroyed the parasite. The germs found in rotten root attacking trees of the citrus variety are the same which live among all kinds of decaying vegetable matter. They are partly bacteria, although we have never found one form always present. We find a great number of forms of these and of fungi, and all of them are those which occur in decaying vegetable matter. The means by which this disease can gain entrance to the tissues of a tree are, probably, first where the bark around a tree has been accidentally injured and then exposed to dampness, so that before it can protect itself and throw out new bark the rot has entered through this dead and decaying bark. The second is where organic matter undergoing decay, as, for instance, where a tree has been planted where another one formerly was located, or over an old stump which yet remains in the ground, and whose decaying matter thoroughly impregnates it, so that the cells of the young tree, by their secretions, are unable to throw off the germs and are compelled to succumb to their inroads. When these parasites once get to growing well they can, by their secretions, kill the wood as fast as they increase and eventually kill that portion of the tree. The effect of these dead spots on the root or trunk of a tree is that every dry spell will dry out the wood of the tree and make it almost like another bark, yet not like a bark in every respect, because it will allow the water which is carried up through the trunk to escape through it to some extent and be evaporated. Anything that will reduce the water supply to below what is necessary for the tree will make the leaves yellow and the tree will bear no fruit.

"When these conditions are well understood by the orchardist it will be possible for him to remove them. As a remedial measure the removal of most of the diseased tissue becomes important, to decrease the numbers of parasites so that the cells of the tree will be able to overcome them. The subsequent use of some form of antiseptic wash is also to be recommended, of which bluestone is probably the best, as it is perfectly soluble. The use of wax to prevent drying is also desirable, and dampness upon the outside should be prevented.

"Another method which gives good results is to graft in new bark so as to decrease the time requisite in healing. In this disease it should be borne in mind that the chief source of injury is the cutting off of the water supply, which

otherwise would traverse the inner tissues and reach the leaves and fruit."

Prof. Woodworth also addressed the meeting upon root knot of fruit trees, describing the disease and the investigation which the University has now in progress in the hope of determining the cause and defining an effective treatment. We hope to present further information upon this matter at another time.

THE DAIRY.

The Dairy at the World's Fair.

In the *Breeders' Gazette* we have a very full report on the dairy tests now being held at Chicago. As our readers are aware, there are only three breeds of cattle contesting, viz., Jerseys, Guernseys and Shorthorns.

As was to be expected, the energetic efforts made by the Jersey breeders in getting together the greatest possible number of their choicest cows some four months before the beginning of the milking trials, are being rewarded with success, the cows of this breed taking the lead in all points, as regards both quality and quantity of milk produced.

The Guernseys, though giving less milk than the Shorthorns, produce a fraction more of total solids, as will be seen by the following tables, which do not, however, contain the food value which will have to be charged to each cow:

JERSEYS.							
	Day and night	Milk—lbs.	Per cent fat	Per cent other solids	Butterfat butter	Estimated value	Food
Herd milk and composite (X) sample.	May 23 24 25 26	896.6 850.7 865.8 887.	4.6 4.2 4.6 4.6	9.54 9.61 9.69 9.43	48.7 44.5 49.8 52.2	.....	.....
GUERNSEYS.							
Herd milk and composite (X) sample.	May 23 24 25 26 27	735.2 749.4 761.3 748.3 747.	4.4 4.6 4.5 4.6 4.4	9.39 9.17 9.54 9.56 9.34	40.4 43. 42.2 43. 39.2	.....	.....
SHORTHORNS.							
Herd milk and composite (X) sample.	May 23 24 25 26 27	834.7 822.1 837.1 814.1 795.7	3.5 3.6 3.7 3.6 3.7	9.06 9.22 9.11 9.09 9.11	36.5 36.9 33.7 36.6 36.8	.....	.....

POUNDS OF GREEN CHEESE.

	Jerseys.	Guernseys.	Shorthorns.
May 16.....	98.5	76.5	73.5
May 17.....	100.	76.	72.5
May 18.....	99.5	74.	72.
May 19.....	97.	74.	70.5
May 20.....	99.	75.	71.5
May 21.....	100.5	77.	74.
May 22.....	94.75	73.25	73.25
May 23.....	91.	78.	71.5
May 24.....	91.5	77.	74.
May 25.....	98.	77.	72.

The weights of the green cheese are given, but the results of the test cannot be determined till the weights of the cured cheese are obtained.

The *Gazette* gives the number of pounds of milk given by each cow every day, with the percentage of fat and other solids. It is not necessary to do so here. The above milk table gives the herd averages of the different breeds—four days for the Jerseys and five days for each of the other two breeds, which is sufficient for the purpose of comparison.

Each herd consists of 25 cows, and the weight of milk given from May 12th to 26th inclusive, 15 days, was as under:

Jerseys.....	13,295 pounds.
Guernseys.....	10,931.5 pounds
Shorthorns.....	12,187 pounds

Which gives an average of 35.45 pounds of milk a day for each Jersey cow during the 15 days, 29.15 pounds for each Guernsey and 32.5 pounds as the daily average of each Shorthorn cow during the same time.

There are only two cows in the test that give as much as 50 pounds of milk in any one day, and these only once each give that much, or over, for two consecutive days, 51.6 pounds being the largest quantity given by any one cow in one day during the 15 days above referred to.

Both these cows are Shorthorns, in which breed also is the cow that produced the greatest per cent of butter-fat in her milk, viz., 6.9 per cent on a flow of over 27 pounds of milk. This must be looked upon as an abnormal yield, however, as the same cow's milk eight days after that contained only 3.6 per cent on 29.4 pounds of milk.

According to some reports and correspondence, as we have read it in some agricultural papers, the quantity of milk given by the Shorthorn cows is a surprise to many people, considering that the breed has not, with rare exceptions, been either kept or bred for dairy purposes.

The best cow for quantity of milk is a Canadian cow that gives 759 pounds in 16 days, an average of 47.43 pounds a day. The next best in that respect, coming from Kansas, makes a record of 727 pounds, and an average of 45.43 pounds for the 16 days.

An addition of a dozen or so of such cows as these to the Shorthorn ranks, in place of those averaging less than 30 pounds a day for the same length of time, would have made that breed show up in milk about as one would expect it to do when competing in a test as dairy cattle. There are at least two that average less than 25 pounds a day and several others with an average of less than 30 pounds a day for the 16 days, most of them having calved but a short time before the beginning of the test. We think that at least a part of these should have been supplanted by a better class of cows, some of which, to the knowledge of the writer, could have been furnished

from this State. We know of at least one Shorthorn cow that has made a better record in weight of milk since the 6th of May, than that of any other cow reported in the columns of the *Gazette*, and that without having at any time more than seven to eight pounds of grain feed a day (but no hay) in addition to a pasture of a poor quality of grass that has been gradually turning brown for the last month, as have most California pastures which consist only of native grasses.

The feeding at Jackson Park, however, is not supposed to be of the heaviest kind. Premiums will be awarded to the cows that make the largest profit, over and above the value of the food consumed, gain or loss in weight of carcass being considered, as well as value of dairy produce; therefore those in charge have some restraint put upon them in regard to undue extravagance in feeding. It is, in fact, a test in feeding for profit.

As the *Breeders' Gazette* gives promise of having most complete reports on the dairy tests, we shall, through these, endeavor to give our readers the principal facts of importance as the tests proceed from one stage to another, which we hope will be both interesting and instructive to all who wish to keep abreast of the times in the dairy business and who have not the opportunity of seeing original reports, as given by writers on the fair grounds.

Teaching Calves to Drink.

As there has been some writing on how to feed calves, I notice many adhere to the old practice of "holding his (the calf's) head," "keeping his head down," and "getting astride" the calf, says a Wisconsin correspondent in *Hoar's Dairyman*.

I never read such, but my memory brings me back to my boyhood days when I held the "pan" or the "pail," and calf myself were treated to a variety of discourses from the boss.

And afterward, when I got "astride" and the calf drew blood from my fingers, I discarded such practices and tried a way with them that has given good results without a single exception, dealing with calves this way for years.

First, calves, like their mothers, differ—some appear hungry and want to suck before they can well stand. At least have sense enough to let the calf wait till he becomes older, an hour at least. Others are dull and appear indifferent. To such I give a chance to drink in about the same time.

Now let us see: It is a calf's style to suck; he shows his ability to do so by almost closing the edges of his tongue, as though around your finger, which is all right for sucking. But I do not want him to suck. I want him to drink, and I know he cannot drink that way, so I provide the milk warm in a pail, and with a coffee-cup, not a tea-cup with a handle nor sharp edge cup, I approach the calf gently. If he comes toward me he is half trained. I am right-handed, and for convenience I get on the right side of the calf, in position and also in mind. I gently steady his head with my left arm around his neck and hand under his chin, never on his nose. I half fill the cup with the now fresh, warm milk, bring it to the calf's mouth and put it in his mouth. At least a taste will reach its stomach. I let him drink from the cup if he will—swallow he must. The suck form of his tongue is disturbed, and the milk being in his mouth down, in or out it will go.

If he has not attempted to suck, with no care for nothing like it, this first taste usually puts a desire for drink in him and I give him another half cupful or more, also giving him time to realize that on the cup depends his existence, and when he agrees to this I need the pail in readiness to keep a supply—the calf is for the cup. I now sink it in the milk, the calf has learned to drink and my work is done.

Should his calfship be too mulish the first time to accept my offer kindly, I try that a little gets to his mouth, and perhaps to his stomach, and in two or three hours I come around again with cup and pail until he *drinks* all right; with me he always does the third time I feed him.

A Chemical Dehorner.

The following emulsion is said to be recommended by the Bureau of Animal Industry at Washington, D. C. We do not vouch for it: Take by weight 50 parts of caustic soda, 25 of kerosene and 25 of water; warm, stir thoroughly until of uniform consistency and transfer to a bottle with a rubber stopper. The calf should not be over three weeks old, from 5 to 20 days being the proper age. A horn may sometimes be killed on calves that are from four to six weeks old, but the operation cannot be depended on with certainty. With a pair of scissors, clip the hair around the embryo horn so as to expose a spot about the size of a nickel. While an assistant holds the calf securely, drop two or three drops of the mixture on the horn and with the end of the rubber cork rub it in thoroughly over the bare spot. Apply the fluid first to one horn and then to the other, until each horn has been gone over three or four times. The rubbing should be continued until the emulsion has softened and removed the hair and surface skin immediately around the horn.

Care should be taken that the fluid does not spread over too large a surface and run down the sides of the face. To insure success, it must be carefully and thoroughly applied. If used carelessly, the embryo horn may not only be killed, but the face of the calf may be disfigured by allowing the fluid to spread and run down over the skin. The advantage of the method is two-fold; it is less cruel to the animal and gives a more slightly appearance than when the saw is used to remove them.

A Good Butter Cow and a Good Cheese Cow in One.

Prof. Cooke, of the Vermont Experiment Station, in an address before the Ayrshire Association at its annual meeting in New York, referring to the much-disputed question whether a good butter cow was also of necessity a good cheese cow, said:

"A striking example can be found in our own herd during

the past year of what may be called a cheese and butter cow. The cow Lolita, bought from Mr. L. S. Drew, gave during the year 8055 lbs. of milk, averaging 3.90 per cent fat and 3.50 per cent casein and albumen together, which would make 344 lbs. of butter. During the same time the Jersey cow La Violette gave 5337 lbs. of milk, averaging 5.41 per cent fat and 4.20 per cent casein and albumen together, which would make 329 lbs. of butter. The two cows then, so far as the butter value of their milk is concerned, were practically even, and if the milk of each had been made into butter, and sold at 25c per lb., the receipts should have been from the Ayrshire \$86 and from the Jersey \$82.50. But if the milk of these two cows had been made into cheese, we should have obtained quite a different set of figures. According to the best light obtainable at the present time, such milk as was given by the Ayrshire cow would make 10.82 lbs. of cheese for each 100 lbs. of milk; that given by the Jersey would make 12.71 lbs. of cheese for each 100 lbs. of milk, or for the whole year 871 lbs. of cheese from the Ayrshire and 704 lbs. from the Jersey. A cheese made from the Jersey milk will be richer than that from the Ayrshire, but an investigation we made of prices on the Boston market seems to indicate that the market prices would be practically the same, or at the outside the richer cheese would not sell for half a cent a pound more than the other, *i. e.*, the American public has not yet been educated to giving more for a cheese because it is richer.

FLORIST AND GARDENER.

Carnations.

(An essay read by F. A. Miller of San Francisco at the June meeting of the State Floral Society.)

There is no doubt in my mind that the carnation is the coming flower. Forty years ago carnations were very popular, and many very beautiful varieties under cultivation then were lost entirely after that period. Carnations were neglected until they again came into prominence about ten years ago, and just now great efforts are made to bring them again to the front by the continuous production of new varieties, while splendid progress is made in regard to size and perfection of the flowers. Within the next ten years I venture to say that the carnation will be the leading flower. It is predicted by practical and enthusiastic cultivators that carnation flowers will be produced four inches in diameter. Whether or not this prediction will be fulfilled, the proposition is feasible. When it is a fact that we can produce chrysanthemums six to eight inches in diameter, by high cultivation and by drawing the entire strength of a plant into the production of one flower, what is to stand in the way of producing a carnation four inches in diameter by the same method of cultivation?

During our recent open-air meetings in Berkeley and Menlo Park, I was deeply impressed with the almost total neglect of carnations in the open ground, and this neglect ought to stimulate us to do a little more for this at-one-time universal favorite, and to keep pace with a now popular desire to see the carnation again pushed to the front. The diversity and brilliancy of color, the most delicious perfume and the long season of continuous flowering are strong points in its favor.

If we are willing and desirous of pushing the cultivation of the carnation, the first question which presents itself is: What shall we do and where shall we begin?

During the last 20 years, and particularly during the last 10 years, the florists throughout the East and West, in order to satisfy the popular demand for carnation flowers, have confined themselves to the cultivation of such varieties only as would produce the greatest number of good flowers under glass. They limited themselves to a few varieties which gave the best result. In color they were various shades of scarlet, pink, rose, white and yellow. They met with no great difficulties in producing a good and abundant supply of the first four colors just named, but the supply of good yellow was, up to this time, quite scant. These varieties being cultivated so largely, cuttings from them are very plentiful, and as cuttings from plants grown under glass root very easily, the supply of young plants in scarlet, pink, rose and white carnations is very plentiful everywhere; but the amateur is not satisfied with these few varieties; he wants yellow, crimson, striped, variegated and other fancy varieties, which are more difficult to procure. A few florists have just begun to raise these varieties, but the supply is very limited, and if they are obtainable at all, only very young plants just rooted can be had in spring, and it can hardly be expected that these will produce flowers before late in autumn. The amateur wants plants in spring strong enough to bloom within a month or two and which will continue to bloom all through the summer months; and it is right here where the trouble and difficulty begins. Here in San Francisco we do not succeed in keeping potted carnations outside over the winter months. We have tried various ways to overcome the difficulty, but no one seems to make it a success. If the young rooted cuttings could be kept over until the following spring, the amateur would have no difficulty to procure then just what he wants. I presume this difficulty will be overcome in course of time. Now, until the professionals shall succeed in offering a good supply of well-established carnations in spring, the amateurs might try other means of securing a good stock of plants by procuring seeds of a superior grade of carnations. Common cheap mixed seed does not fill the bill. Carefully hybridized seed will produce 90 per cent double carnations; 50 cents worth of such seed will certainly produce over 100 plants in perhaps 15 to 25 varieties, and if the seed is sown now in pots or boxes, fine, strong plants can be had by autumn and they will flower all through next season. Having thus obtained a goodly number of good double carnations, all the most desirable varieties can be perpetuated by layers, which is the surest method for ama-

teurs. Well drained, light, sandy soil is the best to winter-over carnations. I have raised a great many seedlings in this way every year, and amongst them some very fine varieties, and sold them at good prices. I cannot offer them for sale until they bloom, as it is impossible to say what the colors are, until the flowers speak for themselves, which of course makes it somewhat late for general trade purposes.

CEREAL CROPS.

How Shall Weeds and Wild Oats Be Destroyed?

TO THE EDITOR:—You are telling the orchardist how to harvest the most and best fruit, the dairyman how to make the sweetest butter, the stockman how to raise the finest stock, and all how to buy and sell to the best advantage; but one of the most important questions now agitating the grain-growers of Merced and adjoining counties is, "How can we get rid of weeds and wild oats?" The solution of this problem means a difference in yield of from two to ten bushels, and a difference in price of from two to ten cents. It means in many cases a profit instead of a loss, and sometimes means a good crop instead of none at all.

Farmers, of course, have always been fighting weeds, each one experimenting in his own way, usually single-handed, and some have had apparently reasonable success; but methods which seem to work well in one locality and under one set of conditions, fail under different conditions and in other localities. What is needed is careful, scientific study by a large number, comparison of facts and theories, and reasonable deductions from the same. Many conflicting theories and seemingly contradictory facts have been brought forward, and it now remains to sift these and harmonize them. We know of no one who has satisfactorily solved the problem even for himself.

It is a well-established fact that various wild seeds, after lying for years uninjured in the soil, grow at the first favorable opportunity; consequently, with constant cultivation and dropping of new seeds, it is reasonably certain that the soil near the surface contains vast numbers of seeds only waiting their proper conditions of light, heat and moisture to grow and flourish, and the more thorough the cultivation, the more will these seeds be mixed with that part of the soil turned over in plowing. Every time we turn under a growing crop of weeds we turn up a new supply of seeds. When planning to eradicate wild growths, this fact should be remembered.

Nearly all Merced farmers agree that winter-sown grain is comparatively free from both weeds and wild oats; but summer-fallow is a surer, better crop. Therefore we cannot depend upon winter-sowing.

Some say that the combined harvester is largely responsible for the present abundance of weeds; others deny this. But even if it is true, we cannot dispense with this cheap, expeditious mode of harvesting.

Thorough cultivation, while it kills great numbers of weeds, increases the rankness of those that follow. It is also necessary to a good growth of grain. Wheat must not be dwarfed to retard the weeds. Besides, the latter are harder. Evidently we must farm thoroughly.

As a question of vital interest to all farmers, Merced Grange has discussed the difficulty. Though not all of our members have expressed themselves on the subject, some of our practical grain-growers submit the following facts and theories:

Some have observed that where sheep are pastured on stubble there are more weeds than on similar land not so pastured; also that, where sheep are camped on stubble, there are most weeds. Their theory is that, though sheep eat a vast number of seeds, they also trample very many into the soil, so that, when the stubble is burned, these seeds, protected by the covering of soil, are not destroyed. The remedy offered is: Burn the stubble without allowing sheep to pasture it; but allow the land to be pastured as much as possible when there is no grain crop and while the weeds are green. That is, pasture the green weeds and burn the dry ones as much as possible.

Others believe that the traveling harvesters scatter the seeds. They affirm that with headers and stationary threshers large numbers of seeds are carried to the stack, and, when the piled straw is burned, the long-continued heat destroys all germs. They further assert that, with the combined machines, the seeds are blown out among the chaff and scattered broadcast; and, when the stubble is burned, the rapidly moving fire does not destroy them. The believers in this theory suggest that all straw and chaff be dumped and either stacked or burned.

Another plan is to allow the land to lie fallow two years, plowing twice or thrice each season. This is founded upon the belief that the soil within a few inches of the surface is filled with dormant seeds, which, under favorable conditions, and when brought near enough to the top, sprout and grow. The aim is to turn the soil over to a depth of eight or ten inches and allow the seeds then near the surface to germinate; but, before the plants mature, turn them under. Repeat this from four to six times, plowing shallower each time, when it is believed that most of the seeds within plowing depth will be killed.

Still others advise to clear the land of all growth in the spring by pasturing and plowing and allow it to lie fallow till the first rains in the fall sprout the vegetation. Then, without turning over new soil, cultivate to kill the growing weeds and sow grain.

The foregoing are offered as the results of individual thought and experiment or the conclusions reached by two or three working and consulting together. Each one is perhaps necessarily incomplete. We need wider experience, more facts, extended discussion and reasoning. Let every interested one join us in investigating. Experiment, study the results, send in facts and theories, with reasons for the latter.

CORRESPONDENT.

Merced, June 6, 1893.

POULTRY YARD.

Green Bones as Food.

Green bones—that is, fresh from the butcher—cannot be surpassed as poultry food. They are easily procured, are much cheaper than meat, contain a larger proportion of the elements that enter into the composition of eggs than any other material, as they are more concentrated, says the *Poultry Keeper*.

Ground dry bones have long been on the market as poultry food, and they have served the purpose intended; but while the poultrymen and farmers were resorting to the use of dry bones they also witnessed the waste of much better and far more valuable food every day, in the shape of more nutritious, more digestible and more highly relished fresh green bones, simply because there was no method known by which the tough green bones could be reduced to a condition to render them acceptable to poultry.

But with the advent of the mill for cutting green bones all of this available material is now made to form a portion of the food for poultry. The bone-mill grinds the hard, dry, brittle bones, but it is unserviceable in reducing green, fresh bones, as green bones cannot be ground. Only the bone-cutter is capable of converting the green bones into poultry feed. The bone-cutter and the clover-cutter have revolutionized the method of poultry management.

What is the difference between the green, fresh bones from the butcher and those that have become hard and dry? Though a comparison of a green bone with a dry bone, side by side, will show there is a difference, yet an explanation is not out of place here. The green bone contains the natural juices (the water being a solvent) and upon evaporation the bone becomes very light. By weighing a fresh bone and weighing it again when it is dry, the difference will be found astonishingly great. The green bone contains meat, blood, gristle, oil and mineral matter in soluble condition. Upon exposure to the air, not only does decomposition occur but the chemical changes are such as to re-arrange the particles of the bone itself. All animal substances upon decomposition are finally converted into ammonia, which is volatile, while the evaporation of the water not only liberates all gaseous formations, but permits of chemical changes which convert much of the soluble material into that which is insoluble. The green bone, though tough, is soft compared with the hard, dry bone. Insects also clear away from the bones all that is unaffected by exposure to the air, and in place of the juicy, succulent green bone, rich in phosphates, nitrogen and carbon, we have the hard, dry, insoluble bone, brittle and bleached, and composed of but little more than phosphate of lime and earthly matter, all of its real nutritious matter having passed away.

The natural solvent cannot be regained or replaced. As stated above, the difference in weight between the green bone and the dry bone is caused principally by water. This water is in the blood, in the adhering meat, and renders the bone soluble to that extent. You can never restore this solvent after the bone is dry. The natural solvent may be removed, but during the process a chemical change occurs. When we mow green grass and convert it into hay, we simply evaporate the water, apparently, but the solid matter is also affected, for if we again wet the hay we can soften it, but not change it again to the green-grass condition. We have, in curing the hay, changed its texture, re-arranged its particles and much of it that was entirely soluble and digestible in the shape of green grass now abounds in indigestible woody fiber. The natural solvent therefore when removed, changes the whole physical structure of the substance, and this is what occurs when a green bone becomes dry.

The value of all foods depends upon their digestibility. The green bone, containing its natural juices, is digestible, especially by birds, and when in a very fine condition it is also digested by animals because its particles are less dense; but the dry bone having lost its solvent agent has become harder, its particles re-arranging closer together and is only slowly digestible, if at all. Bear in mind that it is not the amount of food eaten that gives the best results, but the amount digested. Nothing will make a chick grow as rapidly as will green bone—in fact, the growth seems marvelous. There are several bone-cutters now in the market, and they are all that is claimed for them. The object of this is to impress upon all who keep poultry the necessity and importance of utilizing the waste materials. Eggs are always cash in market, and especially in winter. Bones

are more plentiful in winter than are some other valuable materials. The bone-cutters are labor saving; they permit the use of valuable bone and they pay back their cost in short time.

There are many things which cannot be explained, but which present themselves as facts. Take a bone, fresh from the butcher, go in your henyard, pound the bone with a hammer on a stone, and although you may have fed your hens on dry ground bone and filled their troughs with grain, each will take the risk of a blow on the head with a hammer to secure a bit of fresh bone, and they will swallow pieces so large as to occasion surprise. The fresh bone serves a special purpose, for it contains the materials for the white of the egg, the yolk and the shell, all in a concentrated form, and in a partially soluble condition, while the dry bones will remain untouched—that is, as long as fresh bone is supplied. Thus we have not only egg food, but also grit for grinding the grain food in the gizzard.

The cheapness of bone is another factor to be considered—many butchers give them away, or will sell them for a small sum. But the bone-cutter is the agent that renders them valuable and converts them into the most desirable of all foods. With bone and cut clover, but very little other food will be required, and hence there is not only a gain in nutritious matter, but a saving of grain also.

What Roup Is.

We may state that roup is a contagious disease, scrofulous in its nature, and which permits of several stages. If a fowl is cured of roup the result is that an abscess is formed, or, if not apparent outwardly, some of the internal organs are affected. Like consumption, it may attack the throat, the bones, the lungs, and even the bowels. It nearly always attacks the bowels of little chicks, says the *Poultry Keeper*.

Canker is an evidence or indication of roup. It is really diphtheria in one form, and human beings are liable to contract the disease, as well as cats or other animals. The first stages are colds, which may be cured, but unless this is done the disease attacks the weakest portions of the body.

Scrofulous consumption, or tubercular consumption, is the principal form of roup, and pulmonary consumption is another. The terrible odor is always proof of the contagious form. We use the term scrofulous consumption because it better applies as an explanation.

The hoarse breathing, or choking, occurs more with very fat fowls than with others, and it is somewhat like croup, though there is also a thickening of the larynx (the upper part of the windpipe). Scrofula is really a disease of the lymphatic glands of the neck but the term is now used to include those incurable diseases that attack the body, as sores, etc. Canker is an attack by the disease of the membrane of the throat.

There are many forms of consumption, and roup is simply a name for the disease among fowls, though it may differ in many respects in comparison with humans. That it is hereditary (more susceptible), and that some fowls are more easily attacked than others is known to be true.

Roupy fowls are unfit for food, and those who sell such birds may unknowingly take the life of some human being by inducing the consumption of carcasses that affect dogs and cats, and which, though apparently in the best condition as food, are receptacles of death-dealing poison to all who use them.

Sandy Soil the Best.

The poorest and most unproductive of sandy soils are best for poultry, as the rains carry down the filth, and the soil, being light, can be easily spaded or turned over. The sandy soils are also dry, and therefore such diseases as cholera in fowls or gapes in chickens are rather unusual, compared with the damage from such diseases on heavy, stiff land. Cheap sandy lands can be put to excellent use in raising broilers, and if it is desired to grow crops on the land, the droppings will gradually bring it to a certain degree of fertility.

Experiments in Keeping Eggs.

During an experiment at the New York Experiment Station, the eggs were all wiped when fresh with a rag saturated with some antiseptic and packed tightly in salt, bran, etc. Eggs packed during April and May in salt, and which had been wiped with cottonseed oil, to which had been added boracic acid, kept from four to five months, with a loss of nearly one-third the quality of those saved not being good. Eggs packed in bran, after the same preliminary handling, were all spoiled after four months. Eggs

packed in salt during March and April, after wiping with vaseline, to which salicylic acid had been added, kept four and five months without loss; the quality after four months being much superior to ordinary limed eggs. These packed eggs were all kept in a barn cellar, the ordinary temperature of each box varying little from 66° Fahrenheit, and each box was turned over once every two days. Little difference was observed in the keeping of the fertile or the infertile eggs, and no difference was noticeable in the keeping qualities of eggs from different fowls or from those on different rations.

Questions and Answers.

Would 12 hens be too many for a house 6x12 feet? If so, how many would do well in it? Answer: The house will accommodate about that number.

Is it injurious to remove the infertile eggs from an incubator and substitute fresh ones? Answer: It is best to remove the infertile eggs, but fresh ones cannot be put in their place. The infertile ones will serve as food for fowls.

Several of our hens have a rattling in their throats. Will you please tell me the cause and cure? Answer: Due to exposure to drafts of air from some source. Give 10 drops daily of a mixture of one part spirits of turpentine and four of sweet oil.

Which would you prefer for the bottom of a henyard, the scraps of white-ware pottery, such as old dishes, broken up fine, or gravel? I have both handy. 2. Is it best to keep the egg-chamber of an incubator dark, or let the light in through the glass doors? Answers: 1. Use a mixture of the gravel and broken crockery. 2. The incubator drawer should be dark.—Poultry Keeper.

I have a flock of 13 hens, and get from 9 to 12 eggs per day. I would like your advice about feeding them. I feed them in the morning without variation, cooked meat, raw onions, dry bread, potatoes, with enough meal to hold all together. I feed wheat at night, giving plenty of pure water twice a day, with the chill taken off. Answer: Your feed is correct, only you should feed but once a day, or you will have the hens too fat, as they pick up a large share of their food at this season.

Bad-Flavored Eggs.

Speaking of the ill flavor of eggs, the *Journal of Horticulture*, London, remarks that it is the result of one of two causes—either the food on which the fowls are fed or the substance on which the eggs are laid, and adds: This may be easily tested by shutting up a laying hen and giving her garlic or malted barley to eat. In a few days the eggs will taste of the food. We have tried this ourselves, and know it to be correct. Another theory is—but we cannot speak of it with the same certainty—that an egg laid on any strong-smelling substance will contract it. This is explained by the fact that the shell, when the egg is first laid, is comparatively soft and impressionable, and only hard after contact with the atmosphere. Let your birds be wholesomely fed on plain food and your nests be made with clean straw. Hay nests have a tendency to make eggs taste. Follow nature and you will have nothing to complain of.

Symptoms and Cure of Roup.

Roup shows discharge at the nostrils, very foul odor of the breath, sometimes hoarse breathing, and loss of appetite. Give a warm, dry place; inject two drops daily of a mixture of one part water and one part bromo-chloralum in each nostril, and give the bird once a day, in a teaspoonful of water, two grains bromide of potash and one grain of quinine.—Poultry Keeper.

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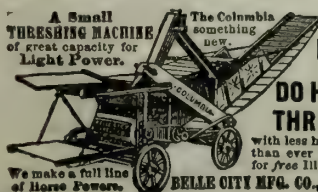
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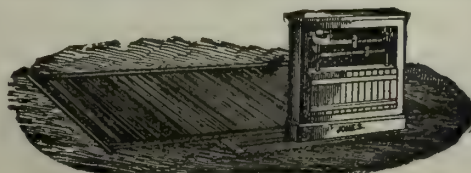
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THE HOME CIRCLE.

Soft Soap.

Soft-soap making is a job I don't banker for; Git yer fingers in the lye till they're eaten raw; Git so saturated full of the greasy stuff That you taste it fer a month—I've jest had enough. Mighty bugbear of our youth was old grandma's leach;

I remember even now how she used to teach Soft-soap making; "Git yer lye bilin' hot," says she, "Then jest slowly add yer grease—keep it stirrin' free—

An' remember when folks ask for the 'how' an' 'why'

That the basis of soft soap is a good strong lye!"

I hev found 'at other folks, 'cept them on the farm, Make another kind o' soap what does lots o' harm; Every feller hez one side where he's sorter weak, Sorter vain of sum one thing—likes to hear folks speak

Well about the side of him—likes a little praise; Folks 'at paint his virtues up, pleasant to his gaze, So's to bring his pocket-book closer to their reach. They are jest soft-soapin' him—like old grandma's leach—

Run their words of honey through—do you ask me why?

Well, the basis of "soft soap" is a good, stout lie.
—Rural New Yorker.

Old Jack



ALL men like a horse, but only a cavalryman takes a horse into full partnership or gives him that admiration which horses deserve. Our love for old Jack began at Gettysburg, when we saw the captain who rode him cut off from the command and called upon to surrender. He shouted his defiance, gave old Jack the spur, and that horse brought him over seven fences and walls and a great ditch back to his company. A bullet had raked the gallant steed, and the men cheered him as they wiped the blood away with their handkerchiefs. Late that fall, after a slashing cavalry fight on a Virginia meadow one afternoon, we found old Jack standing over the dead body of his master. Other horses were galloping wildly about, but he showed no excitement. Wounded horses approached him to beg for sympathy, but he drove them away for fear they would injure the man at his feet.

Old Jack was with us up and down the Shenandoah valley, and one night when a terrific storm stampeded 300 of our horses over to the enemy he alone returned. He raided and fought throughout that memorable year of 1864, and was wounded twice again. He was ready for the last campaign, and when the surrender came the white flags almost brushed his nose. Only the day before that a piece of shell had given him a severe wound, but when driven to the rear with hundreds of others he literally fought his way back. A quartermaster at Washington got hold of him when he returned from Appomattox, but when we knew our brigade was to go West we got old Jack back on the active list again, and he was one of us. At Leavenworth, when they weeded out the horses preparatory to the long jaunt to the Colorado line, they led old Jack away to brand him with a "C" and sell him to the highest bidder at auction. Company A resolved and petitioned and argued, and our Second Lieutenant bought him before the degrading branding iron had touched his shoulder. We gave him a reception when he returned after his brief absence—a sort of welcome an old comrade could have counted on.

Up the Platte, as we got into the Indian country, a dozen men were cut off from the command one day. It was a race for life. The horse of a trooper fell with a broken leg and the Lieutenant took the man up behind. Old Jack came in bearing double and an Indian arrow had grazed his quarter while making the last half mile. Farther west it was old Jack who suddenly raised an alarm one midnight just in time to save us from attack. A week later he was bitten by a rattlesnake. The order was to shoot him, as it had been in the case of a score of other horses, but we would not have it so. Providence sent a rainstorm to stop the march, and we poured whisky enough down old Jack's neck to make ten men drunk. After three or four days he was kicking up his heels as of yore and every man in the brigade wanted a look at him.

One day, between the forks of the Upper Platte, old Jack's rider ventured too far from camp and was "rushed" by half a dozen Indians. He dismounted and menaced them over the saddle with his revolver. The horse stood like a rock. They yelled and shrieked and waved blankets and fired their rifles, but they could not stampede him. In the midst of the excitement he saw the relief party while yet a mile away and neighed a shrill recognition and a warning to ride fast.

When I tell you all these things you will not wonder at our kindly feeling toward our horse comrade. There were just fifty-five men of us in Company A out on the plains. Had we some day been obliged to accept fifty-five hardtacks for a full day's rations, no man would have begrudged old Jack a generous nibble.

I remember when the sad day came as if it were only last week. Two hundred of us were pushing a fresh Indian trail and the hour was noon, when old Jack, going at a gallop, put his foot into a gopher hole and broke a foreleg. Two hundred men groaned out at sight of the poor beast standing on three feet after recovering from the fall. We realized that his last hour had come. To leave him alive behind us would be inhuman. There was neither water nor grass for miles around. The wolves would pull him down after a few hours, and he deserved a nobler death. And yet who could have the heart to kill him?

"Strip off the saddle and shoot him!" That was the order that came back from the head of the column, and that was the order given by our Captain to a Sergeant. The saddle was removed. Old Jack must have been in terrible pain, but he did not utter a sigh. His eyes opened wider than usual, and he seemed worried and anxious as he looked around.

"Captain, I can't do it! It would be as bad as shooting down a comrade!"

So said the Sergeant as he stood revolver in hand. A second and a third were named, but they hung back. A Corporal stepped out, placed the muzzle of his revolver to old Jack's ear, but a hundred men shouted in chorus and he did not pull the trigger.

"Compliments of Col. Blank, with orders to shoot that horse at once!" announced a messenger from the head of the column.

"Sergeant Davis, put the poor beast out of his misery!" ordered the Captain.

"I've got to do it or stand a court martial," growled the Sergeant, "but I'd sooner try a shot at somebody down in front! Perhaps he isn't so badly hurt."

"Hurry up! Can't you see the bone is broken square off?"

"It's the same thing as murder, and the Lord will never forgive me for it! Boys, bear me witness that I'm forced to do it!"

Poor old Jack! He was rubbing his nose against the Sergeant's left hand and whimpering as if he would inquire what it was all about. Our faces were all turned the other way. Many of the men stopped their ears to shut out the report of the revolver, and no one looked back as the column moved on. Looking straight ahead and with a suspicious quivering of the chin the Sergeant whispered:

"I wish I hadn't done it! I wish I had taken arrest and court martial instead! Poor old comrade!"—C. B. Lewis in New York Sun.

A Hard Californian Name.

I had no more than crossed the State line when, at a small station, a party of about twenty young Californians got on the train on their return trip to Red Bluff, where they live, writes T. T. Geer of Salem, Or., to the Oregon Statesman. They were of all conceivable sexes and previous conditions of servitude, and were in a state of hilarious jollity that was out of all proportion to surrounding circumstances. It was raining a steady downpour which continued all the afternoon, and they had no more than comfortably seated themselves when a pert miss of about twenty summers, who was as handsome as she was pert and as talkative as she was handsome, glanced over toward my seat and remarked in a tone that was as chilling as the storm itself: "This Oregon weather is perfectly unendurable."

The remark had its intended effect, for I was stunned; but I would have been glad if my Oregon friends could have seen me, because for the first time in my life my manly bosom swelled to magnificent proportions in its great effort to restrain a struggling remark. My effort was successful, however, and by a little diplomacy I succeeded during the course of the afternoon in convincing them that even an Oregonian had some rights in conversation which a Californian might be induced to respect.

But one slip of the tongue destroyed all the good effect that I had been hours in creating. In talking about the big trees of California they said I would see none unless I went near the coast, but I told them I had been looking over the railroad maps of the State and had seen that there were some big trees east of San Francisco in Calaveras county. I pronounced the name of the county with the accent on the second syllable, and divided the word to suit myself according to the rules of common sense. The word is spelled similarly to the word "cadaverous," and I pronounced it similarly;

but it proved to be my permanent downfall.

With a mirthful look at each other, and one of pity toward me, they arose and left the car, one by one, some going to the smoker, some to the platforms—anywhere to get fresh air, while I was left sole possessor of the deserted field.

Not until I arrived in San Francisco, and overheard a man speak of Calaveras county, did I understand the strange conduct of my friends in the cars. The word is divided into four syllables, the accent being on the third which consists of the letters "v-e-r," and the same sound as in the word "very."

Although I have found since then names of hundreds of places much more mysterious and nonsensical than the one mentioned, I have made no more mistakes. Whenever I have occasion to make audible reference to any locality, I either hire an interpreter or point out the name on a map which I always carry in my hand.

In pronouncing the names of counties and towns in California, you will find that every letter of the alphabet may have the sound of any other letter, but never has its own sound. No letter is ever found in person in the great draft for orthographical purposes, but is always represented by a hired deceptive substitute.

Hints to Housekeepers.

In the absence of parsley, fine celery tops can be used as a garnish for meats, or better, a garnish of vegetables or force-meat balls with sauce. For poultry use celery; for cutlets, chops or croquettes, peas; for fish, potato balls fried, or potatoes a la Parisienne. Bread cut in fancy shapes with a pastry-cutter, or in triangles and fried, makes a very pretty garnish for warmed-over meats, and vegetables cut with a vegetable or garnishing cutter can also be used.

Dry the tin dishes before putting away. A few drops of salad oil on tar stains will remove them.

Add a pinch of salt to the whites of eggs to make them beat up quickly.

Vinegar will remove the disagreeable odor of kerosene from tinware.

A dermatologist of high standing says that the proper way to shampoo the head is to use some pure soap, such as castile of the best quality, or glycerine soap, made into a "good lather on the head," with plenty of warm water, and rubbed into the scalp with the fingers or with a rather stiff brush that has long bristles. When the scalp is very sensitive, borax and water, or the yolks of three eggs beaten in a pint of lime water, are recommended instead of soap and water. After rubbing the head thoroughly in every direction and washing out the hair with plenty of warm water, or with douches of warm water alternating with cold, and drying the hair and scalp with a bath towel, a small quantity of vaseline or sweet-almond oil should be rubbed into the scalp. The oil thus applied is used to take the place of the oil that has been removed by washing, and to prevent the hair from becoming brittle.

Grape fruit is almost as good as quinine for malarial troubles, and pineapple is a sure cure for sore throat. Tomatoes are perfect liver regulators; they contain a very small portion of mercury. Oranges act on the kidneys very beneficially, while lemons and grapes are efficacious in curing and preventing cancerous troubles. Watercresses act on the lungs, and are said to be a cure for incipient consumption. They certainly have marvellous tonic power, and refresh one after great fatigue. A diet of grapes as a cure-all has been proved valuable in hundreds of cases, and, if taken in time, a case of jaundice can be cured by eating nothing but lettuce and lemon juice. In the face of this, can one not almost dispense with doctors?

There is no more delightful ice cream than one made of the juice of rich, ripe strawberries and fresh cream. Stir a heaping cup of granulated sugar with the yolks of three eggs. Mix well and add to a cup of boiling milk. Stir the mixture thoroughly in a double boiler, or a saucepan set in another holding boiling water, for about four or five minutes; then add to the hot mixture a pint of very rich cream and the juice of a quart of thoroughly ripe, rich strawberries. Freeze the cream carefully and serve it with white cake daintily iced and flavored with bitter almonds.—American Cultivator.

Only Rich Officers Need Apply.

It is somewhat hard to find suitable officers of the army and navy to occupy the places of military and naval attaches to the United States legations in foreign countries. To satisfactorily fulfill the duties of these posts plenty of money is an essential requisite. A man attached in such a capacity to the Embassy at Paris or at London needs a private fortune to keep up with the social require-

ments of the situation. He must move in the most richly gilded swim, and must meet all sorts of unusual expenses. It is expected of him that he shall live like a gentleman of rank and wealth, because the attaches at the legations of other nations are rich and noble. A clear understanding of these facts would lessen the number of applications for these places which are sent in by young officers to the Departments of War and Navy at Washington. They desire the appointments for the sake of the agreeableness of the duties and the social prestige belonging to them, not realizing that they could not keep up appearances decently on their pay alone.—Washington Star.

Yawning.

It will be a great consolation to those who would rather mortify the flesh than be guilty of violating the laws of polite society, that yawning can be indulged in under certain conditions, not only without compunction, but with real benefit.

No less an authority than Dr. Naegeli says that it acts like massage, and is the most natural gymnastics of the lungs imaginable. He therefore advises people to occasionally hold in abeyance their conventional prejudice, and if they cannot indulge every morning in what he considers the luxury of yawning, they are to do it as often as possible, and all the muscles of respiration will be benefited by the stretching, and many chronic lung troubles may thus be prevented. The patient who is troubled with excess of wax in the ear, accompanied with pain, should yawn often and deeply. The pain will soon disappear. In cases of nasal catarrh, inflammation of the palate, sore throat and earache, Dr. Naegeli orders the patient as often as possible during each day to yawn from six to seven times successively, and immediately to swallow. The result will be surprising; but it can be easily understood upon the theory that yawning is nature's massage for certain organs.

Short Furrows.

Some men complain of hard times who sleep themselves into poverty.

Don't complain of your wife's extravagance, with a cigar in your mouth.

Dehorning is cruel, when it is done with a club in the hands of an angry man.

Why don't these fellows who know the short roads to success ever try them?

The woman who tells others how does not always keep her own house the tidiest.

Stand around with your hands in your pockets, and see how quick you will get rich.

The commandment to rest one day in seven is just as binding on your horse as it is on you.

I wouldn't give much for that man who doesn't feel a thrill of joy every time he reaches the top of a hill.

To the industrious farmer no birds sing so sweetly as the robins, who strike their first notes about four o'clock in the morning.

It will pay you to practice the art of love-making upon your horses. The more they love you the better the service they will give.—Marion Rambo in American Agriculturist.

Mrs. John Sherman's Story.

In this connection Senator Sherman's wife tells a story. Mrs. Sherman invariably goes to market several times a week. So do other Senators' wives, and sometimes a great statesman goes along just for amusement, or from a sense of duty. Mrs. Sherman had watched Senator Manderson of Nebraska, escorting his wife through the market, even occasionally lugging the provision basket. Mrs. Sherman thought her husband might show her the same attention, and quoted Mr. Manderson to him till in simple despair Mr. Sherman consented to be annexed on market day. He went the whole rope, and even carried the basket, but Mrs. Sherman has never mentioned "market" to him since. He lost the basket, and she lost him for a time, and when the great financier was safe in his own home he announced in big type that Senator Manderson and all the rest of both houses might go to market every day of their lives, but as for him, John Sherman, as long as he possessed his mental faculties he would never be persuaded into going again.—Kate Field's Washington.

Nonsense About Tomatoes

An idea has gained currency during the past few years that the tomato as an article of diet is likely to produce or encourage the terrible disease of cancer, and not long ago it was also stated that the use of this vegetable had been forbidden at the cancer hospital. So widespread has this notion become that Dr. Marsden, chairman of the medical committee of the cancer hospital, London, has thought it advisable to give

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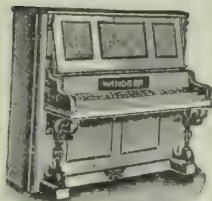


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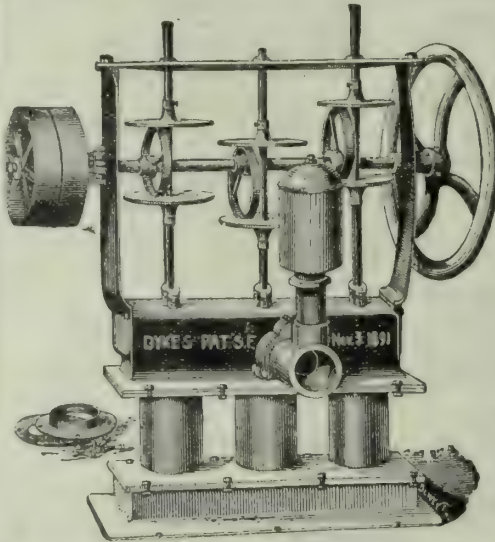
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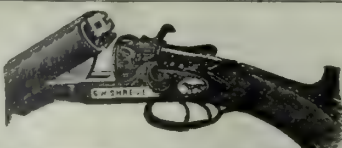


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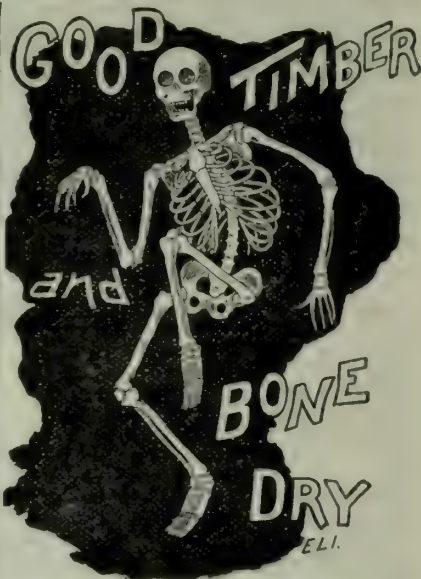
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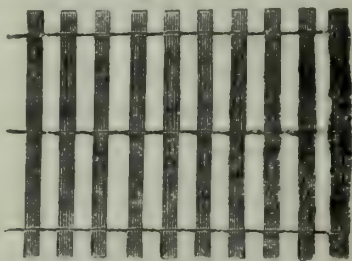
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AGRICULTURAL NOTES.

CALIFORNIA.

Butte.

Oroville Mercury: F. Walker, who is interviewing land-holders in the Honcut and Central House sections in regard to the project of the Butte County Land and Water Co., writes very encouragingly to Judge Gray. Numbers of additional land-owners have contracted for various tracts of land from 10 to 160 acres, and there is every reason to believe that this great project, which will place under irrigation not less than 60,000 acres of land, will be successfully put through.

Oroville Register: Henry Curtis, of Pentz, was in town this week, for the first time during the past year. He said that all hands were busy and each one busy with different kinds of work. He had lately increased his fine olive orchard by planting 200 additional olive trees. He said a gentleman from Butte creek, but he had forgotten his name, visited the olive orchard of J. G. Curtis this week, and, after a careful examination, said he was looking up points about the olive tree, as he intended to set out three thousand trees this coming winter.

Oroville Register: Hon. W. A. Shippee said in reply to our question about north wind: "I do not think the north wind we have had lately has done any harm to grain. There are two stages when the grain is injured by these winds. The first is when the grain is in blossom, which is from the 1st to the 10th of May. The effect at that time of a hot wind is to blast the blossom and no kernel forms. The head puffs out, but it is all husk and no grain. This rarely happens, for we seldom have hot winds so early in the season. Once we lost a partial crop by the north wind injuring the grain while in bloom. The second stage when grain is readily injured by the north wind is when it is filling or hardening, or in what is termed the 'dough.' The effect of a hot norther at the time is to kill the vitality of the stock and no sap goes into the kernel to fill it and make it grow. The kernel therefore shrinks and does not become plump and full. The effect, however, depends upon the exact condition of the grain. One field may be just right to injure, while another alongside of it may not be hurt at all, as the grain may be less or further advanced. I do not think grain is injured in this way oftener than one year in three, and possibly not that often."

Humboldt.

The Blue Lake *Advocate* says that the matter of a creamery for Blue Lake is being discussed, and that paper very clearly figures out that there should be a creamery established at that point. Correct. The creamery is getting away with the dairy business, and those who will not keep up with the procession are bound to get left, says the Arcata *Union*.

Kern.

Californian: This paper told about a peach tree, 15 months from the seed, in the Hunt Bros.' nursery, which had 40 peaches on it. This is a mistake. Mr. Pennington counted them again and found over 60 fine peaches on its diminutive limbs. Thus in 17 months from the planting of the pit, ripe peaches will be gathered from the tree.

Gazette: Mr. Crow has already reached the Tejon ranch with his immense harvester, which is run and worked by a traction engine. The harvester began work last week on the ranch of Mr. E. S. Bailey, upon which James B. Allen, Esq., has several hundred acres sown to barley which, though not nearly as good as was expected, still will yield quite a crop.

Californian: It is estimated that at least 9000 acres in the Weed Patch have been sown this season to wheat and barley. Some weeks ago the weather was unfavorable, and the outlook was considered not at all propitious; but somehow the grain kept right on growing and the yield since harvesting has commenced bids fair to make this part of the county the banner grain field this season.

Los Angeles.

A cluster of six seedling oranges, weighing 4½ pounds, has been gathered in the Watkyns orchard at Pasadena.

The Earl Company has shipped about 160 cars of oranges from Pasadena, and is still forwarding about two carloads daily.

Downey Champion: Messrs. Haddock & Smith, who recently started a creamery in Norwalk, are preparing to handle a large amount of milk. A. S. Gray & Co., who have the contract to set up the machinery, report that a 15-horse power engine and boiler, with a 40-foot smokestack, is on the ground and is being placed in position to run the three separators. The firm expects to handle 15,000 pounds of milk a day.

Express: Many cases of anthrax are said to exist among the cattle in this neighborhood. The subject has been brought before the local Board of Health, and the Council will be asked to appoint an inspector. There is certainly need of vigorous measures to stamp out this deadly and highly infectious disease. If it has obtained a footing among the dairies, as reported, there may be danger of its communication to persons using milk from such infected sources.

Mendocino.

Republican-Press: Of the hop prospects, Mr. Ottenheimer, the merchant, says: "Everything is looking fine. The late warm weather has brightened up prospects wonderfully, the vines are crossed on the lines and the outlook at the present time is far beyond what it was at this date last year; and in this valley there will be between 40 and 50 acres of new hops. Sanford has added 20 acres to his hop fields; Davidson 10, and J. E. Holliday 7 acres."

Monterey.

Pajaronian: Growers say that prospects were never better in the older hop yards of the valley, and the new yards are making an encouraging showing. The hop fields are scenes of much activity this month. It is encouraging to note the rapidity with which white labor is driving out the Mongolian in this field of work.

Orange.

Santa Ana Blade: The 27 renters on the San Joaquin ranch have made their 30,000 acres of barley secure, to a very great extent at least, by heading the grain all along the railroad line, about 100 yards wide on each side of the track, and by burning the

stubble afterwards to the barley line. Not only the producers are interested in the harvesting and securing of this immense crop of barley, but the whole people as well, as the amount of grain raised in this region will cut no small figure in the commerce of the valley.

Anaheim Gazette: Mr. Gosch notices that his orange trees are late in budding out, some of his trees not having put forth any bloom at all as yet. This backwardness in the blooming season is noticeable in several sections of the county from which reports have been received, and is altogether unaccountable. Perhaps it is due to climatic causes, for some of the trees which were heavily laden with bloom last year as early as February are just beginning to bloom this season. The others will probably bud out later on, and the orchard yield its usual quantity of excellent fruit.

Santa Ana Blade: A leading nurseryman of the valley informed a *Blade* reporter yesterday that his sales for the season footed up far beyond any past year, and that a greater number of orchards (both fruit and nut) and vineyards have been set out in the valley this year than any previous season, and so far as he could learn, all had made an excellent growth. He says people now know what they are about when they set out an orchard or vineyard and go at it systematically, thereby losing but few trees or vines, because they know how to treat them, both in irrigation and cultivation.

Anaheim Gazette: The Centralia creamery is running and anxious to get all the milk it can. In fact, there is not enough milk to keep the factory going; that is, in one sense of the word. The extractor, on which so many of our people depended, it appears from actual experience, is really only available in cold weather, and it has been decided to drop it during the summer months and extract the cream from the milk when put in the great big churn that Mr. Raab has in position and secures from it the best kind of butter. Mr. Raab is to be commended for this wise determination and the country at large will no doubt rejoice at getting the product of the Jersey, Holstein and other cattle worked into a superior quality of butter.

Sacramento.

Reports from Sacramento and vicinity are that hops never looked better at this season of the year, although, in some instances, they are a little backward.

San Benito.

Grain crops of all kinds are said to be very good in the southern part of San Benito county.

San Bernardino.

Chino Champion: Mr. Gird has now feeding on the bottom pasture lands 2400 head of fine beef cattle awaiting a demand in the markets. These rich lush grasses make invaluable summer pasturage, being green and sweet when higher pasturage is dry and hard. The Chino ranch is peculiarly well adapted for cattle-raising and fattening, as both hill and valley ranges are covered with the richest of grasses, which on the latter are green all the year. Good water, too, flows in abundance throughout the entire year.

San Diego.

Register: It will take 12 carloads of sacks to fill the orders of our farmers. This is based on an estimate of five sacks of wheat or barley to the acre. This is a low estimate, for in many places the grain will go from 10 to 15 sacks to the acre.

San Jacinto Register: A carload of sacks consigned to James Kerr & Son arrived at the San Jacinto depot last Thursday. This is the largest order for grain sacks ever purchased by any one farmer in this county. The car contained 25,000 sacks.

San Joaquin.

Mail: C. V. Brooke, of the Twenty-six-mile house, Stanislaus county, laid an egg on a *Mail* reporter's table yesterday that is a pretty good one—that is, Mr. Brooke placed the egg on the table. It was laid by a Plymouth Rock hen belonging to him. The egg measured eight inches around lengthwise and six inches around the smaller way. The hen has always been considered a very modest fowl, and after laying the big egg mentioned she only cackled once and went off hunting grit and lime for more egg shells. There is no telling what she may accomplish in the large-egg line in the future.

San Luis Obispo.

San Miguel Courier: The farmers of Vineyard met last Saturday evening and discussed the project of forming a stock company to purchase a thrashing outfit. It was finally decided not to be a wise move and it is now their intention to give the work to the parties bidding the lowest on the total amount of grain in their valley.

Solano.

Dixon Cor. Solano Republican: We understand that Maine Prairie township is now having excellent roads made. In our wide-gauge opinion it is a mistake to grade up the roads in the forepart of the season as the dirt becomes dust and is blown away by the heavy winds of the summer. I think it would be better to do the grading late in the fall just before the rainy season sets in.

Santa Barbara.

Santa Maria Times: Mr. F. Fugler showed us some very fine green almonds which grew on seedling trees on his place. He says the trees bear heavily and may prove just the variety for this locality.

A correspondent of the Los Angeles *Express* writes from Ballard, Santa Barbara county, that the Santa Ynez valley grain yield is sure to be very large, and that J. J. Hobson and Jack Preston have each all they can head and thresh through a four-months' season.

Santa Maria Graphic: Sam Fleisher blew into this office June 10th, with a bunch of "whiskered" wheat measuring some six or eight feet high brought in from the ranch of Julian Ruiz on the Santa Maria mesa. The grain is very pretty, the heads being plump, and judging from appearances we should think Mr. Ruiz's 160 acres will yield him fully 20 sacks to the acre. The grain is looking fine all over the valley. Mr. Dave Lewty exhibits samples of same sort of wheat from his ranch which also shows up well.

Sonoma.

Cloverdale Reveille: Gorge Cox is a heavy loser by the coyotes this spring and summer. Within the past month he has lost 34 head of lambs and 7

old sheep. While in Ukiah this week he purchased a full-blooded Missouri fox hound.

Santa Rosa Democrat: George W. Sparks came up from Sonoma Saturday. He says the cherry crop, now harvesting, is fine. A. D. Lowell has 30 men employed picking his crop. He ships some East and some to San Francisco. Mr. Lowell has one of the largest orchards. A number of small places have been sold near Sonoma lately and there seems to be an active demand for small places of from 5 to 15 acres.

Heldsburg Paper: I was shown a bunch of oats last week that was quite a wonder in its way, at least the men say so, and I must admit they are right once in a while. It contained 90 stalks, and on each stalk averaged 60 heads, double ones at that, of oats. It was all from one tiny seed, and had never been cut or eaten off. It is the general opinion in Heldsburg that it is above the average, but being a woman I know a great deal about everything except oats.

Farmer: F. F. Williamson, of Freestone, brought to the *Farmer* office on Saturday samples of eggs that are not often seen. One measured 8½ by 9½ inches in circumference. R. Thomas owns the Dark Brahma that lays the famous eggs. They are all perfect in shape, double yolked, and have arrived promptly every other day for the past 16 days. In weight one would equal two ordinary eggs. Mr. Williamson also reports a batch of 80 strong chicks from a Halstead incubator.

Santa Rosa Democrat: The Bennett valley berry crop is now harvesting. The crop is not as good as usual either in quantity or quality of the berries. The first crop will be harvested about the first of July. Frank P. Grace, who is handling the entire output, is now receiving about 30 chests a day and will probably average that for the season. The fruit crop began to come in about May 1st, later than usual, and will close July 1st. The second will come in August 1st, and it is thought it will be of better quality and will produce about half as much as the first. Last year Mr. Burnham got \$2400 from two acres and a quarter; this year the yield is not nearly so good. There is not more than 15 or 20 acres in bearing in this district, and notwithstanding the bad season this year the yield will be over \$10,000 to the producers. If a good year the yield should be between \$15,000 and \$20,000.

Tulare.

Visalia Delta: A fruit-grower in this vicinity was offered \$900 for two acres of apricots by E. J. Seiben, agent for the Fresno Canning Co. The offer was refused.

Porterville Enterprise: W. J. Prettyman, of Porterville, has sold his orange ranch to a Mr. Quinn for \$9500. Mr. Prettyman bought the ranch three years ago for \$3500. Citrus culture pays.

Times: Twelve boxes of cherry plums were shipped from Visalia June 6th to San Francisco. Excepting an occasional box of cherries, this is the first shipment from here of the fruit crop of 1893.

Citizen: A. J. Hearst brought to our office Tuesday, June 6th, a bunch of oats which measured 6 feet 2 inches in height. It was grown in the southwestern part of town where a field of four acres will average with the bunch exhibited.

Hanford Sentinel: On Sunday night C. J. Hobbler lost by fire 50 tons of new alfalfa-hay on his place. The fire is supposed to have been caused by spontaneous combustion. An old stack standing near, belonging to his neighbor, Mr. Pierce, was also burned. No insurance on any of the hay.

Citizen: A. J. Hearst, on west side of town, had 1¼ acres of barley from which he cut 6½ loads of hay. He weighed an average load and it balanced at 2536 pounds. This would be over six tons to the acre. Mr. Hearst figures it this way: One ton for the land and five for the water. He has planted the land to corn and pumpkins for a second crop.

Porterville Enterprise: C. Swanston, the well-known wholesale butcher of Sacramento, has been here on and off during the season, buying large quantities of cattle and sheep for his extensive business. This season he has shipped from here several thousand sheep and over 3000 head of cattle, 2000 to 3000 lambs and quite a number of hogs.

Times: About 5000 pounds of milk are daily received at the cheese factory now. Both butter and cheese are made. A small refrigerator will be placed in the factory to-morrow, in which to keep the butter. A larger one has been ordered and it will be used to keep on hand at all times butter and cream. Quite a demand has been created for cream, to supply the ice-cream trade.

Times: Tame gooseberries are a scarce article in this county. Many think that they cannot be grown here successfully. But they can. On J. S. Rowland's lot, on Acacia street, are two gooseberry bushes that were planted two years ago from small slips brought from Kansas. This season they are well loaded with excellent berries and the new stems are making a very rapid growth.

Mrs. M. H. Ober,

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I am authorized by the State Board of Prison Directors to offer for sale any portion of one million jute bags of the above manufacture at \$57.29 3-10 per thousand, delivered at Jackson-street wharf, San Francisco. Orders for bags must be accompanied by an affidavit signed before a Notary Public or Justice of the Peace, setting forth the number of bags required, and that they are for individual and personal use of the applicant. Ten per cent of the purchase price must accompany each order, the remainder to be paid upon the order for delivery of the goods. Upon application, the undersigned will forward blank order sheet and affidavit.

Address all communications to W. E. HALE, Warden.

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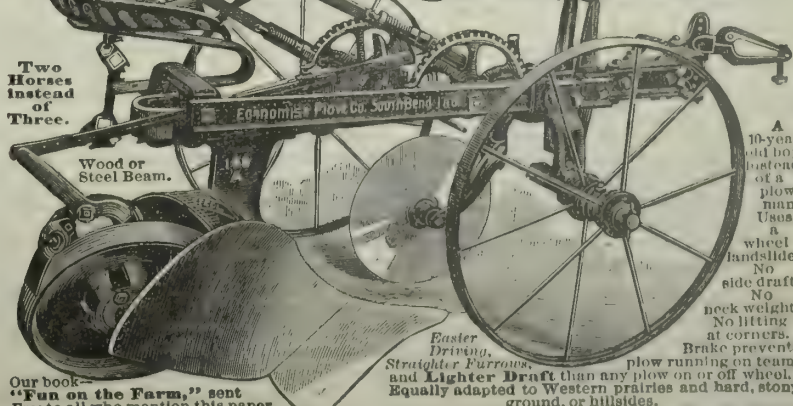
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PATRONS OF HUSBANDRY.

From Worthy Master Davis.

The Santa Rosa Horticultural Society now holds meetings every Saturday and is doing good work for the horticulturists of Sonoma county.

No question, however important or however trivial, is ever fully and fairly settled till it is settled on a basis of right. Truth is mighty and will prevail. Study truth for your own sake. Settle your differences on such a plan as they will be satisfactorily settled.

Petaluma grangers are working like sturdy patrons to entertain the coming session of the State Grange. Unless appearances are awfully deceitful there will be a large attendance and lots of good times at Petaluma the first week in October, 1893.

Go and visit the most successful farmers in your neighborhood. Study his successes and ask him for his experiences. Get him to join the grange, where he may impart his knowledge to others who will profit by his wisdom and his experience.

How many men are there in your neighborhood who own but one idea, and how many of those men have a mortgage on that idea? The capital stock of the most successful men and women nowadays is practical, every day common sense ideas. The association where ideas are the paid-up capital stock is doing a thriving and paying business. If you are a shareholder in such a business you don't want to sell any of your stock. If you are not a shareholder take good advice and get a few shares of stock and become a director as soon as possible.

Officers and members of the State Grange will please bear in mind that the work of the next session will soon be in hand. The third day of October, 1893, is not more than three months off. Our session will open promptly at the hour, on Tuesday, October 3, 1893, at Petaluma, Sonoma county, Cal. Let each one be prepared for the labors of the day.

It is said that a horse will live and do a great deal of work on hay, but if you want him to show spirit and speed, you must feed him on grain. Maybe this is true. Rather guess it is. At any rate, one thing is certain, if a man or woman expects to make "time" in this day and generation he or she must be fed on such food both for the physical and mental person as will develop a higher and better state of manhood and womanhood; food that will stimulate the brain, as well as the muscles, to active, aggressive and positive work in the right direction. This sort of food for the farmer and his family is furnished very freely and very cheaply by the Order of Patrons of Husbandry. It is more than wonderful that so many of our farmers, who know and admit the value of the grange as an organization yet refuse or decline to become a member of an order that at all times strives to do right and to build up the love for the American home. Let us hope the day is not far distant when we shall have more love of home and country and less selfishness and desire to be a millionaire.

A man without a policy is somewhat like a ship on the high sea without a rudder or a compass. If a political party hopes to succeed it, too, must have a policy. It is true a great many people are willing to follow rather than lead in all matters of great public moment. If these people find those in the lead have no well-defined policy, if there is not apparent a well prepared and positively honest plan, then the followers soon desert and they in turn become leaders. No faction, no force that is not honest in its plan and policy can long hold the position of leader, and no faction that is honest and progressive in its policy can long be held as followers. Hence, it is that the grange, as an organization, has held its rightful place in the progress of the past twenty-five years. The grange has always had a policy, and in nearly every instance the policy has been based on the true principle, viz., "The greatest good to the greatest number," and the other trite adage, "Honesty is the best policy." Let us, through life, be sure we are right, then go ahead. Follow only those who have a policy and that policy based on the maxim of truth crushed to earth will rise again.

Magnolia Grange.

TO THE EDITOR:—Magnolia Grange is not building up any, but seems to be at a point which you might call repose. Every one seems to be waiting for the other to start something of interest, without so much as an effort of any kind to aid in keeping the grange interesting and progressing. We

generally have an attendance of about 20 members, which seems small compared with the names on the books, but we hope to get up a revival soon which will cause the lukewarm members to become interested once more. Bro. Davis agrees to meet with us at some future time.

We had a joint picnic with Lone Star Alliance last Saturday. The attendance was good for a country picnic, when we take into consideration that it is just harvest time in the foothills. Literary exercises and the usual sports were engaged in by the young people of the neighborhood. I hear that Grass Valley Grange will have its picnic to-morrow. They will have a fine time, for they have the talent to carry out anything of that kind admirably.

The crop prospects in this vicinity are not flattering—I should think about two-thirds of a crop. This was caused in a great measure by the long storms which caused the seed to rot. I notice that the grain is getting a nice height, but it is generally thin. Most every one had trouble about their gardens and are now replanting. We had the heaviest windstorm last week that ever visited this vicinity—came near being a cyclone, blowing with such force that it nearly stripped the trees of tender shoots and leaves, and one party says it injured his blackberries badly, and I suppose blew a great deal of fruit off the trees. I do not think that the fruit crop will be large in this county, that is, judging from the report from this neighborhood. W. H. C.

Wheatland Grange.

TO THE EDITOR:—The town of Wheatland is situated in Yuba county, near its southern boundary, on the California and Oregon railroad. Of course everybody in California knows this, but the RURAL having many readers beyond the confines of the State, it is proper to locate the bustling little city.

The town stands in the midst of a highly improved and fertile farming country, and commands the trade of portions of Yuba, Sutter and Placer counties. It is the center of hop culture of the Sacramento valley north of Sacramento, and enjoys the reputation of producing the largest and best crops of any locality in the State if not in the United States. These are produced on the famous Bear river bottoms, from which the hydraulic mining slickens had been fenced out by huge levees. Where this had not been done the country is a desert, to the extent of 15,000 acres, more or less, all of which was the most fertile land imaginable.

The city contains a number of churches, schools, societies, a bank, several hotels, stores, shops, and 1200 to 1500 people, and last but not least, a well-managed, well-edited weekly newspaper in the Wheatland Four Corners. The Wheatland Flour Mills is also one of its cherished enterprises. The hop fields give employment to a great many laborers nearly, if not quite, the year round. The chief growers, as I remember them, are Hon. D. P. Durst, D. Wood, Daniel Fraser, J. M. C. Jasper, F. R. Lofton and others. The big and most successful wheat-growers are the gentlemen already mentioned, and C. K. and B. F. Dam, Mr. Oakly, Mr. Armstead, Frank Kirshner, Hon. D. A. Ostrom, Hon. C. P. Berry, Hugh Morrison, and a number of others whose names have escaped my memory.

It may readily be seen that among such surroundings a grange of farmers was not only a convenience but a necessity where the agriculturists can meet and discuss all questions appertaining to their interests.

The grange held an important session on Saturday last, one that must have an abiding influence on its members in the future. It was only an ordinary monthly meeting, and convened at 2:30 P. M. The attendance was fair and enthusiastic for the cause. The visiting patrons were composed of 11 members from Yuba City Grange, who came by the morning train from the north via Marysville. These were Worthy Master P. L. Bunce, B. F. Frisbie and wife, Josie Heddon, Mrs. G. F. Starr, Dora and Edith Kells, E. B. Starr, R. D. Starr, Maud Woodworth and George Ohleyer.

The grange was addressed by Hon. C. P. Berry and Senator Ostrom, and by Hon. D. P. Durst, member of the Assembly, and by Messrs. Bunce, Frisbie, Ohleyer, Lofton, Steinman and others.

E. B. Starr and Miss Woodworth of Yuba City recited choice selections, and the best of feeling prevailed throughout. A vote of thanks was extended to the visitors for their attendance and the interest shown in behalf of Wheatland Grange.

The return train for Marysville comes at 4:35 P. M. A short recess was taken to bid the Yuba Cityites a kind farewell when they departed for their homes, leaving their

Wheatland friends to complete the day's business in their own good way.

Except fruit and hops, the crops about Wheatland are somewhat short of an average, all owing to excessive moisture during December and January and the attendant cool and backward weather. If such seasons are to become the rule, the farmers of the Sacramento valley will have to study the problem of drainage if they would reap full crops and income from their land, and, indeed, this is advisable in any event, since well-drained lands are always more cultivable and productive than the undrained. But, dear RURAL, this is only a hint; I have no intention of inflicting a discourse on the subject at this time. A VISITOR.

Yuba City, June 11, 1893.

A Day at American River.

TO THE EDITOR:—The invitation of American River Grange to be present with them on June 10th having been formally accepted, eighteen members of Sacramento Grange and one Yuba Cityite arose early and took their way over various thoroughfares, edged with fields of waving grain, or thrifty orchards and glistening vineyards or strawberry beds whose fruit gleamed red as jewels on the bosom of Mother Earth. A cool south wind lent its soothing influence and as we were greeted with the cordial hospitality which is one of the grange comitants we felt repaid for the long drive.

Promptly at 1 P. M. the grange was called to order and W. P. M. George Hack of Sacramento conferred on a class of six (two of them from his own grange) the third and fourth degrees in his usual manner.

The hall was beautifully decorated and the work well rendered.

A feast, bountiful as of old, graced the banquet tables and at 3:30 P. M. they were surrounded by the happy throng.

Re-assembling in the upper hall Miss Etta Cornell and Messrs. Cornell, Beach and Creswell sang "The Harvest Moon is Bright." W. M. Greer of Sacramento gave words of praise and encouragement to the older members of the grange, speaking of the depressed periods in the history of the grange, when it necessitated the strongest efforts on the part of a few determined members to sustain it and called upon the new members to take an active part and labor zealously for the upbuilding of this grandest of orders.

W. P. M. George Wilson of Enterprise said the farmers should become united to advance the cause of education. He announced an open meeting of the Alliance to be held at the hall on the evening of June 24th to discuss current topics.

After brief remarks by Sisters Hull and Jones and several brothers touching upon the beauties of grange life and its benefits, the session was closed and twilight deepened and the stars grew lustrous, ere we neared our home after a day well spent in social enjoyment. MRS. H. S. JONES.

Sacramento, June 12, 1893.

From Stockton Grange.

TO THE EDITOR:—In compliance with your request I was appointed correspondent from this grange and will try to report the doings of Stockton Grange for the past two months.

This Grange meets regularly every Saturday, with a good attendance of officers and members. While we do not stand at the head of the list in numbers, we are not asleep when important questions are open for discussion. We have not taken in any new members of late, but use our best efforts to interest and keep those we have in our order. At each meeting our worthy lecturer usually has something of a literary nature to entertain us. Such subjects as "The Money Situation," "The Removal of the State Capital," "Co-operation," and "The Temple of Ceres," have been fully discussed. Relative to the latter subject, the chairman of our committee on woman's work has prepared, by order of the grange, a subscription list, stating the object of the building, and at each meeting all who are interested in this work are given an opportunity to contribute. I hope to be able to report a good round sum soon, as we have several earnest advocates for this cause.

Two weeks ago about 20 of our members met at the residence of P. M. Alling, where they spread their lunch, partook of some of the good things prepared by that true-hearted granger and his fair daughters, and were then escorted in a body by him to pay a fraternal visit to our sister grange at Linden. A good time was reported.

On June 3d Stockton Grange held an open meeting and celebrated Children's and Flora's Day. It being a season when flowers were plentiful, nature did her best on this occasion. At two o'clock about 200 patrons

and friends had assembled in our grange hall and were entertained by a pleasing program, carefully prepared by the worthy lecturer and her assistants. Flora presided and announced the following program:

March and Welcome Song.....By the Children
Recitation—"Boys and Girls".....Laura Root
Piano Duet.....Misses Leadbetter
Recitation—"A Story with a Sticky Plot".....Mark Alling
Recitation—"Mary Ann".....Evelyn Kerrick
Concert Recitation—"The Flower's Color Lesson"—and
Song.....By Seven Girls
Recitation—"It's Dangerous to Drink".....Clarence Cole
Vocal Duet—"Over the E. Ling Sea".....Misses Leadbetter
.....Miss Jennie Holbrook and Mr. Russel Balkwill
Concert Recitation—"The Discontented Buttercup".....and
.....Nellie and Edith Beecher
Piano Solo.....Lottie Barber
Recitation—"Morning G'ories".....Agnes Tingeman
Recitation.....Mrs. Dodge
.....Miss Alling Mrs. Moring
Quartette.....(Russell Balkwill, George Drullard
Song and Recitation.....Sophie Root
Reading—"The Oak Tree".....Mrs. W. L. Overlier
Recitation—"Speak the Truth".....Bert McIntosh
Floral and Flag Piece, with Song—"Red, White and
Blue".....By Six Boys
Mark Alling, Arthur Beecher, Stanley Overhiser,
David Moreing, Cy. Moreing, Walter Kerrick
Recitation—"May Blossom".....Elie Stowe
Recitation—"How Columbus Discovered America".....Walter Kerrick
Song.....By the Grange

At the close of the program all present were invited to the dining room, where ice cream and cake were served. All present seemed to enjoy the occasion, particularly the bright-faced, merry children.

A shortage of crops, both grain and fruit, is reported in this vicinity.

MRS. L. E. OVERHISER.

Stockton, June 8th.

Meeting of the Executive Committee.

The Executive Committee of the State Grange came together in special meeting at the office of the secretary, in San Francisco, on Monday of this week. Worthy Master Davis, Secretary Dewey, and Committee-men Loucks and Walton were present. Mr. Jones explained his non-attendance by a letter, stating that he was about to depart for the East. Bro. C. D. Grover, Worthy Master of Petaluma Grange, was also present at the meeting, his errand being to consult with the Executive Committee concerning the coming session of the State Grange at Petaluma. This matter was talked over at length. It was thought best to have the open meeting and reception on Tuesday evening, with the idea of permitting the visitors to get acquainted with the residents of the city in the early part of the session. Bro. Grover said that there would be a unanimous welcome on the part of the people of Petaluma, and that the reception would be unquestionably one of the pleasant events of the session. Other matters, such as employment of hall, music, etc., were discussed, but no definite action was held. Among other things, Mr. Grover said that an excursion to Sebastopol grove, with a basket lunch, would be proposed as a part of the entertainment, and it was decided by the committee to recommend that this feature of the meeting be on Wednesday.

The following amendment to the Constitution was submitted through communication by E. C. Shoemaker, but no action upon it was taken except to file it for future use. The proposed amendment was as follows:

The membership of the State Grange shall consist of two Fourth Degree members from each subordinate grange. These members shall be the master and wife from each grange, or in case the master has no wife or who is not a matron, then the grange shall elect a matron who is in good standing. If the master be a matron and she have no husband who is a husbandman, then the grange shall elect a husbandman in good standing. Such members so elected shall enjoy all the privileges and rights now accorded to the master and wife or husband. Each grange shall elect two alternates, one of each sex, who are in good standing. Past Masters and their wives or husbands who are patrons are honorary members and are eligible to hold office but not entitled to vote.

The records showing a considerable number of delinquent granges, the secretary was directed to notify such delinquents and to demand immediate settlement. The remainder of the session was devoted to the auditing of accounts. Another special meeting of the committee will be held before the meeting of the State Grange in October.

Grange Headquarters at Chicago.

Worthy Master of the National Grange J. H. Brigham writes to the RURAL from Chicago, under date of June 1st, as follows:

The rooms of the National Grange are Nos. 9, 10 and 11 of the Live Stock Pavilion and are located near the southwest corner of the implement department of the Agricultural Building. Miss Alma Hinds, of Michigan, is the office secretary and it is the intention of the executive committee to keep the rooms open and in order for the members of the grange during every day that the Fair gates are open. The secretary hopes to be able to furnish visiting patrons such general information relating to exhibits and other features of the Fair as they may desire. The ladies will find the rooms a convenient resting place, and all the members of the order can bring their lunch baskets here for refreshments. It is intended to furnish visiting patrons with a small ribbon badge to be worn during the Fair as a means of identification. As much has been said as to

great extortion being practiced on visitors to this great Exposition, it is perhaps proper to state that parties can live in Chicago and in reasonable distance of the Fair for very reasonable rates, or, if they desire so to do, they can secure very expensive quarters and board. If they desire to practice fair economy there is opportunity to do so. Letters addressed to our office secretary as above will receive proper attention. Fraternally,
J. H. BRIGHAM, Master.
J. J. WOODMAN, Sec. Ex. Com.

Standing Committees of the State Grange.

In accordance with the resolution of the State Grange, the following standing committees have been named. If any one of the persons named cannot serve, he or she will confer a favor on the master by letting him know at once so that some other person may be named instead. The master honestly hopes that all will serve as requested. The following are the committees:

Credentials.—Bros. J. D. Huffman, Harry C. Kapp, C. H. W. Bruning, Sisters Walter Renwick and D. Fisher.

Division of Labor.—Bros. E. Greer, Walter Renwick, Nelson Dill, Sisters A. Bickford and John Burnham.

Resolutions.—Bros. Thos. McConnell, Jas. Moran, J. M. White, Sisters Gustave Brown, P. L. Bunce.

Agriculture.—Bros. I. C. Steele, H. D. Strother, Louis Schlimmer, Sisters Philo Hersey, H. M. Woods.

Co-operation.—Bros. Philo N. Hersey, J. R. Denman, L. A. Gremore, Sisters E. Greer, F. B. More.

Constitution and By-Laws.—Bros. J. V. Webster, O. N. Cadwell, Milton Casey, Sisters J. R. Denman, C. D. Grover.

Finance.—Bros. John Tuohy, Chas. Gamble, D. Fisher, Sisters Marion T. Noyes, A. Bickford.

Good of the Order.—Sister E. Z. Roache, Marion T. Noyes, P. L. Bunce, Sisters James Moran, Alida Allison.

Education.—Sister Ella E. Ashley, Bros. J. S. Eddington, Alex. Henderson, Simeon Higgins, Sister E. C. Bedell.

Notes.

At its last meeting Woodbridge Grange adopted a series of resolutions in memory of Sister Maria Shattuck, whose death occurred on March 30th.

Magnolia Grange has named W. H. Cunningham as its correspondent. His first report—an admirable one, by the way—appears in this number.

"J. M. A." writes from Sacramento: "Sacramento Grange will celebrate Flora's Day on June 24th. The exercises will begin at 1 P. M., and the feast will be one of intellectual enjoyment. All patrons are cordially invited to be present."

SPECIAL ANNOUNCEMENT.

We have made arrangements with Dr. B. J. Kendall Co., publishers of "A Treatise on the Horse and his Diseases," which will enable all our subscribers to obtain a copy of that valuable work free by sending their address (enclosing a two-cent stamp for mailing same) to Dr. B. J. KENDALL CO., ENOSBURGH FALLS, VT. This book is now recognized as standard authority upon all diseases of the horse, as its phenomenal sale attests, over four million copies having been sold in the past ten years, a sale never before reached by any publication in the same period of time. We feel confident that our patrons will appreciate the work, and be glad to avail themselves of this opportunity of obtaining a valuable book.

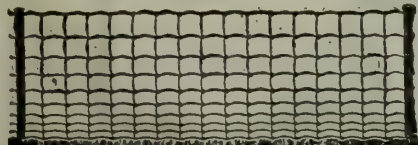
It is necessary that you mention this paper in sending for the "Treatise." This offer will remain open for only a short time.

Who Wants Pumps?

In another column of the PRESS will be seen the advertisement of the Dykes Improved Triplex Pump. As this Pump was awarded a medal and diploma at the Mechanics' Industrial Exposition, held in this city in 1893, its claims for capacity, durability, simplicity, etc., are worthy of careful consideration. Before ordering Pumps, send to Trowbridge & Dykes, West Berkeley, Cal., for particulars.

Our Agents.

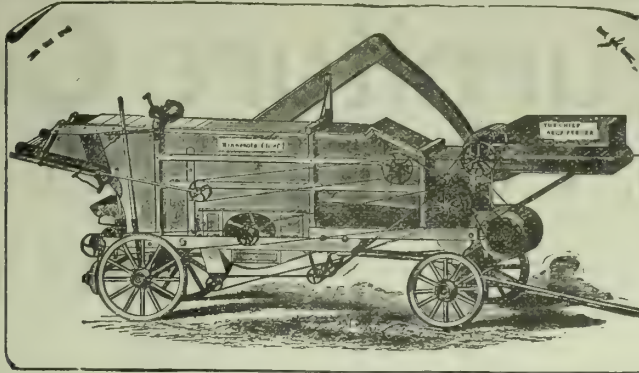
J. C. HOAG—San Francisco.
R. G. BAILEY—San Francisco.
F. D. HOLMAN—California.
GEO. WILSON—Sacramento, Cal.
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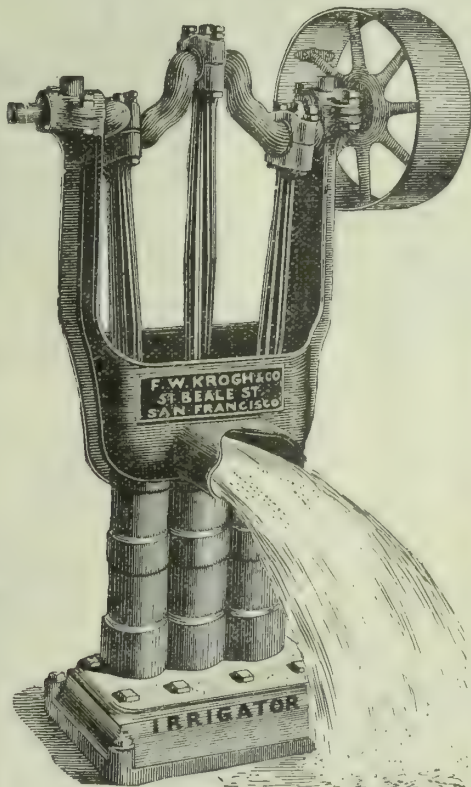
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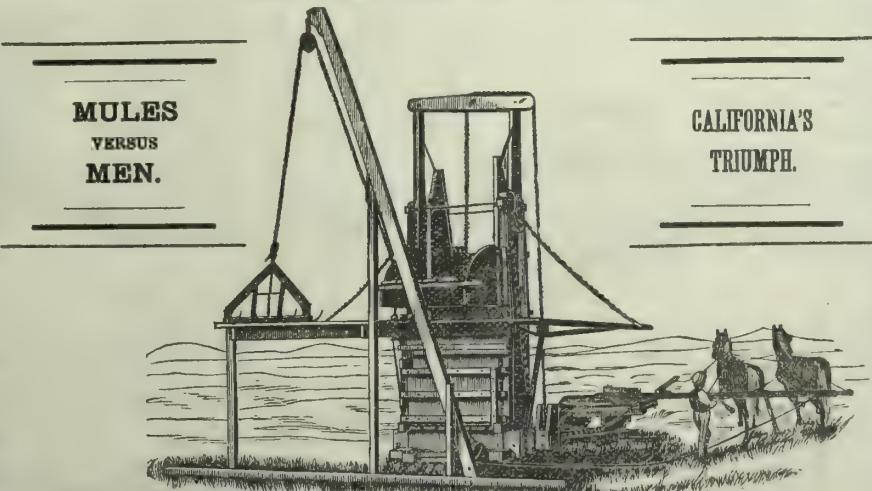
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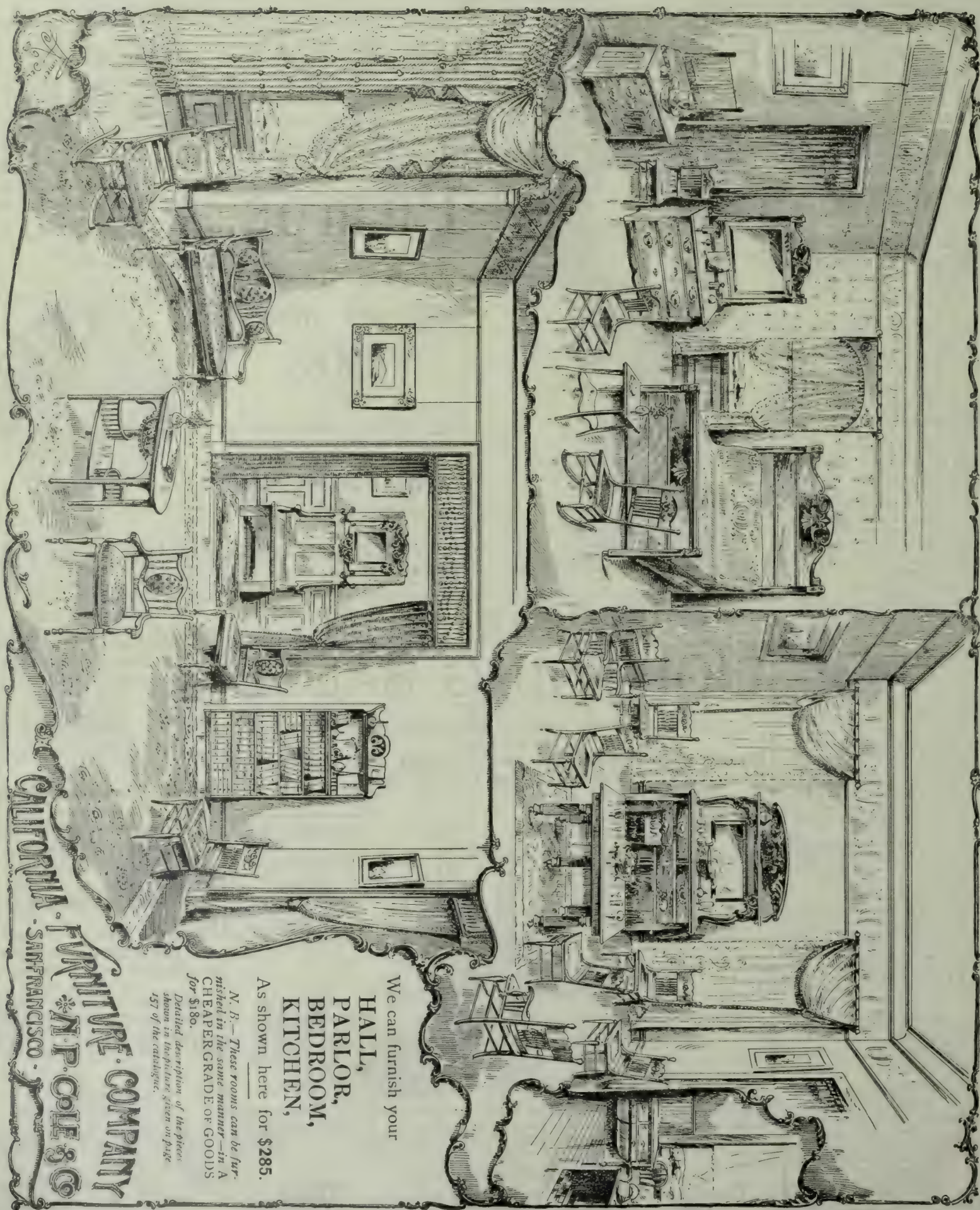
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S. E. MARKET REPORT

Market Review.

SAN FRANCISCO, June 14, 1893.

In face of conditions that legitimately call for a material advance of quotations, the wheat market labors under a season of depression seldom before equaled. There is no longer the slightest doubt of a large shortage in the wheat crop of the Middle West. In England and Wales, the yield will be below average; and on the Continent the output will not be more than normal. In California, reports of shortage continue to be confirmed, though there has been recent improvement of the situation. But, despite all these things, and the probability that the new year will be entered upon with present large supplies reasonably well reduced, the market seems unable to recover from the long period of depression it has been laboring under for some time. In Chicago, June wheat has reached the lowest figure known in over 30 years, being quoted yesterday at 65½ cents, and last Thursday it went down to 63 cents. The lowest previous figure was in 1887, when wheat touched a minimum of 66½ cents.

The price cause now operating to grind wheat down to bedrock is the financial situation. Speculative holders, pressed for money, have been obliged to sell in large quantities. For weeks the Chicago banks had been urging by all means in their power that the price of wheat be lowered, so that it would move out and release money. This promoted a strong bear feeling. Rumors of all sorts were industriously circulated on the Board of Trade. It was declared that farmers were selling old wheat freely on account of weevil, and were totally discouraged. Word was received from Liverpool that stocks were nearly double what they were a year ago. New York reported that foreigners had refused to buy further. Bank failures were reported from all parts of the country. Even the cholera scare was worked as a factor in discouraging exports to Europe. All these things greased the track for wheat to take its plunge. Several big commission men disposed of large holdings, selling about 2,000,000 bushels at one time.

San Francisco and foreign markets have been in sympathy with the Chicago market and business has been at a low ebb. In this city transactions have been nominal, sellers not being at all anxious to trade at prevailing figures, and buyers showing little or no disposition to meet them. In England the market for cargoes of coast has developed more firmness, but on the whole values are uncertain and irregular. It seems probable that there can be no healthy condition of things until the financial condition improves, though we may expect that force of circumstances will drag the market up from the low state before very long. That is to say, when the fact that there is a shortage in the world's crop becomes more imminent, prices must improve, financial stringency or no financial stringency. Hard times has little or no effect on consumption, and present supplies will probably soon be heavily eaten into.

The Government issued its regular monthly crop report June 10th, and, despite the fact that it was decidedly bullish in tone, it produced scarcely a ripple in the markets. The report indicates an average condition of wheat in the principal wheat-producing States of 76.8 per cent, indicating an average shortage of 23.2 per cent below a normal crop. Time appears to completely justify our previous estimate that the shortage in the United States will be about 100,000,000 bushels. There appears to be no further attempt on the part of bears to predict a full crop. They rely on the financial situation and large stocks of old wheat to depress the market, despite these apparently favorable influences, and their reliance has so far been well placed.

In California there has recently been considerable improvement in the condition of growing grain. Reports from the San Joaquin are now of a good yield. In northern California, however, conditions are not materially different from what they were a month since. The shortage will doubtless be sufficient to bring down the total output of the State below average.

The report of the Department of Agriculture, issued June 10th, is in full as follows:

"The report of June 1st, based on returns to the Department of Agriculture, makes the acreage of winter wheat, compared with that of last year, 87.83, being a reduction of 12.2 points. The States in which the principal decrease occurred are Illinois, Missouri, Kansas and California. A reduction of area in the States of Kansas, Missouri and Illinois is caused in the main by the long-continued drought and an extremely cold winter. A vast amount of the acreage sown has been plowed up and put to other crops. The decrease from the acreage of 1892 is in Illinois 24, Missouri 16, Kansas 39 points. The percentage for the country in spring wheat per acre is 94. The percentages in the principal spring wheat States are: Minnesota 90, Nebraska 100, South Dakota 95, North Dakota 96. The condition of winter wheat has improved but slightly since the last report, being 75.6 against 75.3 for the month of May. The percentages in the principal States are: Ohio 90, Michigan 72, Indiana 81, Illinois 67, Missouri 74 and Kansas 47.

"The condition of spring wheat presents an average for the entire country of 86.4, and for the principal spring wheat States: Nebraska 85, Missouri 89, Minnesota 88, Iowa 95, South Dakota 89, North Dakota 92.

"The average percentage of acreage for both spring and winter wheat for the whole country is 89.8, and the condition of the same 76.8. The percentage of the acreage of oats as compared with that of last year is 100.7, and the condition 88.9 for June 1st, as against 88.5 for the same month in 1892.

"Returns show the percentage in the acreage of rye as compared 1892 to be 94.3, while the reports on its condition make the general average 84.6, the lowest for years."

There has been an improvement in the export demand for barley during the week, but feed varieties are slow. Millers are taking fair quantities, but supplies are ample to meet their wants.

Oats are weak and supplies are abundant. There is no trade in corn and quotations are largely nominal.

Fruits.

Orange shipments to this market are beginning to fall off and there is some improvement in price, particularly for the better varieties. The crop has been pretty well cleaned up in southern California, except that which remains on the trees, and dealers in that vicinity are turning their attention to deciduous fruits. Shipments of cherries are going forward from the southern part of the State, and San Jose sent out fifteen carloads last week. The market here is well supplied, but the demand is good and prices are fairly well maintained. Canners are now in the market and reports are that canneries are starting up in various parts of the State. Canners pay 24¢ per lb for cherries, according to variety. The quality of the fruit is generally good, and the yield seems to be abundant.

Blackberries have reached this market from Bouldin island and sell at 75¢@81.25 per drawer. They are of very good quality. Other berries make a full showing and bring a variety of prices, according to appearance and quality.

Peaches have begun to arrive and bring \$1.50@

\$1.75 per box. It may be expected that the market will soon be plentifully supplied. The fruit season is now in full blast. Apricots make a good showing in the markets. Pringle's have begun to disappear and Moorpark's are beginning to come in.

Green apples and pears are here, but find no demand for general consumption. About the only purchasers are packers.

Vegetables.

There has been a reduction in new potatoes during the week, but the market is in good condition. Green corn has appeared but not in large quantities, and prices are stiff. Onions have advanced in value during the week. Green okra has come in from Stockton, the first lot bringing \$1 per pound. Tomatoes will probably be scarce this season, and there is a good prospect of a continuance of high values. Receipts so far have been very light, coming from Los Angeles and Winters. String beans have not shown heavily, and are strong and firm. Cucumbers are not plentiful, and have advanced in value. Good asparagus has become scarce and values are firmer.

Provisions.

There has been a sharp break in pork values in Chicago, and the market is to some extent demoralized. The influences that surround the pork provision market are much the same as they are around wheat. There is not only a heavy shortage in present supplies, but the crop of young pigs in the middle West shows serious losses, and there does not appear to be the smallest ground to anticipate that the deficit can be made up this year. To prevailing financial troubles may be ascribed the difficulty in the pork market. Consumption has, of course, fallen off to some extent, but not sufficient to pull the bottom out of the market. The Chicago *Breeders' Gazette* of June 7th, says: "The last few days have been days of disaster to Western hog-shippers. In spite of the fact that the receipts made about the smallest total for any six days of the year, there has been a heavier shrinkage in values than often takes place in the same length of time. The flurry in financial circles made buyers timid, and, in the absence of demand, prices rapidly receded. They declined from \$7.47 to \$6.40@6.85—a drop of 55¢@60¢ per 100 pounds. Monday's market was a drop of the week; was, in fact, the worst that sellers have experienced since war times. To-day there was a better feeling, but only a very slight recovery from the decline of 45¢@50¢ suffered on Monday. Closing quotations are: \$6.44@6.85 for poor to extra medium and heavy weights and \$6.40@6.75 for light. The bulk of the hogs here to-day changed hands at \$6.50@6.70." Locally, the market shows little or no change.

Wool.

Dullness continues to be the only feature of the wool business. Trade is normal and there appears to be no immediate prospect of activity. A. C. Shlesinger, the wool man, speaking of the situation, points out the cause of the depression. He says:

"There is no doubt that a tight money market will always affect the demand of any article, but a tight money market and the export of gold will not make values decline 10 cents a pound on scoured wool. I have letters from some of the largest operators in wool in the Eastern States, and all these convey the information that the tariff is the cause of low prices. These acquainted with the wool business will naturally say there is no danger of any change in the tariff for six or eight months, hence why should wools decline? For the information of those I wish to say that all the manufacturers of woollens make their goods a year in advance. For instance, in July the domestic manufacturer will begin the manufacturing of his light-weight goods, to be sold to and made up by the jobbers and manufacturers of clothing for the following season of light-weight goods; therefore it will be seen that manufacturers are taking their contracts for delivery of goods which are to be used a year hence.

"Everybody in this business also knows that on the slightest pretext these contracts are canceled and manufacturers are left with a large stock of woolen goods on their hands. The heavy-weight season which has just closed has included this experience.

"Now, under these conditions, what does it mean except that manufacturers in buying wools must take into consideration the future action of Congress? President Cleveland and the incoming House and Senate are pledged to free wool and lower duty on goods, and manufacturers appreciate this fact and will buy nothing unless it is on the basis of free wool and lower duties on goods.

"I quote from a letter dated May 31st from one of the largest Eastern houses, as follows: 'Manufacturers are waiting until some settled basis is reached, and will buy only in very small quantities for immediate wants. They believe the duty will be taken from wool, and fear that on goods it will be put to so low a point that it will virtually be no protection, and so many goods will be imported that it will stop their use of wools entirely.'

"From another Eastern house I quote from a letter dated June 2d: 'Will not buy anything unless at about 25 per cent less than January and February prices.'

"And also some mills have already shut down to three-quarters time and some to half time, awaiting results. And so I receive letters from many stating that they will buy only what they can buy on a free-trade basis and low duty on goods.

"I spent nearly two months in the East, from the 7th of March to the 20th of April, and the general information that I received from everybody in the wool business, irrespective of politics, was that the nearer we approach the meeting of Congress, or an extra session, the lower the value of wool will go until it touched the free-trade point of wool and low duty on goods."

Poultry and Eggs.

The poultry market is in fair condition, though dealers say it is dull. Prices, however, stay up with the exception of turkeys, which are weaker. Choice hens and young roosters sell very readily. There is a steady demand for choice stock and sales for such varieties are readily made.

Choice eggs are firm. Receipts are not so heavy as they were recently. An improved condition of the market in the East has shut off a part of the supply from that source. The tone of the market generally is fairly good.

Butter and Cheese.

The season of heaviest production is passing and improvement in the market may soon be expected. There has been no notable change during the week. Cheese is unchanged.

Honey is coming in with freedom and the market is a little weak.

Miscellaneous.

Hops develop no change from week to week. New hay has been arriving freely, 520 tons coming in yesterday. There is no change in quotations.

Hides are lower. No business is being done in the dried fruit line. The market is in good condition. A steadier tone is quoted in the market for fresh meats. Sheep are stronger.

California Products in the East.

New York, June 11.—There are no bids for round lots in canned fruits. A few light calls from grocers represent all that is doing. As the market now stands, few holders express a hope for a wholesale

tone. The surplus is regarded as oppressive, with a heavy canning of Eastern fruit, particularly of peaches, in view this coming season. Besides being cheap, dried apples are prospectively abundant, and prunes will have a cheapening tendency upon other packed goods. Prunes are weak at last week's list of prices. The berry season always cuts into their trade. France reports an outlook for a large yield. The new crop has been offered, to arrive, at 7½¢, four sizes landed here, duty paid. A carload and a half of unpeeled evaporated peaches have been sold at 8½¢.

In other fruit products the tone and prices are: Raisins—Stock is slightly lightened by some Western demand; outside lots would not exceed 40¢ for two-crown and 50¢ for three-crown, boxes unchanged.

Apricots—Winding up at 14¢@15¢ good quality. Thirty-eight hundred boxes of cherries were sold during the week; 2000 were Black Tartarian from Chicago and brought \$1.30@1.60; fine direct shipment Tartarian, \$1.45@2.90; Royal Anne, \$1.75@2.65; May Duke, 95¢@1.10; Biggareau, \$1.65@1.70; Governor Woods, \$1.15@1.55; Centennial, 95¢@2.30.

Wool—The general market remains in the undetermined condition which began with the new clip. At the present time there is nothing to stimulate sales to manufacturers. The business of the past few weeks shows that purchasers were merely of a line to fill out the remnant of prime orders. This is likely to be the case until the new season for clothing wool appears. There is little possibility of new manufacturing ventures arising until the financial atmosphere is less hazy. Wool would be attractively cheap even at the price at which the bulk of interior stocks are held above seaboard rates. Sellers in the East express themselves as tired of the "free wool" argument, and now pertinently ask buyers how much lower prices can consistently go, even with any legislative revision of the tariff. This sentiment is also to a degree emphasized by a speculative inquiry which seems ready to operate if the money situation were clearer. One good feature of the market is that manufacturers evidently have no large surplus of material on hand.

Sales—At New York: 130,000 lbs. domestic, including 5000 spring California, at 16¢@17¢; 15,000 lbs. scoured on private terms, and about 100,000 lbs. foreign, also on private terms. At Boston: 843,000 lbs. domestic, including 10,000 lbs. spring California, at 17¢; Texas wool ranged from 16¢@18¢; Territory, 15¢@20¢; also 173,000 lbs. Australian sold down at 33¢@35¢ and 50,000 lbs. carpet at 33¢@35¢.

Philadelphia reports a decline of 10¢ on unwashed wools and a nominal market for washed fleeces. A block of 100,000 lbs. at ¼¢ below unwashed sold at 20¢, showing a material sacrifice upon the original cost.

Lima Beans—The hot weather is adverse to any demand, selling at \$2.15 spot per bushel. Buyers are indifferent as to what impression prevails. The coast will have the largest crop ever harvested. Good quantities of the last crop are yet to arrive by ship.

Hides continue dull and nominal. Hops—On the best grades of State and California the feeling is stronger, supported by a moderate export. There is a demand for both grades at 21¢@22¢. Brewers pick up what they want at 18¢@20¢. All crop advices favor sellers. In London calls the market is firm with a fair sale of Americans. The export for the week is 955 bales.

California Fruits at the East.

New York, June 13.—E. L. Goodsell to-day sold the second and third carloads of California cherries of the season, comprising some 2500 boxes, which arrived only in fair condition, and therefore did not average quite as much as the first car. To-day's cars will average about \$1.50, although sound lots of Tartarian and Royal Anne varieties sold up to \$2.25; 2220 boxes in one car sold gross at \$3700, and therefore the net results will still be satisfactory to producers. A. T. Hatch had 571 boxes of the Royal Anne variety, which sold for \$1140, and will net him in California 10¢ per pound, which is eminently satisfactory. A few lots of Pringle apricots, in 20-pound crates, sold at \$2.05@2.45, which is also very satisfactory and will be very interesting information to a large number of California apricot shippers who are about ready to forward this variety of fruit to the East. For the third car prices showed a slight advance for sound fruit, and reaching as high as \$2.25 for Black Tartarian and \$2 for Royal Annes. Large shipments are en route but the probabilities are that good prices will continue, but lower than at present, when these come in.

Rodeo Live Stock Market.

Rodeo, June 13.—The market was steady at the Union Stock Yards to-day. Sheep, lambs and calves were in better demand. Prime fat steers, \$3@3.20; medium, \$2.40@2.80; cows, \$2@2.20; canners, \$1.25@1.50. Hogs—Heavy grain fed, \$6.75@7; light, \$6.75@7. Sheep—Demand strong; good fat wethers, \$3@3.20; ewes, \$2.30@3; lambs, \$3.80@4. Calves—Prime light, \$3@3.50.

British Grain Trade.

LONDON, June 12.—The *Mark Lane Express* says: The market for home-grown wheat is dull. Foreign wheat has declined 3d on the week, which, since 500,000 quarters are on sale at ports, proves its firmness, despite a rise of 1d per ounce in the price of silver and a sudden and large increase in shipments of wheat from India. Wheat shipments from Russia have been heavy, but the continent bought 80 per cent of the amount shipped. Italy is expected to require 3,000,000 quarters.

Visible Grain Supply.

New York, June 13.—The visible supply of grain is as follows: Wheat, 68,662,000 bushels, a decrease of 2,419,000 bushels; corn, 8,159,000 bushels, a decrease of 29,000; oats, 3,031,000 bushels, a decrease of 1,605,000; rye, 593,000 bushels, an increase of 17,000; barley, 376,000 bushels, a decrease of 1000.

(Continued on next page.)

House Furnishing.

The California Furniture Company, 117 to 123 Geary street, has just issued, at great expense, a comprehensive catalogue of the goods it carries in stock. The catalogue contains 160 pages, 9x12, and has over 500 illustrations of modern furniture and household fittings. A perusal of the book will give those who contemplate furnishing a house many valuable hints, while the low prices quoted for first-class, highly finished goods cannot fail to interest all. People at a distance, who wish to order from this old-established house, will do so with a feeling of absolute certainty that their orders will meet with prompt and careful attention. Take particular notice of the full-page illustrated advertisement in this issue of the PRESS, and send at once for the great catalogue.

HORSE COLLARS
—AND—
SADDLERY GOODS.

Davis & Son's Horse Collars are not filled with Self-Pulverizing Cork.

The U. S. Inspector of Harness Supplies and Horse Collars selected Davis & Son's make—both harness and collars. And so will all persons who want a solid, broad-faced, smooth collar which does not pinch the neck nor roll about unsteadily for three months before it settles down to a fitting shape or set squarely back on the shoulder. If you want a collar not stuffed with waste but with collars, as all other makes on this coast are wad collars. All wad stuffed collars flatten down in a short time so that a sweat collar is needed to protect the horse from the wads or ropes of straw. Davis & Son's Collars are all put under a powerful shape or press before finished, which solidifies them into a perfect shape, which allows the collar to set with its whole face against the shoulder. When a wad-stuffed collar is brought under this force it shows the old wad-stuffed collar to be merely a Puff Ball. Send or bring in to our factory in this city any collar and see this done, and see what a Pan Cake you have been selling to the people for collars. Our Boston Team long straw collars have no wads. The Rod of our Great Machine is supplied with small teeth on its lower surface like a fine saw. It picks up and carries with it as it flies through the straw a long straw in each tooth, all of which are deposited in the collar, one behind the other, with more precision and regularity than human skill could ever accomplish, thus avoiding all lumps and wads, not even two straws crossing each other.

HAME ROOM.

No Collars on this Coast or elsewhere have as good Hame Room as the Davis & Son's Collar.

410 Market St., San Francisco.

SULPHUR WICKS

—FOR—

Bleaching Fruit.

PURER, CLEANER and CHEAPER Than Other Forms.

UNIFORM RESULTS INSURED.

They are sulphur melted onto strips of burlap, 10 to the pound. One of these for each tray or number of trays, and the dried fruit all looks alike. Samples sent by mail. Address, J. A. DURAND, 823 Front St. S. F.

GERMEA
The Monarch of
Breakfast Foods
THE JOHN T. CUTTING CO. SOLE AGENTS

BACK FILES of the PACIFIC RURAL PRESS (unbound) can be had for \$2.50 per volume of six months. For year (two volumes) \$4. Inserted in Dewey's patent binder 50 cents additional per volume.

The Judson
Fruit Company,

308 and 310

WASHINGTON STREET
San Francisco, Cal.

We are now better than ever prepared to receive consignments of all kinds of perishable products, such as Fruits, Vegetables, Eggs, etc. Our facilities for cool, dry storage and packing for long-distance shipping cannot be excelled. It is our constant aim to make our consignors and our customers stay with us.

MEXICAN PHOSPHATE AND SULPHUR CO.
SEASON OF 1893.

NITROGENOUS SUPERPHOSPHATE

AS AN EFFECTIVE FERTILIZER IT STANDS UNRIVALED.

.....Send for Circulars.....

H. M. NEWHALL & CO., Agents,

800-811 Sansome Street San Francisco, Cal

The Markets.

(Continued from preceding page.)

The Florida Orange Crop.

We learn from reliable sources that agents of the Florida Fruit Exchange have visited every county in the State of Florida and recently met to compare notes. They reported the crop of oranges to be about equal to the year before last, and it was their opinion that the Florida orange crop had reached its limit for the reason that so many groves are dying out. They said: "Take the State, leaving out Orange Lake, and the crop would be greatly below the average. Last year, the Orange Lake crop was almost nothing. This year, it comes up with fair prospects and this holds up the average in the State. Emerald Isle last season shipped 89,000 boxes; this year the estimate is 63,000. Thus it will be seen that Florida will not increase her yield annually, as is generally supposed."—New York Fruit Trade Journal, June 3rd.

Grain Futures.

Liverpool.

The following are the closing prices paid for wheat options per cwt. for the past week:

	June	July	Aug.	Sept.	Oct.	Nov.
Thursday	5607 d	5603d	5609 d	5610 d	5611 d	5611d
Friday	5606 d	5603d	5609d	5610d	5611d	5611d
Saturday	5607 d	5603d	5610 d	5611 d	5600 d	5603d
Sunday	5606d	5603d	5609d	5610d	5611d	5603d
Monday	5606d	5603d	5609d	5610d	5611d	5603d
Tuesday	5606d	5603d	5609d	5610d	5611d	5603d

The following are the prices for California cargoes for off coast, nearly due and prompt shipments for the past week:

	O. C.	P. S.	N. D.	Market for P. S.
Thursday	296d	296d	296d	Weaker
Friday	296d	296d	296d	
Saturday	296d	296d	296d	Firm
Sunday	296d	296d	296d	
Monday	296d	296d	296d	Firm
Tuesday	296d	296d	296d	Neglected

To-day's cablegram is as follows: LIVERPOOL, June 14.—Wheat—Firm but not active. California spot lots, 5s 10d; off coast, 2s 6d; just shipped, 3s 6d; nearly due, 2s 6d; cargoes off coast, firmer; on passage, higher prices asked but no advance established; Mark Lane wheat, quiet but steady; French country markets, firm; wheat and flour in Paris, firm.

Eastern Markets.

The following shows the closing prices per bushel of wheat for the past week at

New York.

Day	June	Aug.	Dec.
Thursday	70 1/2	74 1/2	81 1/2
Friday	70 1/2	74 1/2	81 1/2
Saturday	70 1/2	74 1/2	81 1/2
Sunday	70 1/2	74 1/2	81 1/2
Monday	70 1/2	74 1/2	81 1/2
Tuesday	70 1/2	74 1/2	81 1/2

The following is to-day's telegram—per bushel: NEW YORK, June 14.—June, 72 1/2; August, 76; December, 82 1/2.

Chicago.

Day	June	Sept.	Dec.
Thursday	63 1/2	70 1/2	75 1/2
Friday	63 1/2	70 1/2	75 1/2
Saturday	63 1/2	70 1/2	75 1/2
Sunday	63 1/2	70 1/2	75 1/2
Monday	63 1/2	70 1/2	75 1/2
Tuesday	63 1/2	70 1/2	75 1/2

The following is to-day's telegram—per bushel: CHICAGO, June 14.—June, 66 1/2; September, 71 1/2; December, 76 1/2.

Local Markets.

WHEAT.

	May	Dec.
Thursday, highest	\$1 25 1/2	\$1 34
" lowest	1 25	1 33 1/2
Friday, highest	1 27	1 30 1/2
" lowest	1 26 1/2	1 34
Saturday, highest	1 27 1/2	1 34 1/2
" lowest	1 27	1 34
Monday, highest	1 25 1/2	1 34 1/2
" lowest	1 24 1/2	1 33 1/2
Tuesday, highest	1 26 1/2	1 34 1/2
" lowest	1 25 1/2	1 34 1/2

*Milling. (New.) The following are to-day's recorded sales on Call: Wheat—Morning Informal Session—December, 500 tons, \$1.34; July, new, 100 tons, \$1.25; c. l. Regular Session—December—100 tons, \$1.34; 100, \$1.34; c. l. Afternoon Session—December, 100 tons, \$1.35; 100, \$1.35; 800, \$1.35; c. l.

BARLEY.

	June	Dec.
Thursday, highest	87 1/2	92 1/2
" lowest	86 1/2	91 1/2
Friday, highest	88 1/2	93 1/2
" lowest	88 1/2	92 1/2
Saturday, highest	89 1/2	94 1/2
" lowest	89 1/2	93 1/2
Monday, highest	88 1/2	93 1/2
" lowest	88 1/2	92 1/2
Tuesday, highest	88 1/2	92 1/2
" lowest	88 1/2	92 1/2

*New. The following are to-day's recorded sales on Call: Barley—Informal Session—Seller 1833, new, 200 tons, 84c; December, 300 tons, 91c; c. l. Regular Session—Buyer June, 200 tons, 83c; December, 100 tons, 91c; 300, 91c. Seller 1833, new, 100 tons, 94c; c. l. Afternoon Session—December, 200 tons, 92c; 200, 92c; 100, 92c. Seller 1833, new—200 tons, 85c; 200, 85c; c. l.

Fruits and Vegetables.

Choice selected, in good packages, fetch an advance on the quotations, while very poor grades sell less than the lower quotations. JUNE 14, 1893.

	Extra choice fruit for special purposes sells at an advance on outside quotations
Strawberries, chest	80 @ 15 00
Shallots, 50 @	8 00
Gousses-ries, lb	24 @ 5
Raspberries, chest	7 00 @ 12 00
Cherries, box	25 @ 60
Blackberries, box	25 @ 60
Royal Ann, lb	25 @ 75
White, lb	40 @ 4 50
Limes, Mex	75 @ 1 00
Do Cal.	1 50 @ 3 00
Lemons, box	4 00 @ 5 00
Do Santa Bar.	4 50 @ 5 50
Do Sicily choice	4 50 @ 5 50
Oranges, pr bx	2 50 @ 3 00
Navel, River de	1 25 @ 1 50
Seedling, River de	1 25 @ 1 50
Do Fresno	1 25 @ 1 50
Green Apples, ctd	40 @ 50
Currents, chest	3 50 @ 4 00
Apricots, box	40 @ 85
Peaches, 40 @	1 25
Cherry Plums	50 @ 75
Pears, bakt.	40 @ 50
Peaches, box	1 50 @ 1 75
Beets, sk.	— @ 1 25
Carrots, sk.	85 @ 1 25
Okra, dry, lb	15 @ —
Parasols, ctd	1 50 @ 2 00
Peas, common, lb	50 @ —
per sack	50 @ —
Peas, sweet, sk.	75 @ 1 00
Turnips, ctd	— @ 1 00
Cabbage, 100 lbs	80 @ 1 15
Cauliflower, lb	50 @ 85
Celery, 50 @	60
Tomatoes, box	2 00 @ 3 00
String Beans	25 @ 6
Rhubarb, box	30 @ 75
Asparagus, box	60 @ 1 50
Cucumbers, doz	75 @ 1 50
Artichokes, doz	50 @ 60
Eggplant, lb	15 @ 20
Summer squash	— @ 75
box	75 @ 1 75
Green corn, dz	25 @ 35

Live Stock.

	MUTTON.
Hall fed.	5 1/2 @ —
Grass fed, extra	6 1/2 @ —
First quality	5 1/2 @ —
Second quality	5 @ —
Third quality	4 1/2 @ —
Bulls and thin Cows	3 @ —
	VEAL.
Range, heavy	4 @ 67
Do light	5 @ 67
Dairy	5 @ 47
	HOGS.
Light, 8 lb, cents	6 1/2 @ —
Medium	7 @ —
Heavy	7 1/2 @ —
Soft	7 @ —
Feeders	6 1/2 @ —
Stork Hogs	5 1/2 @ —
Dressed	9 1/2 @ 92

To Preserve Brooms.

Dip them for a minute or two in a kettle of boiling suds once or twice a week and they will last much longer, making them tough and pliable.

General Produce.

Extra choice in good packages fetch an advance on top quotations, while very poor grades sell less than the lower quotations. JUNE 14, 1893.

	BEANS AND PEAS.
Bayo, ctd	2 75 @ 2 80
Butter	2 75 @ 3 00
Peas	2 75 @ 3 00
Pink	2 80 @ 2 90
Small White	2 80 @ 2 70
Large White	2 80 @ 2 70
Lima	2 90 @ 3 00
	BUTTER.
Cal. poor	15 @ —
fair, lb	16 @ —
Do good to choice	17 @ —
Do Giltedged	18 @ —
Do Creamery	20 @ 21 1/2
Do do Giltedged	20 @ —
Cal. Pickled	18 @ —
Cal. Keg	18 @ —
	ONIONS.
Cal. choice	8 @ 9
cream	8 @ 9
Do fair to good	8 @ 9
Do Giltedged	9 @ —
Do Skim	9 @ —
Young America	9 @ 11
	PEAS.
Cal. "as is" doz	— @ —
Do shaly	10 @ —
Do candied	19 @ —
Do choice	19 @ —
Do fresh laid	15 @ 17
Do do white	— @ 20
Do selected	— @ 22
	WALNUTS.
Walnuts, hard	8 @ 9
shell, Cal. B.	8 @ 9
Do soft shell	12 @ —
Do paper shell	12 @ 13
Almonds, extra	15 @ 16
Paper shell	15 @ 16
Brand	10 @ 8
Pecans, small	8 @ 10
Do large	10 @ 12
Peanuts	34 @ 54
Filberts	10 @ 12
Hickory	7 @ 8
Chestnuts	5 @ 10
	POULTRY.
Hens, doz	6 50 @ 7 50
Roosters	6 00 @ 7 00
Do young	9 00 @ 10 00
Broilers, small	4 00 @ 5 00
Do large	5 00 @ 6 00
Fryers	4 00 @ 5 00
Young Ducks	5 00 @ 6 00
Geese, pair	3 00 @ 4 50
Turkeys, goblr.	16 @ 17
Turkeys, hens	16 @ 17
All kinds of poultry, if poor or small, sell at less than quoted; if large and in good condition, they sell for more than quoted.	
	MANHATTAN EGG.
Food (Red Ball Brand) in 100	— @ 11 50
B. Cabinets	— @ 11 50
	PROVISIONS.
Cal. bacon	— @ 12 1/2
heavy, per lb	— @ 13
Medium	14 1/2 @ 15
Light	14 1/2 @ 15
Cal am'k'd beef	10 @ 11
Hams, Cal	— @ 16
Do Eastern	— @ 16
	SEEDS.
Alfalfa	9 @ 10
Clover, Red	15 @ —
White	30 @ —
Flaxseed	24 @ —
Hemp	4 @ —
Do brown	5 @ 5 1/2
	WOL.
Nevada, per lb	13 @ 15c
Do Poor	10 @ 12c
San Joaquin and	— @ —
Southern, year's staple	9 @ 11c
Short Wool	11 @ 13c
Do do very poor and	— @ —
shrubby	10 @ 11c
Beeswax, lb	22 @ 23

Moth Preventive.

In this age of fearful moth-preventive smells, it is worth while to know that moths will never go where there are lavender bags. Even where they have begun their ravages in furs or feathers, a lavish sprinkling of the articles with good lavender water will prevent further damage. No one can ask for a purer or pleasanter odor about garments. A liberal distribution of lavender sachets in closets, drawers and trunks will give you the satisfaction of making sweeter your belongings with the weapon which drives away their depredators. Put a lavender sachet in your piano if you fear moths will ravage the felt.

Another infallible remedy is compounded of the following sweet-smelling things: Lavender, thyme, rose, cedar shavings, powdered sassafras, cassia and lignea in about equal quantities, with a few drops of attar of roses thrown upon the whole.

Wood Twine Binder.

The improvements year after year in the Walter A. Wood Harvester and Twine Binder make it an extremely simple machine, working well in any one's hands and able to cope with every crop condition. The strength, capacity for heavy work, firmness of parts and reliable, sure work of these machines has made them particularly successful in California fields, and the number of them in use here is increasing each year.

Mixed Construction.

A writer in a rural exchange says that he saw "two men starting for town with a gray horse and sleigh seated upon a box containing holes that had been made with a two-inch auger going after a pig." How's that for construction?—Schenectady Union.

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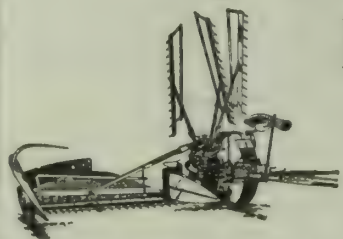
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California Crops.

[Summary of Report of Observer James A. Barwick, for Week Ending June 12, 1893.]

Crops of all kinds are as spotted over the State as they well could be—that is, the same counties will report different conditions of the same crop, causing the yield to be the most variable that has occurred in years in this prolific State.

General fruit gatherings will be in full blast within the next few weeks. Harvesting is beginning, and the crop turning out all the way from very poor to very good. Hay is being ricked or stocked in the field, ready for baling, or is being stowed in large ricks under shelter for winter use. The highest and lowest temperatures reported were: 103° at San Ardo, Monterey county, and 40° at Yreka, Siskiyou county.

Glenn County (Orland)—Haying over; harvesting begun. Barley not turning out as well as was expected.

Colusa County (Arbuckle)—Harvesting will begin the coming week.

Butte County (Houcut)—Hay crop good, but barley rather light.

Yuba County (Wheatland)—Barns being filled with hay of fine quality, and the grain fields give evidence of full crops. Hop acreage increased considerably over that of former years.

Sacramento County (Folsom)—Haying over and yield much better than expected. (Galt)—North winds damaged grain in a great many places.

Yolo County (Davisville)—Barley ripening rapidly. It is fine and plump with prospects of heavy yield; cutting has commenced. The hay crop along the north bank of Putah creek will be fully as large and possibly larger than that of last year. (Winters)—Melon vines growing finely, and we hope to have plenty ripe by the Fourth of July. The curl leaf affected the peach crop in this vicinity but very little. An experienced fruit-grower says the crop will be a large one and the quality extra good. (Guinda)—The north winds appear not to have injured the grain as badly as was anticipated. Reports from Capay valley show that the hay crop is as large as usual and of good quality. Wheat crop short. (Briggs' Vineyard)—Grapes almost through blooming and nearly out of danger. The yield will be heavy.

Solano County (Vacaville)—Fruit crop promises to be of good quality, although the yield will be light. (Denverston)—Heavy northerly winds of last week have badly shrunken the grain kernels. This week has been cool and pleasant, and is beneficial to the growing crops.

San Joaquin County (Stockton)—Hay crop far below the average in many places. Fresno County (Fowler)—Wheat crop averages fair. Vines well set with grapes.

Tulare County (Pixley)—Grain crop bad. (Oak Flat)—Most of the grain will make fair hay, although cut short by drouth.

Humboldt County—Observer, Weather Bureau, Eureka, says: "The general crop outlook in this county is good at present, especially in the valley lands. The trees are loaded with apples and prunes, but the peach crop is an entire failure."

Sonoma County (Bellvue)—Considerable fruit raised in this vicinity with fair prospects, although season is backward. (Dry Creek)—Cherries good crop, apples fair, pears very light, peaches not much over 65 per cent, but fine in quality. (Glen Ellen)—Grain and orchard doing finely, hay all cut, corn and gardens being cultivated. (Forestville)—Crop conditions favorable. Haying well under way. Corn growing rapidly. Grapevines never looked better. Peaches and prunes are light. Apples fair. Apricots none. Bartlett pears very light. (Santa Rosa)—Grape blossoms opening and indications are for a heavy set of fruit. (Cloverdale)—Cherries are a good crop. Peaches very light. Prunes fair. Grapes fine. (Sonoma)—Farmers busy haying, crop light. Cherries ripening fast under the favorable weather. Apricots will not be ready to market for two weeks. Grapes looking fine. Bartlett pears dropping and there will not be over half a crop secured.

Napa County (Napa)—Peaches from our own orchards will soon be in the market. Grain fields will be shortly ready for harvesting.

Contra Costa County (Martinez)—George Abel, wheat inspector, reports crops light and three weeks later than last year. (Morango)—Cherry crop splendid.

Santa Cruz County (Watsonville)—Though the grain crop of this valley is going to be light the yield promises to be larger than was estimated some weeks ago. Hop growers say that the prospects never looked better in the older hop yards, while the new ones are making a good showing.

San Benito County—Grain crops of all

kinds are good in southern portion of county.

Monterey County (Pajaro)—Newton Pippin apples have dropped considerably, making the estimated crop much lighter than at first given. Blackberry crop good.

San Luis Obispo County (San Luis Obispo)—Crops fair but spotted. Beans are making a good showing.

Santa Barbara County (Santa Maria)—Continued damp weather favorable for all growing crops. Barley matured plump and is being rapidly harvested. Wheat filling well but not as good a stand as barley. Beans doing well. Light showing for fruit except prunes. Grain crop in Los Alamos and Santa Ynez valleys very good.

Ventura County (Hueneme)—Heading is progressing all over the valley and on the Las Poses, Simi and Canejo. It is many years since the crops of both barley and wheat have been so universally good as this year. The total output of barley on the south side of the Santa Clara river is now figured at 380,000 bags, as compared with 300,000 last season.

Riverside County (Banning)—Harvesting over and yield about an average one. (Beaumont)—Beekeepers still report great progress by the "busy bees" and tons of honey are being shipped from this station. One man suffered great loss in bees during the spring, but reports having captured twenty-seven estray swarms, which with his own new swarms puts him once more on a good basis.

Breeders' Directory.

Six lines or less in this directory at 50c per line per month.

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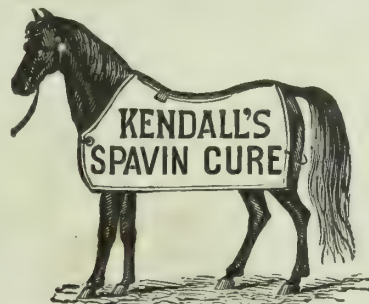
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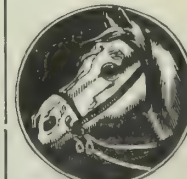
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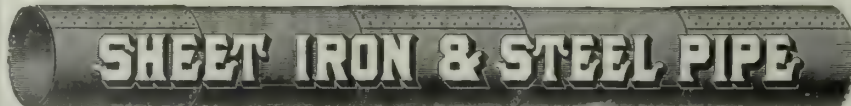
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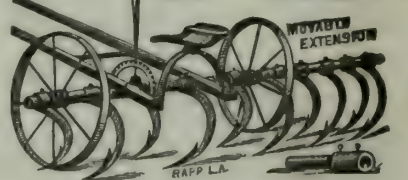
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Vol. XLV. No. 25.

SAN FRANCISCO, SATURDAY, JUNE 24, 1893.

THE DEWEY PUBLISHING CO.
Office, 220 Market St.

The Late Senator Stanford.

The accompanying portrait is one of the best ever made of the late Senator Leland Stanford, whose death is announced elsewhere. He was a man of striking personal appearance. Daguerreotypes taken at the age of 20 show that even then he had a certain dignified bearing, belonging rather to a man of more mature years. A man of large physique in his prime, he grew more portly with advancing age, until during the past year or two he has had to confine himself to a rigid diet to keep down the ever-increasing flesh. His only exercise was riding, of which he was always fond, but for a long time he has not used fast horses or light "rigs," confining himself to a wide and very low open carriage, drawn by a pair of heavy, slow-moving horses.

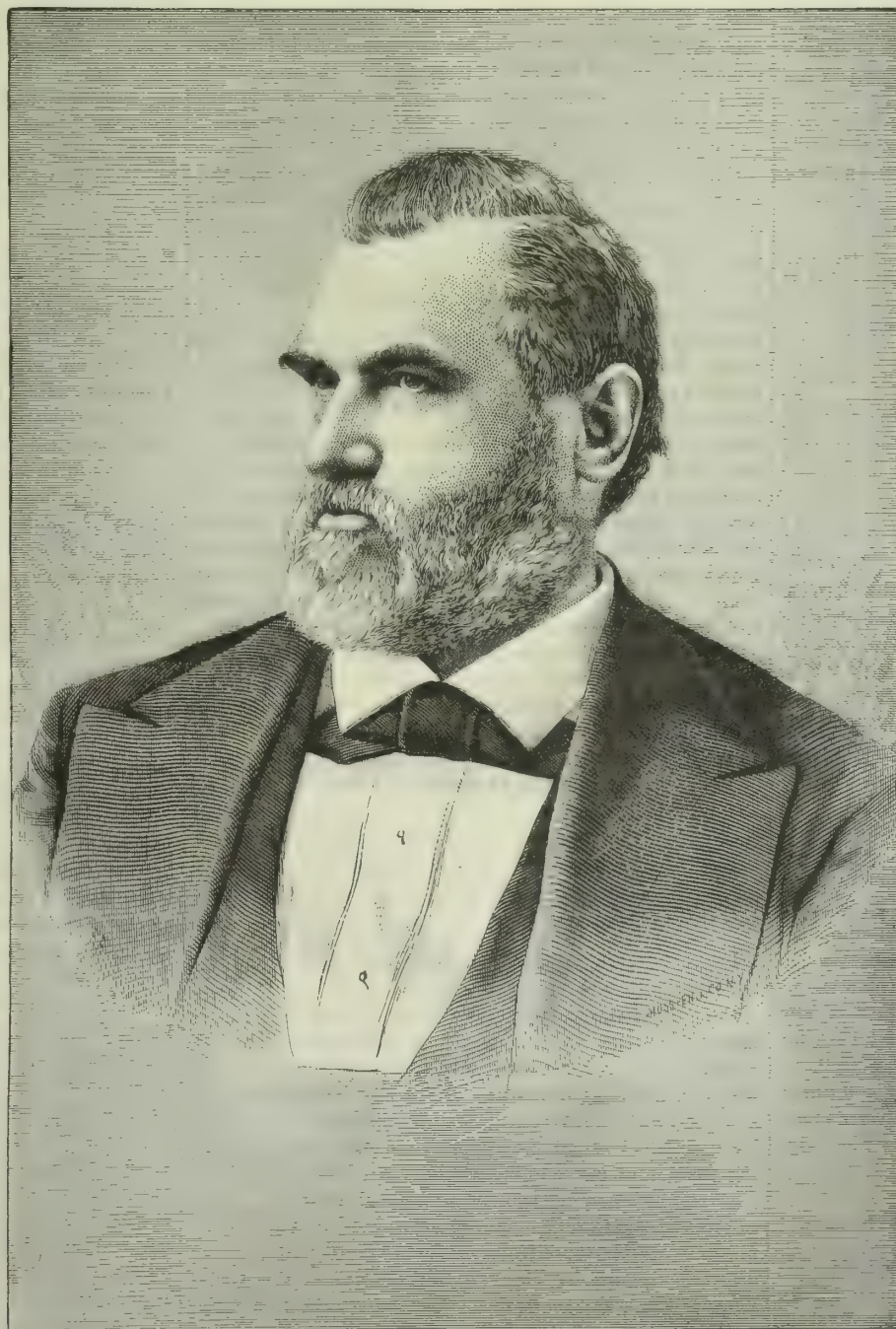
Mr. Stanford was essentially a domestic man, and his wife was his constant companion. On the death of their only son they devoted themselves to the Leland Stanford Jr. University, founded and endowed as a monument to their boy. This endowment is one of the great public gifts of modern days, amounting to about \$20,000,000.

Always a lover of fine horses, Senator Stanford established the Palo Alto stock farm, and devoted himself to developing certain original ideas concerning the trotting horse, in which he was eminently successful. Horses bred by him brought wonderful prices, and were known all over the world. He bred both trotting and running horses on his farm, the two departments, however, being kept entirely separate and under different management.

It has long been his habit, while living at his country residence at Palo Alto, to go daily in his carriage to the speed track and there witness the trials of his horses. Under the shade of a big oak called the "Governor's Tree," he would sit for hours criticizing the action of his horses, consulting with the drivers and issuing orders and directions. This was his great amusement and was followed to the day of his death. He would then drive through the university grounds, past the great buildings, back to his beautiful home, where he was always accessible to those who called. On this ride he daily passed a remarkable *memento mori* in the form of the magnificent tomb erected after his son's death, and over the door of which is carved his own name, that of his wife, and his son. The bulk of the great fortune amassed by this energetic and able man in the course of his active life will be devoted to the completion and maintenance of the university. This will be now under the management of Mrs. Stanford, and upon her death, devolves upon a board of trustees, already chosen and clothed with suitable powers.

No other Californian has ever occupied such a position before the public as has Leland Stanford. Coming here as an humble prospector and miner, then engaging in business as a merchant, he developed into Governor of the

State, United States Senator, one of the great railroad builders of the age, president of a great system of railways, and, finally, the founder of a noble university devoted to the free education of the children of the land. In his death California loses her foremost citizen. No other name



THE LATE LELAND STANFORD.

is so closely related to her material or political history.

A COLLECTION OF ORANGES has been received by the State Board of Trade that were grown in San Diego county on a granite formation, where it was claimed nothing could flourish. The trees were planted four years ago and grafted from the Florida navel. But little irrigation was given them and they developed rapidly, and the result was remarkable. The oranges are large and plump, quite juicy and well flavored. Here is a somewhat new experiment to the horticulturist.

A MASS MEETING is to be held to-day (June 24th) at Oroville, Butte county, to consider a proposition to bond the county for \$500,000 to secure good roads. The question has been pretty thoroughly discussed in Butte county and, while there may be some difference of opinion about

this particular proposition, there is a pretty general consensus of opinion that better roads should be secured. Bonds for \$500,000 could probably be placed at 5 per cent, and the annual interest charge would therefore be \$25,000 per year. Half a million dollars, judiciously expended, means a superior system of roads that will directly enhance the value of property in much more than that amount. It will increase the value of products on the farm, and secures a local market for them the year around. Distances are closer, travel easier, horses better off and fewer needed, and other advantages follow too numerous to mention. They are worth more than \$25,000 annually. It is not too much to say that any county in California which now has superior roads would not dispense with them for four times their cost. Butte county has an abundance of good road-making material, and the cost of road making ought not to be great.

THE ATTORNEY-GENERAL OF THE STATE has rendered an opinion that jute bags manufactured at San Quentin must be sold to consumers direct. "It cannot be held," says the Attorney-General, "that the provision 'that orders of farmers shall take precedence over all others' would authorize the sale to merchants or any one who is not an actual consumer." This opinion is in full accord with the intent of the law passed by the last legislature, and it would appear strange that it should have been thought to have any other meaning. Consumers, it may be added, include grain producers and those who use jute bags for coal or sand in the protection of property from overflow by water. Recent statements in the daily press that the quality of the San Quentin bag is not first-class do not appear to be well founded. Warden Hale states that he sold 440,000 bags last year, and every purchaser was satisfied.

DICTATOR, THE GREAT TROTTING STALLION and breeding sire, is dead, at the advanced age of thirty years. Dictator was a full brother to the famous Dexter (2:17½), and sire of Jay-Eye-See (2:10), Director (2:17), and Phallas (2:13½) and

Nancy Lee, dam of Nancy Hanks (2:04). We are told that "Dictator ceased to be of service four or five years ago, and nothing but the most assiduous care has kept the old horse alive since then. For years past he has been fed on ground oats sweetened with molasses, and the same molasses had to be none other than the best New Orleans brand or the old fellow would refuse to eat." Probably no other sire produced so many record-breaking trotters as Dictator.

FRANCE IS BUYING Irish horses for cavalry purposes.

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ANY subscriber sending an inquiry on any subject to the RURAL PRESS, with a postage stamp, will receive a reply, either through the columns of the paper or by personal letter. The answer will be given as promptly as practicable.

ALFRED HOLMAN.....General Manager

San Francisco, June 24, 1893.

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The Week.

We close with this issue another volume of the RURAL and cannot but express our gratification at the generous and kind reception accorded to our efforts for the building up of our journal in those lines of work which appeal most closely to the interests of our wide and diversified clientele. Our plan is simply to command greater success by meriting it and to enjoy the rewards of recognized leadership in local technical and industrial affairs pertaining to agriculture and in the elevating of home life and good citizenship. That in all these honorable lines the RURAL has recently come nearer than ever to the practical wants and the sentiments of our best people is being shown us by unmistakable evidence.

As is usual with the closing issue of a volume our last page this week presents the index for the numbers since January 1st. We have in this index adopted a plan which gives greater prominence to the practical branches of our work, and will enable those who desire to look back for help or information to more easily find what they seek.

Out-door affairs are going forward actively and under fair promises of reasonable rewards. The people are ready for the harvests now beginning and will handle them vigorously and successfully.

Fresh and Dried Fruit Equivalents.

We are glad to present prominently this week a painstaking essay by Mr. Adams of Santa Clara county giving data for determining the equivalence between stated values for fresh and dried fruits, or rather between the fresh and dried conditions of the same fruit. Mr. Adams' argument that it is necessary for intelligent producers to make the closest possible approximation to accuracy in calculating this equivalence must carry conviction to all minds. The most economical production—the capture even of very small margins which may be had by choosing different avenues of disposition—must be the measure of success in a productive enterprise so extensive and elaborate as our fruit industry. Our fruit-men ought not to be content with vague impressions of equivalence; they ought not merely "guess" or "calculate" that one method is better than another. They ought to be able to figure out the problem as clearly and closely as the manufacturer of metals or fabrics figures his cost of material, of labor, of interest and of waste, and can determine the equivalence

between a bale of wool and a bolt of cloth or between a ton of pig iron and a ton of steel. In such operations the manufacturer does not proceed upon an impression or a belief—he brings all his experience and all other sources of information to his aid and makes figures upon which he is willing to risk his prosperity and his success. Mr. Adams is sure that some such enduring foundation of actual knowledge must underlie the fruit-growers' operations, and that such foundation must be mounted upon as soon as possible. This position is sound, and we hope every one who is interested in fruit production will do all that he can by making careful records and weighings and observations, to the end that ere long all may be able to accurately determine the factors which are involved in certain results.

The great dairy industry of the country with its perplexing and changing factors of animal economy, food values, milk manipulation for different products and the like, has been working a quarter of a century upon the problem of equivalents. Wonderfully accurate results have been attained and the industry has been able to thrive even when commanding market values greatly reduced. There is much still to be done in accurate determination of dairy economics, but it may be truly claimed that by the business application of scientific discoveries and the teaching of experience the expanding dairy industry has set its foot on disaster and marches forward into prosperity and growth which were not even dreamed of in its early days. In the same line though less in degree perhaps has been the advancement in the handling of animals for flesh products. In fact it seems to be clear that these agricultural industries which have attained greatest rewards are those which are farthest removed from the "hit or miss" and "rule of thumb" of the ancients.

But we have been endeavoring to strengthen Mr. Adams' exhortation for better knowledge and system in the fruit industry, when perhaps his good wine needed no bush. Fortunately Mr. Adams does not stop with exhortation, but gives, as well as the facts at his command will allow, a statement of equivalents between fresh and dried fruit values, which will help many to more correct conclusions. No doubt readers will find that the shrinkage in drying as given by Mr. Adams is different from some experiences of their own. He admits that in the text of his article. What is needed is the multiplication of data on this point and on the cost of drying, so a more accurate average or a truer range may be set down. This can be secured if other producers and organizations of producers will contribute the results of their weighings. There are scores of fruitmen who can easily make valuable contributions to general knowledge on this subject, if they will send us brief reports of their experience. There are hundreds of valuable facts on the pages of producers' notebooks or account-books which should now be drawn off for publication. We are soon to have a special issue of the RURAL PRESS devoted to fruit drying. With what absorbing interest the producers would study a page of brief statements of the yield of dried product from specified weights of certain varieties of fresh fruits! Let us carry this matter farther. Mr. Adams has made a good beginning. Let us compare his figures with the reports of a hundred others who have held notebook and pencil on this subject.

Canada's Cheese Victory.

Canadian progress in cheese-making is one of the most creditable items in the recent development of the Dominion. She early took the hint from the successful invasion of the English markets by the New York producers, and borrowed also American skill by hiring the best New York makers and inducing others to invest their capital in the erection of factories in Ontario. All this began about a quarter of a century ago and proceeded forthwith until in recent years Canadian cheese shipments to Great Britain have rivaled those from the old Empire State. Most gratifying quality has characterized the best of the Canadian product, and there now comes by telegraph a brief announcement of a signal triumph of the Canadian cheese at the World's Fair. It seems that Canada outstripped her competitors in the June exhibit of cheese. There were 667 exhibits, mostly factory cheese; of these, 135 scored high enough to win medals or diplomas, 126 of them being Canadian manufacture. Thirty-one Canadian lots scored higher than any from the United States, ranging in excellence from 93 per cent down.

This is a wonderfully creditable achievement. Canada is apparently good enough to be a part of California, and if it were not for her freeze-or-burn sort of a climate, we should propose that Mr. Blount be sent to see about annexation.

AN INTERESTING TEST was announced to take place on Puget Sound the present week. Ezra Meeker, the hop-grower, has long contended that American methods and

appliances of spraying hops are much superior to those of England—a statement to which Mr. Edward Le May, a hop-factor of London, well known in this country, has always taken exception. To settle the controversy, he has taken two sample English sprayers to Puget Sound, and they are to be placed in operation alongside Mr. Meeker's Puyallup roller-sprayers. The facility with which the sprayers distribute the solution over the vines, and results therefrom, will be the leading points of the contest. It may be remarked, while on this subject, that the hop-crop outlook on Puget Sound is very favorable. Lice have appeared in different fields, but their presence does not create great anxiety. Growers are learning how to check their ravages. Mr. Albert Koebele, an entomologist whose name is familiar in California, is now on Puget Sound investigating the habits of the aphid and the best methods of destroying it.

ANSWERS to inquiries sent by the Secretary of the State Board of Trade to leading fruit men in different parts of the State as to the demand for labor for fruit harvesting are not very encouraging to the San Francisco boys. There is no demand for them at all. Japanese and Chinese seem to be preferred, and the Japanese are, in some places, displacing the Chinese. They work for \$1 per day and board themselves, while the Chinese want \$1.15. There appears to be some demand for women and girls for cutting, preparatory to drying, the fruit, and they are paid by the box. Judging from many letters quoted, it would appear that the matter of the board is an important factor in this question. If white boys are employed the fruit men have to board them, while the Chinese and Japs board themselves. The city boys seem to have a poor record in the country, as nobody says he wants them for labor in the fruit orchards.

WE RECENTLY MENTIONED an insect reported by Mr. J. R. Shephard, of Zena, Oregon, as eating up the green and woolly aphid in his orchard. Prof. F. L. Washburn, Entomologist of the Oregon Agricultural Experiment Station, finds from examination of some of these insects, which were sent him by Mr. Shephard, that they are *Podabrus comes*. Prof. Washburn states that this insect has been reported to him by two other good authorities as being engaged in the usual work of devouring the aphid, and says further that it is no uncommon thing for members of this family to feed on soft-bodied insects. The species of *podabrus* have also made a good record as aphid-eaters in this State. They never seem, however, to become numerous enough to catch up with the aphid.

A SOUTHERN CALIFORNIA PAPER somewhat mournfully comments on the fact that cherries from the north of the State are imported to supply the home demand. The abundance of sunshine is given as the reason why production is not large. It does not suit the habit of the tree, which demands long rest between blossoming and bearing. There are some localities of southern California, however, in the valleys and foothills, well adapted to cherry culture, and a very fine variety of fruit is produced. But the area of this class of land is so limited that southern California is not likely soon to become known as a heavy producer of cherries. In some respects even the sun has its disadvantages. It casts shadows.

FORTY DOLLARS PER TON has been paid for apricots in Santa Clara valley for drying purposes, but the average is somewhat less. As much as \$50 per ton has been paid in Vaca valley for apricots for shipment, though \$45 has been considered a very good price, and even that figure has not been generally secured. G. E. Spencer, a well-known fruit-grower of Santa Clara, says he has concluded to sell the product of his 1840 trees for \$33 per ton. "But," adds Mr. Spencer, "I never allow the buyer to count the culls on me. I sell all of my fruit as it is, or none at all." There is money in apricots at these figures, even taking into consideration the light yield.

PROF. HILGARD AND FAMILY returned to Berkeley on Thursday of last week, in good health and spirits. It is now vacation at the university and work is necessarily somewhat interfered with, but matters of immediate and pressing importance will be cheerfully undertaken. We have no doubt that after he disposes of affairs which have accumulated during his absence, Prof. Hilgard will be available to those who desire to consult him.

A PROJECT IS ON FOOT to erect at Fresno a distillery for the manufacture of sweet wines, brandy and syrup from the second crop of Muscat grapes. If the enterprise is successful, much will have been done in solving the troublesome problem as to what to do with the second grape crop. It will be the pioneer of other establishments of the same kind.

From an Independent Standpoint.

Leland Stanford died at Palo Alto during Tuesday night of the current week. He went to bed at ten o'clock in his usual health, and two hours later was found dead. Life apparently passed away while he slept, for he was lying with body and features comfortably disposed. Mr. Stanford was easily the most distinguished citizen of California. At the time of his death he was a United States Senator. At a former time he was the chief executive officer of the State. For thirty years he was the head and front of the greatest of all Californian business enterprises. For the past quarter of a century he has been our citizen of largest wealth and the foremost developer of our natural resources. His gift to California of a university fully equipped and endowed was the greatest direct individual beneficence of the century. No other personality has been equally related to the development of the State; and it is not too much to say that the fame of California as she stands to-day before the world rests largely upon the achievements of Leland Stanford.

Mr. Stanford was born in Albany county, New York, March 9, 1824. In 1849 he was admitted to the bar, and began practice of the law at Port Washington, Wis. In 1850 he was married to Jane Lathrop at Albany, N. Y. In 1852 he removed to California and engaged in mining and store-keeping. In 1860 he was a delegate to the National Republican Convention that nominated for President Abraham Lincoln, of whose nomination he was an earnest advocate. In 1861 he was elected Governor of California. In 1861 he was elected president of the Central Pacific Railroad Company. In 1869 he drove the last spike of the Central Pacific railroad at Promontory, Utah. In 1885 he was elected United States Senator from California. In 1887 he laid the corner-stone of Stanford University at Palo Alto. In 1891 he opened the Stanford University. In 1891 he was re-elected United States Senator from California.

This outline includes the notable incidents of Mr. Stanford's life, but it tells as little of the man and his career as a skeleton tells of the life and career of the being of whom it was once a corporeal part. Mr. Stanford, like all great Americans, began life in the country. His first work was on the farm. He developed through the discipline of labor and the hardships and trials of youth, and his later amazing success was based upon habits thus formed. Of that success it is scarcely necessary to speak in detail. It included wealth, vast almost beyond conception. It included a business and social career more potential than most kingships. It included renown which pervaded the whole world. It included gratification to the full of all reasonable ambitions.

We have spoken of the man—it remains to treat of his career. It was a career possible only in a country of vast and unused resources at a time when development was inevitable—that is when the conditions essential to expansion conjoined and awaited the man whose touch was to transmute them and make them instruments of his own fortune. It was a career possible only under a system which puts no limits upon personal aggrandizement—which makes no bounds for the kingdom which any man may claim if he have the might to conquer and hold it. It was a career possible only to a man of vast insight, of prodigious personal force and of amazing talent for the judgment, organization and administration of men and things. It was a career possible only to a man whose moral perceptions were not of the keenest. Because Mr. Stanford's activities were of a kind which to an exceptional degree fertilized and watered the land, the eye of moral judgment must not be blinded to the fact that Self was the central pole of his career; that personal advantage in one form or the other was the object and end of his efforts and that in his code success always justified whatever means were essential to its accomplishment.

How, let us ask, can those who would put this career upon a higher moral plane, explain the essential facts of its history? These facts are familiar in California. It is beyond dispute that when Governor of the State, Mr. Stanford used his official power to his own large financial advantage. It is equally beyond dispute that he inspired and supported the worst electioneering and legislative methods and made them the settled habit of our politics in the interest of his several enterprises. It is further beyond dispute that he was the author of the hard railroad policy under which the people of California suffer to this day; and that his political practices were organized for the purpose of supporting and perpetuating this policy. Another fact must not be forgotten, namely, that a large measure of Mr. Stanford's wealth belonged in fact to the Government if the debt of the Central Pacific Railroad had honestly been paid. These facts are not to be disputed or explained away. No sort or degree of personal munificence can

wash out the moral stain which attaches to them. The fact that Mr. Stanford has been generous with his millions cannot cure the essential wrong of some of the ways by which those millions were amassed.

Concerning this very notable man and his wonderful career we have felt it right—a positive duty, in fact—to speak plainly and to tell the whole truth. The air will soon re-echo with eulogium; and it will be fortunate if only that which was good in Mr. Stanford's life shall find approval and commendation. And there was much that was good. He was generous to the poor, he was helpful to ambitious youth, he was industrious, courageous and temperate. But all these fine personal traits do not excuse rapacity in money-getting, corruption in politics or double-dealing in large things. It is right that these truths should be said, for it is a very mischievous and a very sad thing when the evils of a career are allowed to appear as virtues to the confusion of youth and to the damage of public morals.

Some twelve or fifteen years ago a clear-headed, stout-bodied steamboatman of the Upper Missouri conceived the notion of building a railroad from the Falls of St. Anthony into the rich Red River country. He had no capital to speak of, but he had a big idea. It was to build, equip and operate a railroad upon business principles. He looked about him and saw that no such thing had ever been done in the United States, and he believed that when done it would break down and over-ride all competitors. The Northern Pacific Company had a line into the Red River country, but Mr. Hill—for it is "Jim" Hill that we are telling about—saw that it was heavily over-capitalized, that it was clumsily managed from the New York office, that its operating expenses were double what they should be, and that it was required to pay dividends on three times its actual cash value. Said Jim Hill to himself: "I will build a railroad from St. Paul to the Manitoba line just as I would build a house—that is, without fuss or feathers, under my own eye and for cash. The central office of my road shall not be in Wall street, New York, but right here on the road itself. The management will be vested not in a series of high-salaried general, special, assistant and department managers, but will be kept directly under my own hat. With me to lay out the plans and to direct the work, with one first-class lawyer to keep me advised as to the law, and with one first-class engineer to look after those parts of the business, we ought to get along very well." And thus was born the Manitoba Railroad.

Mr. Hill knew the country and he knew the transportation business. He went to the financial centers, laid the facts and his plans before the investors—and got the money. He then returned to St. Paul and built the road, built it as he had proposed under his own eye and for cash. There was no rosewood-lined general office in Wall street; there was no "Construction Company," there was no vast "headquarters" at St. Paul filled with officers and clerks; there were no special cars filled with champagne and "magnates." There was, in fact, just plain Jim Hill under a broad hat and in top boots out at the front with his chief engineer, and both very hard at work. They bought the best material, and they personally saw to it that it was put down in the best way. They saw the engineering mistakes of the Northern Pacific line, and they avoided them. The work, performed under the master's eye, went forward with unprecedented vigor; and when it was done the railroad men of the country saw with amazement that it was shorter, that it had fewer curves, that it had lower grades, and that it had a better track and better cars than the N. P. line; and Mr. Hill made no secret of the fact that its total cost was about one-third of the former's "capitalization." And when it came to operating the new road the same principles of simplicity and economy were enforced. There was a little office and a few clerks, but the "President," the "Assistant to the President," the "Engineering Corps," the "General Manager," the "Assistant to the General Manager"—these and the hundred other titles with each of which ordinarily goes a man, a fat salary, a private car and a dozen secretaries and clerks—were all summed up in Mr. Hill, his engineer and his attorney. Out on the road there was only one man to do one man's work, one engine to do one engine's work, etc., etc.

Very soon the profits became large, and Mr. Hill saw that an easy way to make them larger was to build the road out West. To make the story short, he has kept on building West—all the while keeping the original idea in mind—until his road is now complete and in operation between St. Paul and Puget Sound.

Mr. Hill's road—he calls it the "Great Northern"—runs parallel with the Northern Pacific for two thousand miles, and from the day the first spike was driven on the former, there has been mutual jealousy and dislike. The

Northern Pacific people have said that Hill was an adventurer and a fakir, and that his schemes would collapse and bankrupt everybody connected with them. Hill has said: "Wait and see. I will make a road straighter and better than the Northern Pacific line. It will cost not above one-third of the N. P.'s 'capitalization;' it can make money at half the rates charged by the N. P. When it is done I will put transcontinental transportation on a business basis, and within one year from the time I begin to haul through freight, the N. P. will be in the hands of a receiver."

That was five years ago. Mr. Hill's transcontinental road is an accomplished fact; trains are now running over it regularly, and last week a cut averaging about twenty-five per cent, as compared with Northern Pacific rates, was made on all classes of traffic between St. Paul and Seattle. Now the Hill road, built in economical times and by business methods, and operated by the same methods, can do a profitable business at the cut rates, but the Northern Pacific cannot. The latter has met the cut by an equal reduction, but it cannot run at this rate long without running into the hands of a receiver. The question now is, will Mr. Hill's desire for revenge lead him to stick to the cut rate, or will he combine with the N. P. in restoring the old rates. The pressure will, of course, be immense. All the other transcontinental lines are in the same boat with the Northern Pacific. If Mr. Hill puts rates down then they will all have to come down, and that means disaster, because they are organized on a basis which requires them to earn profits upon three times the actual value of their roads. It is a settled principle of railroad policy that there will be no prolonged competition where combination is possible; and it is therefore to be expected that the old transcontinental roads will make it an object for the Hill road to come into the combination to maintain rates. That, we fear, will be the end, though persons who know Mr. Hill say that he is in a position to force the fighting, and that he will not quit till he has driven his chief competitor to the wall and made the reduction a permanent one.

The real significance of the Hill road is the lesson it has taught the country concerning the matter of railroad building and management. He has demonstrated that the present method of building and operating railroads is extravagant and wasteful in the extreme and that it puts an enormous and unnecessary tax upon the country. He has shown that with lines of railroad rightly built and rightly conducted there is good profit in the transportation business at one-half the rates now exacted.

We have all along contended that nobody begrudged to the transportation companies a fair rate of interest upon their investments. But the country does begrudge the payment of rates calculated to yield interest on two or three times the actual value of railroad investments.

In a little book on American railroad investments, written by Mr. Van Oss, an Englishman, for the information of English investors in American railroad securities, we find a thorough review of the ways in which railway "capitalization" is piled up. "In the main," he says, "there are six different ways of inflating the capital of American railways," as follows:

(1) "By fraudulent issues of bonds and shares as a downright swindle for speculative purposes." Example: "Fisk and Gould increased the share capital of the Erie road between 1868 and 1872 from \$17,000,000 to \$78,000,000, mainly to manipulate Wall street." (2) "By paying too much for construction." Example: "The South Pennsylvania Railroad has been proven to have cost actually \$6,500,000, and a responsible contractor had offered to build it at that price, yet a construction company composed of Vanderbilt's clerks received \$15,000,000 to complete it, and the syndicate of capitalists which supplied this money got \$40,000,000 in bonds and shares, so that for every dollar of actual cost over \$6 of bonds and shares were issued." (3) "By purchasing properties at excessive prices." Example: "The Coal and Iron Company of the Reading affords one of the most famous cases, this concern being paid for, it is said, at the rate of at least twice its intrinsic value. Years ago it was a common thing for railroad directors to buy up property in their private capacity and then sell it to their company at an immense profit, and until 12 or 15 years ago the majority of purchases of auxiliary concerns used to be with fraud." (4) "By buying superfluous competing lines." Example: "The Pennsylvania had to arrive at a compromise with Vanderbilt, resulting in the construction of the South Pennsylvania road being suspended, if it wished to see its monopoly maintained in Pennsylvania." (5) "By selling bonds and shares at a discount." Example: "The New York Central, Erie, Reading, St. Paul, Chicago & Northwestern, in short almost every railway company, as a rule, receives nothing for the earlier issues of its ordinary shares, although, as is well known, shares are no longer given away, and frequently sell at good prices." (6) "By declaring stock dividends." Comment: "The fictitious capital resulting from the payment of stock dividends amounts to a sum second only to the inflation caused by the sale of securities at a discount." Example: "The most famous stock dividend ever distributed was one of 80 per cent, paid in December, 1868, on the shares of the New York Central Railway Company, and 11 months later, when the consolidation of the Hudson River Railroad followed, a further stock dividend of 27 per cent was declared, while the Hudson River Railroad shareholders received one of 85 per cent."

Taking all these methods together, Mr. Van Oss reaches the conclusion that for \$4,650,000,000 of railway stock now in existence, the original investors certainly paid not

more than \$465,000,000, or ten per cent of their face value, "and probably less." Hence, railway stocks paying 1.8 per cent on their face value "return at least 18 per cent per annum upon actual investment." Mr. Van Oss, it may be said, is the very opposite of a radical, and justifies all this watering of stock, because "by inflating capital the railroads conceal the profits and thwart the designs of rate-reducing railroad commissioners."

If the evil of this inflation of railway "capital" affected only the holders of railway stocks, there would be little reason to complain; but in reality it affects the stockholders less than it does the general public. The capitalization of a railroad, fraudulent though it be, is made the basis of transportation charges. For example, if a railroad is "capitalized" at \$50,000,000—no matter what its real value—it is required to earn money enough to pay current rates of interest on fifty millions after all the costs of operation are discharged. With these facts in mind, the reader will easily comprehend why the Jim Hill road is such a disturber of the peace of mind of the railroad world. Here is a road complete and as good as its rivals, but capitalized only at its actual value, or less than half of any other transcontinental line. It can make good profits with half as much business as is required to support the Northern Pacific, as it can carry double the amount of freight for half the present rates. It is likely to make revolution in the railroad capitalization of the country—at least it ought to open the eyes of the public.

Resolutions by the Anti-Debris Association.

The Executive Committee of the State Anti-Debris Association held its regular monthly meeting at Sacramento, Monday, J. M. Morrison, the chairman, presiding, and Robert Cosnor acting as secretary.

The manager, W. T. Phipps, presented a full report, showing the work accomplished by the association for the last month. The report showed that the watchmen had traversed the whole hydraulic-mining territory, and that hydraulic mining had practically ceased.

The attitude of the association toward the Caminetti act was thoroughly discussed, and remarks on the subject were made by W. S. Green, of Colusa; George Ohleyer, of Sutter; F. R. Dray, of Sacramento; John C. White, of Yuba; R. T. Devlin, of Sacramento; Dr. D. P. Durst, of Yuba; J. H. Arnold, of Colusa, and others.

The following preamble and resolution were adopted as he stand taken by the association on the Caminetti act:

WHEREAS, The State Anti-Debris Association is organized for the purpose of protecting the rivers and valleys of the Sacramento valley from the injurious effects of hydraulic mining; and, whereas, a measure has been passed by the Congress of the United States, known as the Caminetti bill, providing that hydraulic miners may apply to a commission for permission to mine if they can do so without injury to the interests of the Sacramento valley, and providing that any hydraulic mining contrary to its provisions is a crime against the United States.

Resolved, By the State Anti-Debris Association, that, for the purpose of placing on record its position on this question, it be declared:

1. The lands and rivers of the Sacramento valley must be preserved from injury by hydraulic mining from whatever source such injuries may come.

2. That this association rests its claims on the decisions of the courts and the Constitution of the United States, declaring that the interests of the valley cannot be injured nor its property ruined.

3. That the so-called Caminetti bill is a measure proposed by the miners and has never been accepted by the State Anti-Debris Association as a solution of the difficulty. That the only question in which this valley is interested is freedom from injury, and if the Caminetti bill accomplishes this result the association asks nothing further, but if, under this bill, the injuries that have done us so much damage in the past continue, we shall stand on our constitutional rights affording us full protection to our property, and we shall resort to the courts to secure this protection, if necessary.

4. That we propose in the meantime to take advantage of all the clauses in our favor prohibiting hydraulic mining, save under the provisions of this bill.

5. That we do not believe, from our experience in the past, that dams can be erected which will protect the rivers and the lands of the valley from injury if hydraulic mining is resumed, and we reserve the right to appeal to the courts if, by the operation of the said bill, hydraulic mining should be resumed to our injury.

The committee determined resolutely to enforce the penal provisions of the Caminetti bill prohibiting hydraulic mining except in compliance with the rules and regulations of the Federal Commission.

It also decided to take such steps as might be necessary to present the interests of the valley before the Commission and to see that no hydraulic mining was permitted that would in any mode affect injuriously the navigable rivers and adjacent lands of the Sacramento valley.

It will be seen from the action taken by the committee that it does not propose to offer any legal objections to the enforcement of the Caminetti law, on the ground of its unconstitutionality, but that it will seek to enforce strictly the penal clauses, and will await the results of the operation of the law, reserving fully, however, the right to resort to the courts—if necessity should compel it to do so—to prevent any injuries that may flow to the valley under the operation of the Federal Commission.

Peanuts Between Young Trees.

It is proposed this year to plant 80 acres of peanuts in the Pomona valley. It is believed that a crop of peanuts can be grown between the trees in a young fruit orchard, not only without detriment to the trees, but with some good to them, because of the nutriment to the soil by the rotting vines. There are several people in that locality who derived a fairly good revenue from their new and non-bearing orchards last year, because of the peanut crop there. The best soil for growing the crop is dry, sandy and with only

enough irrigation to get the plants into bloom. Any further than that seems to be a damage to them.

The success of several peanut-growers in Pomona and Ontario during the past year has given an impetus to the culture of the nut. The crop in that section last season netted about six cents a pound.

An Important Decision.

The Supreme Court of the State, in the suit of James Stewart against Harriet H. and Nathan Powers, has rendered an interesting and important decision affirming the decision of the lower court in favor of the plaintiff. The question involved was as to the right of a court to decree that a title derived from the United States Government under its pre-emption laws be sold to satisfy a mortgage given by a pre-emptor on the land pre-empted prior to making his final proofs and entry. On behalf of the defendants it was contended that under Sections 2262 and 2263 of the Revised Statutes of the United States such a mortgage would be absolutely void. The Supreme Court holds, however, that in no case in this State has it ever been decided that a mortgage is invalid against the mortgagor because of the fact that the title was in the United States at the date of the mortgage, whether the land was occupied by the mortgagor under the homestead or pre-emption laws. On the contrary, it seems to be recognized that a mortgage, under our system, at least, is not regarded as a conveyance within the meaning of the statutes cited.

"We conclude, therefore," added the court, "that a mortgage executed by a pre-emption claimant before final proof and payment, at least if given to secure the repayment of money loaned to pay for the land, or in any manner to aid the mortgagor in perfecting his title, is not in contravention of the pre-emption laws, and that if it purports to be a mortgage of the fee it carries the after-acquired title, unless it is intended as a mode of transferring the title in evasion of the statute; and, further, that under the uniform current of authorities in this State the mortgagor is estopped from defeating by his own act the operation and enforcement of the lien appellants have attempted to create."

Ladybirds and Woolly Aphis.

TO THE EDITOR:—A long looked for friend has arrived at last. I have discovered in my orchard a ladybug which is destroying completely the woolly aphis. It is a ladybug of the ordinary size, color yellow, with six black spots on either wing. The three spots on the hindmost part are about the size of the head of a pin; the three on the front are not larger than the point of a pin, with a black, flat head.

It is cleaning out the woolly aphis thoroughly; whereas it was very bad in my orchard, there is hardly a trace of them to be found on the trees now, and all has been accomplished within the past ten days.

Sacramento, June 14, 1893. ROBERT WILLIAMSON.

This ladybird is a native daughter—success to her. She and her cousins eat woolly aphis every year, and no doubt do immense good, but, unfortunately, a new supply of aphids comes from the roots or elsewhere, so they are never wholly wiped out.

A New Scale Bug.

State Horticultural Quarantine Officer, Alexander Craw, discovered a new species of scale bug Tuesday upon some trees and shrubs which came from India upon the steamer Peking last Saturday. The scale has never been in California before, but is the kind that attacks all citrus fruit trees. It is a wax scale called cerioplastis, smaller and darker colored than the wax scales received from Florida and Japan. As the trees are of great value to the State, they will be thoroughly disinfected instead of being destroyed. They were sent to Dr. Rabe, who has been traveling extensively in India, China and Japan. Dr. Rabe is now in Honolulu on his way here. When he arrives the plants will be presented to him by the State University. Shipments of plants from the orient are very rare now that the weather has become warm. These plants came in a specially prepared case, which is just like a small greenhouse. They arrived in excellent condition. Mr. Craw says that after disinfection there will be no danger from the scale and he considers the plants of considerable economic value, and is therefore anxious that they should be preserved.

The Elberta Peach.

TO THE EDITOR:—The Elberta peach, mentioned by your correspondent in the RURAL PRESS of June 17, curled badly in my orchard this season. Previous to that it was practically exempt from curl leaf and had borne several fine crops of fruit. As a rule those varieties of peach which are particularly successful in the Southern States are not so here in California.

LEONARD COATES.

Napa Valley Nurseries, Napa.

SURVEYS HAVE BEEN COMPLETED and in a short time work will begin on a new canal in Fresno county. It will be a large one, sixty miles in length, and will irrigate 50,000 acres of land. The canal leaves the San Joaquin river a short distance from White's bridge and will trend toward the north and will reach a country very fertile and capable of high development. There is some talk of constructing the canal so that it will carry boats. It will reach a point at its northern end very near the navigable end of the San Joaquin, while its southern termination is near Fresno slough. Thus it would lead boats round obstacles in the channel of the river and help to solve the problem of water communication for the San Joaquin valley.

Gleanings.

THE RAISIN-GROWERS still seem bent on raisin' trouble for the packers—some packers.

EIGHTY ACRES OF PEANUTS have been or will be planted around Pomona during the season.

THE JERSEYS MAY BE LITTLE, but oh, my! The World's Fair is hardly big enough to hold them.

NO MATTER HOW YOU TRY to pack fruit, the biggest will some way always come to the top of the box.

THE *Ram's Horn* QUAINLY REMARKS that a heresy trial is like a dog fight in a flower garden. Nothing is settled but the flowers.

RICHARD MANSFIELD, the distinguished actor, has bought a place at Mentone, San Bernardino county, with the purpose of building a fine residence for himself.

THE COYOTE BOUNTY may be suspended, but that is no reason why we should not continue to suspend, hang, trap, shoot, club and scalp the coyote just the same.

ANSWER TO ENQUIRER.—No, the grasshopper and the hop louse are not different names for the same devastating beast, though, like beer, both appear mostly in hops.

"IT MAY BE TRUE," reflected the Butte county farmer, "that Hades is paved with good intentions, still I prefer to worry along over the Butte county roads for awhile yet."

BENJAMIN FRANKLIN ONCE SAID: "A Bible and a newspaper in every house, a good school in every district—all studied and appreciated as they merit—are the principal supports of virtue, morality and civil liberty."

SHE frowned on him and called him Mr.,
Because in fun he merely Kr.
And then in spite, the following night,
This naughty Mr. Kr. Sr.

RURAL ELECTRIC RAILWAYS are developing rapidly in every progressive State in the Union, and California must rouse herself if she expects to keep up with the procession, says the *Sebastopol Times*. What do you say to an electric road between Petaluma and Sebastopol?

IT APPEARS THAT a number of California fruit-buyers have not fared well with their P. Barry peers this season, says the *New York Fruit Trade Journal* of recent date. There are quite a number of boxes still in store, and these are being sold at about cost, including cold storage.

WE HAVE RECEIVED the World's Fair edition of the *Santa Ana Blade*. It is a model of typographical art, clean-looking, well-printed, and adorned with a number of first-class illustrations. The matter is excellent, being descriptive of the resources of Santa Ana and Orange county.

THE EDITOR OF THE *VENTURA Democrat* is back from a six weeks' sojourn at Chicago and in the East. While his trip was on the whole very pleasant, he was "powerful glad to get home." And he jumps astride the tripod and takes up the never-ending struggle with the delinquent subscriber with renewed zest.

WELL, IF THE CALIFORNIA WORLD'S FAIR COMMISSION will insist upon sitting down and waiting for fruit-growers to come forward with their fruit for display at the fair, about the only thing to do, if the horticultural exhibit is to be a success, is to find the Commission's sitting-place, stick a pin there and bring forward the fruit.

A SAN FRANCISCO BANK CASHIER stole \$164,000, and was very much surprised, not to say pained, last week, when a misguided jury, after a short trial, promptly found him guilty of embezzlement. The only consolation the astonished cashier has is that the ways of the average jury are past finding out. He also has the \$164,000.

THE CALIFORNIA STATE VITICULTURAL COMMISSION held its semi-annual meeting in San Francisco last week. Officers were elected as follows: President, John T. Doyle of Menlo Park; vice-president, Charles Bundschu of San Francisco; treasurer, Allen Towle, of Towle; secretary, Winfield Scott; chief executive officer, C. J. Wetmore.

THE REEDLY *Exponent* COMPLAINS that the first apricots to appear in the local market were "vile, without size and tasteless." It thinks the practice of shipping the best fruit east ought to be stopped. That is not the trouble. First class fruit should be shipped east, just the same, and first class fruit can and ought to be raised for home consumption.

TWO SLICK FELLOWS went into a Baltimore store the other day, says the *Alameda Telegram*, and insisted on selling the proprietor some hair dye. One of them produced a vial, whereupon the merchant took a whiff and keeled over in a stupor, and the men rifled the drawer and proceeded to do up some other gray-haired victim. This is a new one, and the moral is to keep your nose to yourself.

EVEN INDIA MAY SOME DAY afford a market for California oranges. A box of Washington navels shipped from Los Angeles Jan. 4 via Hawaii and Japan, are reported to have arrived in excellent condition, after a six weeks journey through a variety of temperatures. Still, if California depends upon India to take its surplus orange product, citrus fruit culture is likely to get one or more black eyes.

DR. BRIGGS HAS BEEN KICKED OUT of the Presbyterian church as a heretic, says the *San Bernardino Times-Index*, but he seems to be orthodox enough for the Episcopal and Congregational churches who have invited him to come along and sample their doxy. Religion, like politics, surely makes strange bed-fellows, but the trouble with some sectarian snoots is that they never seem to get any rest.

THE SUTTER COUNTY FRUIT ASSOCIATION began its season's work last week by shipping a carload of fruit to Chicago, accompanying the California Fruit Union's train to the east. The shipment contained about 1000 boxes, principally Royal apricots and Briggs' Early May peaches, with a few crates of cherry plums. The principal shippers in the lot were R. C. Kells, Mrs. Jennie Starr, the New England Orchard, A. F. Abbott, S. J. Stabler, J. B. Wilkie, A. D. Cutts, Hatch & Rock and Mrs. Parks.

FRUIT SHIPMENTS from Newcastle, Placer county, show gratifying growth. Since January 1st there has been a gain of 188,812 pounds over last season. During the month of February this year one full carload of oranges was shipped, and in May this year four full carloads, in carload lots, of green fruit were shipped, while last year carload-lot shipments did not commence until June. Shipments by months for the two seasons are:

	1891.	1892.
January	7,611	73,206
February	7,168	45,275
March	9,321	8,405
April	29,203	5,286
May	164,679	274,623

These figures are ample testimony of the prosperity of the community. Placer county has other mines of wealth besides gold mines.

HORTICULTURE.

Shall Fruit Be Sold Green or Dried.

TO THE EDITOR:—The success of our co-operative movement in this county appears to me to depend absolutely upon the mastery of the details and necessary expenses of fruit marketing on the part of the orchardists. I do not believe any of us are so constituted as to be able to long take interest or have confidence in a business which is a mystery to us, nor do I believe that any business will be very long conducted profitably or even honestly, which is not directed by its owners. It will go for awhile, but sooner or later the exploiter will work in. Stockholders should insist on knowing the exact and entire truth about every detail of their business. There is no fact concerning the business which is known to the president of any co-operative institution, which the holder of a single share of the stock is not also entitled to know, and he should insist upon knowing all facts of any importance.

The directors of the two co-operative concerns which have thus far handled fruit in this county have recognized this truth, and have freely made public those details of their business which private firms always conceal. While necessarily imperfect, and as representing only one or two seasons' business in special localities not reliable as an average, they afford the best and perhaps the only data which the inexperienced orchardist has to reckon from.

Many orchardists are now wrestling with their annual puzzle of whether to sell green or dry. In the course of years, if the exchange does its duty, facts and averages will be accumulated and placed at the service of the public, which will rob this problem of half its terrors. At present these facts are mostly concealed in the private memoranda of our most astute and experienced buyers, who will not give them out, so that the following table, based on the experience of the West Side Association for two years, and which has been compared with that of the Campbell Union for one year, is the best basis for study that we have.

It is evident that when we know the shrinkage, the cost of drying and the price at which dried fruit will sell, we can at once determine the relative profit of selling at a given price per green ton. The selling price we can never know in advance; this year we can hardly guess at it intelligently. The average shrinkage, which varies in different years and different localities, and between irrigated and unirrigated fruit, has not yet been settled, and the cost of drying at the West Side and Campbell was more than they expected it to be again, but I think that the best that any orchardist can do is to study this table of experience and judge for himself whether the shrinkage this year will probably be more or less than here given, and what are the comparative chances for prices.

It seems generally accepted that the amount of shrinkage in drying is governed by the amount and the lateness of the rains of the previous winter. This seems reasonable, and may be true. Doubtless many driers have records which would throw light upon it, but in the absence of data I would not assume it. The only exact records I know of do not agree. The West Side's experience certainly shows a larger shrinkage in 1891 than in the dry season of 1892; but, on the other hand, the shrinkage on prunes in the orchard of S. F. Leib was 2.38 to 1 in 1888 and only 2.34 to 1 in 1890, following the heaviest and latest rainfall we have had in many years. It is quite possible the amount of shrinkage is affected by many other causes than rainfall; at any rate it is worth considering.

EXPERIENCE OF THE WEST SIDE ASSOCIATION.

	Pounds green to make one pound dry.		Cost of drying per dried pound.	Equivalent net prices per cental of dried, compared with prices per green ton, on basis of shrinkage of 1891						Net average prices per cental realized for Dried Fruits, after paying all expenses.	
	1891.	1892.		\$30.00	\$35.00	\$40.00	\$45.00	\$50.00		1891.	1892.
Moorpark Apricots.	54	54	2 cts.	\$9.68	\$11.06	\$12.25	\$13.53	\$14.81	\$7.25	\$7.50	\$15.00
Other Apricots	64	52	2 cts.	11.37	12.94	14.50	16.06	17.62	6.50	6.50	13.13
Early Peaches.	54	54	1 1/2 cts.	9.65	11.12	12.50	13.87	15.25	5.50	5.50	11.00
Late Peaches.	5	44	1 1/2 cts.	9.00	10.25	11.50	12.75	14.00	None	None	Not Sold.
French Prunes.	2 24*	1.92*	2 cts.	4.56	5.29	6.03	6.76	7.50	5.3	5.3	18.87†

*EXPLANATORY NOTE.—The figures at the head of the column represent a given price per green ton. The figures below represent the net price which the grower must realize for his fruit dried in order to get the equivalent of the green ton price. That is, \$30.00 per green ton, a d \$9.68 per cental for dried Moorpark apricots represent the same net returns to the grower, etc.

†In 1888 S. F. Leib's shrinkage on prunes was 2.38 to 1; in 1890 following, the wettest winter we ever had, 2.34 to 1.

‡The price given for prunes are for the four sizes. The general average will vary a little either way in different years as the prunes run large or small.

The cost of drying in above table includes cost of sacks (which is not a permanent charge against the fruit, as they are sold by weight, bringing back a little more than cost when fruit is high, and a little less when fruit is low), also interest, superintendence, and in fact everything which is paid out upon the fruit. About one-third the total cost of drying was interest and superintendence; this will be largely reduced with a larger pack. The orchardist does not touch the fruit after it is delivered to the drier; if he should do the work himself, charging nothing for interest or wear and tear, or for his own time, or that of his family, or the board of help, he would make a better showing on cost of drying; but he is not likely to do the work as well, or to get as much for his product as the Association can get.

Upon the less shrinkage of 1892 of course the equivalent prices of dried fruit as compared with prices per green ton would be higher. Any one can compute them.

Upon the showing of the above table, if the orchardist believes that this year the shrinkage will be the same as that of 1891, he had better—unless competition among canners enables him to get more—sell Moorpark apricots for \$40 per ton green, unless he believes that he can get more than \$12.25 per hundred, free of commission, dried, and he

should sell Royals for \$40, unless he thinks he can clear more than \$14.50.

I give these figures for what they are worth. They are not conclusive, as the experience is not long enough to give a fair average, but they deserve careful study and every orchardist should cut out the table and compare with his results at close of season.

As to the chances of prices for the coming season each must judge for himself. So far as apricots are concerned, under ordinary circumstances they should be worth more for canning than for drying. Some early sales were made at \$40 per ton for the run of the orchard, and under ordinary circumstances, with the crop below the average, they should sell freely at \$35 to \$45, according to variety and quality; but owing to the very unsettled condition of the Eastern money market, and the consequent impossibility of placing orders in large quantities, for future delivery, canners are compelled to move carefully, and will probably expect to buy cheap from orchardists not prepared to dry, or obtain their supplies from districts not so well organized as ours, and where there are no co-operative societies prepared to get for the orchardist all that the market will bring for dried fruit, whatever that may be.

It is, of course, impossible that prices for dried fruit should reach the high figure of last season, and it seems to be equally unlikely that they shall fall to the ruinous rates of 1891. If I knew what the average price of dried apricots has been for the past five years I should expect to get that, and I should not sell green except for an equivalent of that price based upon an average shrinkage, if I knew what that was. I never was in the apricot business and do not know these things, but I would study the question in that way.

Orchardists must understand that the money market fills as important a place in fixing prices as the size of the crop. When people are poor they don't eat so many good things, and orchardists should read and study the money articles as carefully as they do the crop reports. And they must remember that hard times affect dried fruits relatively less than the more expensive canned fruits. There is a very uneasy feeling at the East. No one can yet tell what the financial situation will become, but personally I do not see how there can be any serious financial disturbance in this country, for I do not believe the necessary conditions exist. There have been no great speculative movements in this country; there have been local "booms," resulting in loans on securities which have shrunk, and which cannot now be collected; individuals, as is always the case, are involved, but the great mass of our people are not in debt for property which cannot earn its interest. There have been great areas of speculation, first in South America, and later in Australia, which have resulted in collapse and bankruptcy in those regions. In these movements English capital has been mainly involved, and their losses have been enormous. This has impaired the ability and the disposition of European nations to take our securities, and as we have been buying from those countries more than we have sold them, we have been and are paying our weekly balances in coin. The unsettled condition of the tariff question tends to reduce production in many industries, and adds to the number of unemployed. The silver agitation, whether necessarily or not, tends to hinder the sale of railroad and other improvement bonds, as foreign investors do not generally believe—however much they may be mistaken—that gold and silver can long be kept at par on our present ratio, and hence dislike to take our securities until matters are settled. The result of these causes is that instead of money coming here for investment, as has been the case, we are paying for an excess of importations in coin. This makes money scarce here, and those who are in debt and without income-producing or other unquestioned security have to fail.

Believing that these cases, among the masses of agricultural and legitimate mercantile community are few, I do not believe that we shall have any serious disaster, and if we do not I am sure that we may in the end expect decent living prices for all the fruit which we properly prepare for market. For what cannot be sold green at more remunerative prices, I am sure a very fair price can be obtained through the exchange, which is in excellent shape to handle any quantity that can be offered. EDWARD F. ADAMS.

San Jose, Cal., June 15, 1893.

Orchard Figures.

During the last meeting of the Butte County Horticultural Society some figures were given appertaining to the cost of growing fruit. The editor of the Butte Register jotted down as rapidly as possible the data as read by the parties, but the figures may not be exactly as stated, yet so near that they will answer. George Ditzler, foreman for several years past for Hatch & Rock, estimates that it would cost \$25 per acre for the first year; \$12.50 for the second; \$15 for the third, and \$17.50 for the fourth. To this should be added taxes and insurance. To it also should be added one-fifth of the cost of all the agricultural implements on the place each year, for he had found that plows, harrows, etc., lasted only for five years. In cases where they lasted longer than that period, then twenty per cent of their first cost should be added each year for repairs upon them. He would fix \$80 an acre for bringing an orchard into bearing up to and including the fourth year. He figures on each team traveling 17 miles, the cost of horses at \$100 and the yearly cost of keeping them at \$5 per month. His men were figured at \$30 per month.

C. H. Leggett said that while these figures might answer for rich bottom lands that were easily prepared and readily worked, they would not answer for lands overgrown with live oaks, or lands dug up for mining purposes, and he in fact had land that cost him more than \$200 per acre before the trees were set, this sum representing simply the work upon the land in preparing it for an orchard. He reasoned that the only way to get at the correct figures would be to have as many reports as possible and then from these take an average.

T. B. Hutchins has based his figures on peaches

alone, and they were as follows: Cost of land, \$60 per acre; interest, \$4.80; taxes, 90 cents; trees, \$9.37; digging the holes and planting, \$1.50 per acre; but these were low figures, only to be given on land where the soil could be plowed so deep that no digging would have to be done. The various other expenses were plowing and harrowing, \$2.10; after the trees were planted two plowings at \$1.50, two harrowings at 40 cents, two cultivations at 40 cents, hoeing per acre 10 cents, and dipping the roots of the trees 5 cents per acre. The total cost, including \$60 for land, for the first year being \$81.42. Adding the interest on this sum, together with taxes and the necessary labor for the second year, brought the sum up to \$10.50, which makes \$91.92 as a basis for the third year. The expenses for that year he figures at \$14.31, which gives \$106.24 at the beginning of the fourth year.

Geo. Thresher gave the exact figures from a single acre of which he had kept an account. The cost of the trees and preparation of the land was \$30 for the first year. For the second year \$12, for the third year \$21, that year he got 1000 pounds of peaches, for which he received \$20. The fourth year his expenses were \$37 and his receipts 7500 pounds of peaches at 1 1/4 cents per pound. This amounted to \$131.25. The fifth year his expenses were \$45 and his receipts 10,000 pounds of peaches at \$175; the sixth year his expenses were \$52.50, and his receipts 15,000 pounds of peaches, which he sold for \$225. The total expenses for the whole time were \$192.50 and his receipts \$551.55, leaving a total net gain of \$358.75 per acre, but the value of the land was not considered in this statement.

Col. C. C. Royce, at the request of General Bidwell, had prepared some figures, which are given below. The Colonel is the manager of Rancho Chico. It costs 45 cents to produce 100 pounds of nectarines in an orchard of 1 1/2 acres. It costs 54 cents to produce 100 pounds of plums; 43 cents to produce 100 pounds of peaches, and 67 cents to produce 100 pounds of apricots. The total cost of dried fruit per pound, including the caring for the trees and the cost of picking and drying the fruit, was as follows: peaches, per 100 pounds, \$4.04; raisins, \$3.72; plums, \$2.86; nectarines, \$3.53, and almonds \$6.83. These trees were from six to eight years old in all the fruits named.

For a Fruit Exchange at Chicago.

Writing to San Jose Grange relative to a market for California fruits in the United States and England, Col. R. P. McGlinchy, now attending the World's Fair at Chicago, makes some interesting suggestions. The date of the letter is June 4. He says:

"Yesterday, while Brother Pettit was with us, the British Commissioner to the World's Fair called on us and asked if we were going to have fresh fruits during the season, to which I replied that we expected to have a daily supply later on. The conversation turned to dried fruits, and I gave him a souvenir box of prunes. He said the market in England for our fruit—dried prunes and apricots and canned goods of all kinds—had practically no limit, the only question being one of transportation. The Commissioner is coming to see me again, and said that he would like to have as much time as I could give him to tell him of our fruit, green and dried. His idea is to have us get the fruit to England and give the middle class an opportunity of getting it.

"A number of people from a dozen different States have asked how they can get such fruits as we show here. Dealers also ask, saying that they cannot always get the quality. They could sell larger quantities of fruit, especially prunes and apricots, if they could get them, and prunes running from 35 to 50 to the pound can be sold quite readily in Iowa at 22 cents per pound. Wisconsin people make similar inquiries.

"A Canadian grocer yesterday said that he could sell a large amount of fruit in glass; that his trade was willing to pay for the glass; and so, too, in reference to wine they asked: 'Where can we buy California wine that is pure?' We want it but cannot get it. Can you put us in a way to get it? Now, can the grange successfully plan and carry out a scheme whereby the fruits and wines of our country can be had here in Chicago by the masses? Cannot the grange, the co-operative driers, the dried fruit exchange and the canners establish a house in Chicago for the sale of canned and dried fruits, say for seven or eight months, while during the other four months green fruits could be sold. I am satisfied that if an energetic man was in charge of a house here better prices could be had for our fruits, and, if we avoided our commission consumers could get fruit a little cheaper. When all of our prune orchards come into bearing we will have to do something, so why not begin now and get the business established and be ready for the many additional millions of pounds we are going to produce within the next five years? People living within a few hours' ride of Chicago, people with whom I was acquainted years ago, ask if we can sell them 25 pounds of prunes such as we have on exhibition; if not, why don't we open a house for the sale of our fruits? Within 100 miles of Chicago there are fully 500 towns with a population ranging from 100 to 50,000 each, and to these towns can be sold to the grocers from one-half to a full carload of fruit; or we can take a list of towns on one line of railway, and if we find that the grocers along that line can use two cars of fruit we load them, and at the first town we get rid of only one-half of a ton, at the next a ton, and so on until all is disposed of. We can get cheaper rates by this method, and I know that a good active drummer with samples of our fruit could readily induce the grocers to take hold and push sales. We must inaugurate something of this kind and the sooner the better. If all who are interested in our fruits would consult together, I have no doubt that some plan can be formed whereby we can reach the people more directly than we do. 'In giving out souvenir boxes of prunes we hear people say: 'How excellent; if we could always get such prunes we would buy them all the time.' Greater obstacles than those confronting us have been overcome,

and I know these can be. It may require hard work and some money, but in the end it would pay us handsomely.

"The butter producers of California have shown that they can sell their products without paying a commission, and I know the fruit-growers can plan as well as the dairy-men. What has been done by man can be done again. Many of my former acquaintances from Illinois, Wisconsin, Minnesota and other Northwestern States have called on me, and more have sent word that they are coming, and all want our fruit. I am anxious to solve this problem, and while here will meet many people who will desire to know all about our dried and canned fruits."

An Idea in Cultivating Heavy Soils.

Mr. H. T. Anderson, of Exeter, has an orchard in red clay land in a fine state of cultivation, while most orchards on similar land are very cloddy. Upon investigation it was found that he cultivated instead of plowing after his irrigation, two weeks since. At first he cultivated shallow, then followed with the clod-masher; then he crossed the rows at a greater depth and followed with the clod-masher again. To avoid a smooth, glossy surface to reflect light and heat, he finished with a smoothing harrow.

It would have been almost impossible to plow the ground at this season without breaking it up in large clods that would have been very hard to pulverize. Mr. Anderson valued the article on cultivation that appeared in a recent RURAL PRESS very highly. The writer notices a general and steady improvement in cultivation from year to year with favorable results. Much of this is due to a better understanding of theories underlying the subject.

FRANK S. CHAPIN.

THE FIELD.

The California State Fair of 1893.

The fortieth annual State Fair of California will be held at Sacramento September 4th to 16th inclusive. The premium list just issued contains classified awards amounting to \$20,000 in cash for agricultural, mechanical and industrial exhibits. These annual exhibitions have been most successfully managed by the State Agricultural Society for the past 39 years, and it is the intention of this society to give the public a progressive exhibition for the current year.

The producers of California demand these annual exhibitions to assist and stimulate the various industries of the State, and notwithstanding the counter attraction of the World's Fair, find it essential to cater to local trade. Consumption of home products still continues and the farmer and manufacturer must have opportunity to show what is being accomplished within the confines of our most productive State. Not to do so would invite stagnation of trade and subsequent inattention to our productive qualities. Hence it is quite necessary that unusual efforts must be put forth this year in all the various branches of trade and commerce to prevent depression and encourage the sale of home productions.

There still remain thousands of acres susceptible of culture of many undeveloped agricultural resources, the sale and cultivation of which would not only give us increased population, but permit the investment of money that would give most satisfactory returns to investors with great benefit to the State as a whole. Increased opportunities for production means additional facilities for the use of our circulating medium, thereby giving an impetus to all kinds of trade.

California's chief industry being agriculture, she must continue to advance it in every possible way. Failure to show her productive qualities one season would give the impression abroad that her capabilities are on the wane, whereas no greater progress in soil culture is being made at the present time in any part of the world than in this State.

The merchant, when trade is dull, inaugurates different plans for stimulating business. The farmer would do well to follow his example, and when crops are short and prices depressed, he should show unusual exertion in keeping his industry conspicuous before the people, lest the outside world would be led to believe that agriculture in this great State had retarded.

Periodical set-backs occur in all branches of trade, and but for the activity of the merchant, would be a standing menace to investment. This state of affairs is overcome in many instances by his efforts to stimulate, and success appears in many cases where failure is most apparent.

It therefore behooves the agricultural community of California to make an unusual showing this year at the State Fair; a meager one would be disastrous to our World's Fair exhibition, as the effect would tend to signify our productions as there shown were unusual.

The premium list as offered by the State Agricultural Society contains sufficient cash awards for agricultural products to warrant the various counties in making up a representative display of their varied soil productions.

To the manufacturers of California we would say, as a means of promotion of your interests, a general exhibit by factories should be made at the State Fair of 1893.

There is at the present time a growing feeling in this State towards the advancement of our manufacturing interests, occasioned by the prospective development of our most available but heretofore unused water-power, which promises, in conjunction with the modern use of electricity, to give us what has in the past been the most important drawback to this industry, cheap motive power. A little agitation at this time of the interest would be most effective.

Therefore, extraordinary efforts should be made to show some of our established plants in operation at a State gathering, not only as a means of encouraging trade, but as a

matter of inducement to capital to invest, as there are many factories that could be increased by the use of additional capital now that a cheaper power will soon be available.

The representatives of other States are here each season to display manufactured goods. They readily recognize the value of this agency to reach the consumer. Local manufacturers should not permit those from distant States to meet their trade without an equal showing of their ability to supply this trade.

Exhibitors at the annual State Fairs of the past are familiar with the advantages to be derived by an exhibit of their products; to those unfamiliar, we would say:

The great State Fair of California has been held for 39 consecutive years, and is thereby valuable as an introductory agent by reason of its established permanency.

The California State Fair offers cash awards for State products amounting to \$20,000 annually.

The California State Fair includes an exhibition of a most varied nature. The display of blooded stock is a most conspicuous adjunct to the great show of agricultural and industrial products that each season congregates in the largest exposition building on the Coast.

The California State Fair Speed Department holds its usual prestige as an attraction for the multitude who desire to witness the equine contests as an amusement, to say nothing of the exhilarating effect of this out-door sport. It has been a most important auxiliary in attracting visitors who are sure to examine during odd times the products of California as shown in the different departments.

The awards of the California State Fair are of much benefit to exhibitors, as competition is great, and merit here recognized is surely to be recognized in trade.

The California State Fair of 1893 will be provided with extra attractions for visitors. Its great success in the past emboldens the management to keep abreast of the times, and the demands of progress is sure to attain additional benefits for exhibitors.

The annual attendance at the State Fair aggregates 50,000 visitors, thereby offering advantages not to be found elsewhere on the Coast for the producer to meet the consumer.

This opportunity in the past has been readily recognized by all concerned, and it is expected that increased efforts will be made this year to show most fully the manufacturing as well as the agricultural resources of California.

Collection of intending exhibits should begin at once.

Applications for space and all question for information will be immediately answered by the secretary.

EDWIN F. SMITH, Secretary

What Supervisors Can Do with Game Laws.

As reported in the *Chronicle*, Attorney F. P. Deering has filed with the Fish Commission his opinion as to the powers of Boards of Supervisors in the several counties to pass ordinances relative to fish and game. The question recently arose on account of dissatisfaction caused by the new general statute, which makes the open season for deer from September 1st to October 15th. At that time of year in all the coast counties the deer were "running," thereby rendering their meat poor and almost unfit for food. It was desired to learn if the Boards of Supervisors had power to change the date of opening to July or August 1st without, however, extending the time during which deer may be shot in any county beyond six weeks. Attorney Deering decides that the supervisors have such power, much to the satisfaction of sportsmen in this part of California and, in fact, throughout the entire State. From the attorney's opinion it appears that such power as the supervisors have over fish and game they derive from subdivision 29½ of Section 25 of the County Government bill and from Section 636 of the penal code. These provisions are parts of acts re-enacted at the last session of the legislature. From all the provisions of law, Mr. Deering draws the following important conclusions:

"First—With respect to fish, I consider it clear that the supervisors have no power to pass any ordinance either as to the close season or as to nets and seines that is in conflict with the general laws of the State upon the subject. Section 29½, above quoted, authorizes supervisors to make regulations for the protection of fish and game, and says that when regulations are made relating to game, not fish, the laws of the State are suspended in that county. The regulations made by supervisors for the protection of game are declared to supersede the State law, but the same declaration is not made as to fish. The supervisors may make regulations for the protection of fish, but such regulations do not suspend or take the place of the State laws. As to fish, the local ordinances must be consistent with the general laws. The plain construction of this provision of the County Government bill is that, while supervisors are authorized to make regulations for the protection of fish as well as of game, as those regulations are declared to suspend the State law only in respect to game, they cannot suspend them as to fish. Therefore, the State laws as to fish remain in full force, and local ordinances must be consistent with them. That this was the intention of the legislature also appears from Section 636 of the Penal Code.

"Supervisors may shorten the open season for fish, but they cannot lengthen it. Again, supervisors have no power to authorize the use of a net or seine with less than a 7½-inch mesh. They must act in harmony with the State law, which makes it a misdemeanor to use for catching shad or salmon a net or seine with meshes less than 7½ inches in length. Supervisors are not given power to make regulations as to nets and seines that will supersede the State law. The only instance in which their ordinances have this effect is when they relate to the protection of game, and this is for the reason that the very law giving the power to pass the ordinance as to game says that the State law shall be there suspended.

"With respect to game, I am of opinion that to protect the game itself supervisors may make regulations which shall take the place of the State law, and, should the needs of the county require a longer or a shorter or a different

close season, the supervisors may prescribe this also. It must be borne in mind, however, that the regulations must operate to protect the game, and that the close season can be changed only when the needs of the county require it, or when to change it would be a protection to the game.

"With respect to deer: It is part of the history of the law as it now stands, which permits the killing of deer from September 1st to October 15th, that six weeks was intended by the legislature to be the extent of the open season, and I am of the opinion that supervisors may change this period of six weeks so as to make it begin on the 1st of July, for example, and end August 15th, if such a regulation would be for the protection of deer in that county, or if the needs of the county make it advisable.

"I wish to call your attention, however, to the fact that supervisors can legislate only for their county, and that persons will be protected by the ordinances only as long as they are in that county.

"It is a misdemeanor for a person to have in his possession any deer at a time when it is unlawful to kill deer. The code makes it unlawful to kill deer except between September 1st and October 15th. Therefore, while the supervisors of Marin county, for example, might for that county change the open season for killing deer to the six weeks beginning July 1st, yet if any sportsman from San Francisco should shoot deer in Marin county in July and take it into San Francisco, or any other county where the general law had not been changed by the supervisors, he would subject himself to prosecution.

"Again, the law—Section 636 of the penal code—prohibits the selling or offering for sale of the hide or meat of deer. This law the supervisors cannot change. Therefore, deer meat and deer hides may not be sold nor offered for sale; nor may deer shot in one county, under an ordinance permitting it there, be carried into another county where the general State law is in force."

As the result of Attorney Deering's opinion it is believed that the Boards of Supervisors of Marin and other northern counties will immediately pass laws changing the open season on deer from October 1st to July 1st. It is also likely that the opening of the quail season will be changed from September 1st to October 1st.

The Fish Commission has already placed the opinion in the form of a bulletin, which as soon as possible will be issued from the State Printing Office for general distribution.

THE DAIRY.

World's Fair Dairy Tests.

The 90-day butter test, called Breed Test No. 2, began May 31st and will close August 28th. In this test all commercial products—butter, skim-milk, buttermilk, increase or decrease in live weight, and cost of butter color—will be considered in making the award. Our weekly record will close with the day ending Saturday noon, and the figures of the first three days' yields are given this week. Each superintendent has made changes in his herd, and the cows in the Guernsey and Shorthorn barns have been renumbered. In addition to the figures given in reporting the cheese test we add the weight of the yield of butter-fat. In order to find how much commercial butter (estimated) this fat equals, divide the pounds of fat by eight.

JERSEYS.						
	Day and Night	Milk—lbs.	Per cent fat	Per cent solids	Estimated butter— pounds	Value food
Herd milk and composite (X) sample.	June 1	897.1	4.9	9.37	54.9	.....
	2	873.1	4.8	9.21	52.4	.....
	3	894.1	5.	9.26	55.9	.....
GUERNSEYS.						
Herd milk and composite (X) sample.	June 1	784.6	4.6	9.15	44.1	.....
	2	781.7	4.6	9.15	43.9	.....
	3	776.6	4.8	9.08	46.6	.....
SHORTHORNS.						
Herd milk and composite (X) sample.	June 1	771.6	3.7	9.24	35.7	.....
	2	774.3	3.7	8.97	36.8	.....
	3	792.7	3.7	8.84	36.6	.....

The above, from the *Breeders' Gazette*, gives the results of the first three days' "battle of the breeds" for butter production, and shows the comparative merits of the only three breeds on trial at Jackson park.

The results of the test for cheese, as given last week, may, in part, dispel the fallacious ideas held by some people, that the breed that gives a big lot of a comparatively poor quality of milk is most profitable for a cheese dairy.

The quality of cheese varies with the quality of the milk from which it is made, other things being equal, consequently the milk that is richest in butter-fat makes the richest cheese, and as such milk generally contains an average per cent of other solids, it takes fewer pounds of it to make a pound of cheese than it does of other milk, which is of a poorer quality.

The table given last week shows that one pound of green cheese was made from about eight pounds of Jersey milk, while it took 10½ pounds of the milk from the Shorthorn cows for one pound of the same, and for the Guernseys a fraction under ten pounds of milk for one pound of green cheese. So far as the butter trial has proceeded, it takes 16 pounds of Jersey milk for one pound of butter (estimated by the per cent of fat), 17½ pounds of Guernsey milk and 22 pounds of milk from the Shorthorn cows to make one pound of butter. The above comparisons are not made from the milk of a single cow of each breed, but from 25 head of each, except in the butter test, in which there are only 23 Shorthorn cows, two of the newly selected ones not having calved in time for the beginning of that test, so that the quantity of milk in the above table is the produce of 23 cows, and not that of 25 as in each of the other two breeds.

THE APIARY.

The Langdon Non-Swarming Device.

[By FRANK BENTON, in "Insect Life," Issued by the Department of Agriculture.]

Complete control of natural swarming has long been regarded by apiarists as one of the most desirable points to accomplish in connection with their pursuit. Yet, up to the present time, notwithstanding the improvements which modern ideas in apiculture have suggested in this direction, they have had to admit it one of the most puzzling with which they have had to do.

The advantages in being able to suppress at will and without detriment to the colony the desire on the part of the bees to swarm are numerous. Chief among these may be mentioned: There need not then be the great interruption to honey-storing which the issuance of swarms brings in the height of the honey yield. The apiarist could have all his return in the shape of honey instead of partly in the form of swarms, clearly an advantage when the number of his colonies had reached the limit of his field, or as many as he could well care for, and remunerative prices could not be obtained for the surplus stock. The time and labor expended in watching for and hiving swarms would be saved. Losses through the absconding of swarms would be avoided. Even with all reasonable care such losses often occur.

Centuries ago the Greeks, recognizing some of the advantages which the control of swarming would give to the bee-keeper, practiced with their basket hives furnished with bars across the tops, the transfer of combs with adhering bees to new hives, thus forming artificial swarms. This is interesting to note as being the first recorded attempt to control swarming. Contardi, who wrote in 1768, describes these hives and says: "When the bees should swarm those people do nothing but to take out some of these bars to which the bees attach their combs, and they place them upon another basket or hive. It is in this manner that the Greeks multiply their hives." The abbot, Della Rocca, of Syra, in the Grecian archipelago, in his *Traite complet sur les Abeilles*, published at Paris in 1790, mentions this as a method of the ancient Greeks for the multiplication of swarms, which is employed to-day by the inhabitants of the island of Candia." And Liger, the author of *La Maison rustique*, in the eighth edition published in 1742, gives a figure of one of these basket hives, which is here reproduced (Fig. 1).

Most of the systems of preventing or limiting natural swarming have depended upon the formation of a limited number of artificial swarms, frequent destruction of queen cells by the bee-keeper, close use of the honey-extractor, the combining of after-swarms, changing places for hives, replacing of all queens annually, supplying empty space for comb-building below the brood-nest or between the brood-nest and the flight-hole, or there has been some combination of these methods.

Non-Swarming Bees, Automatic Swarm-Hivers, Etc.—From time to time queens have been advertised as bred from "non-swarming strains of bees." While it is very

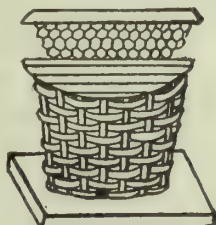


FIG. 1.—Ancient Greek movable comb hive. (From *La Maison rustique*, published in 1742.)

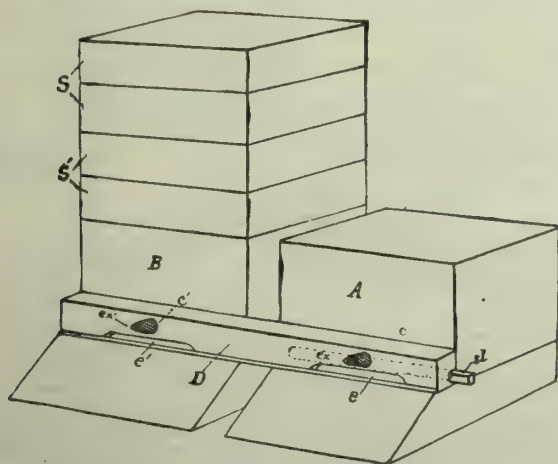


FIG. 2.—Bee-hives with Langdon non-swarmers attached: A, B, hives; S, S', supers; D, non-swarming device; e, e', entrances corresponding to hive-entrances; sl, slide for closing entrance; e, e', conical wire-cloth bee-escapes; ex, ex', exits of same.

reasonable to suppose that the inclination to swarm might be decreased considerably by long-continued careful selection, such as could be given had we better control over mating, it is safe to say that comparatively slight permanent results have thus far been attained in this direction. And since swarms would issue, various devices have been constructed to warn the owner or to prevent loss during his absence. Electric attachments and telephone lines have been put up, adjusted entrances to confine queens, traps to catch the latter, and decoy-hives have been used, and at last the automatic or self-hiver has been evolved after many experiments and much thought on the part of apian inventors. Although the self-hiver in its more perfect form has scarcely been subjected to a thorough test, it promises to do all that has been expected of it. But it will not take away the desire to swarm.

This is exactly what Mr. H. P. Langdon, of East Constable, N. Y., says he can do by the use of the non-swarming attachment invented by him and now for the first time

made public. Moreover, he keeps all of the field force of his colonies storing surplus honey under the most favorable conditions as long as there is any honey to be obtained in field or forest, and simplifies to such an extent the work of the apiary during this portion of the year that he can attend to several times as many colonies as under the old way.

The immediate condition which incites a colony of bees to swarm has been quite well recognized as its general prosperity—its populousness, the abundance of honey secretion, and crowded condition of the brood combs, or, in general, such circumstances as favor the production of surplus honey, especially surplus comb honey, and it has of course been taken for granted that honey could not be secured if these conditions were changed. Nor would it, without any knowledge of the system proposed by Mr. Langdon, be easy for experienced bee-keepers to believe that all it proposes to do could be accomplished without

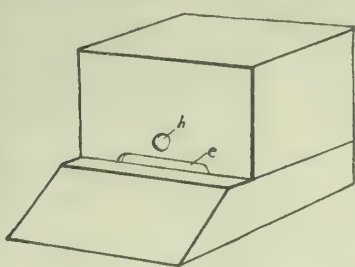


FIG. 3.—Hive showing entrance (e) and hole (h), corresponding to like apertures on back of non-swarmers.

much manipulation and perhaps also the use of some complicated device. I was, however, agreeably surprised at the whole simplicity of Mr. Langdon's plan, when in December last, he made it known to me and sent a non-swarmers for purposes of illustration. And

him at once that I was of the opinion that he had made one of the most valuable additions to the list of apian inventions that had appeared for a long time—one that, after the frame hive, would rank equal with or ahead of the honey-extractor and comb-foundation machine.

Mr. Langdon has applied for letters patent on his device in this and other countries, and, with the specifications as a basis, a copy of which he has kindly sent to me, together with permission to make the matter public, I have written the following:

Description of the Device and System.—At the beginning of the honey season the non-swarming device, D, shown in Fig. 2, is placed at the entrances of two contiguous hives each of which contains a queen and full colony of bees. The continuous passageways, e and e', on the underside of the device, correspond to the entrances of the hives A and B, respectively. The bees will then pass, quite undisturbed, out of and into their respective hives through these passageways. By inserting the slide, sl, in the end of the non-swarmers until it occupies the position indicated by the dotted horizontal lines, the passageway leading to hive A will be closed at its juncture with the hive entrance, pre-



FIG. 4.—Langdon Non-Swarming Device—rear view, showing apertures (e, e' and h, h') corresponding to similar openings in the fronts of hives.

venting any bees from entering said hive. The wire-cloth cone exit, ex, still permits flight-bees to come out of hive A, as a hole, h, Fig. 4, through the non-swarmers connects the cone exit with a corresponding hole, h, Fig. 3, in the front of the hive. The super cases S of hive A are then placed on those of hive B.

The flight-bees of hive A finding their hive entrance closed on their return are, upon alighting at the entrance e, Fig. 2, attracted along the gallery shown at g, in the cross-section, Fig. 5, by the buzzing of the bees at the entrance e' of hive B, and enter said hive. This withdrawal of the field-bees from hive A leaves this hive so depopulated and so disconcerts the nurse bees left therein that they will not swarm. Meanwhile, work is going on without interruption in the supers on hive B by the field force of both hives.

At the expiration of eight to ten days, thus before the bees of hive B have made preparations to swarm, the supers, S and S', Fig. 2, on this hive are all transferred to hive A, the slide, sl, is withdrawn from entrance e, thus opening this hive, and is inserted in the opposite end of the non-swarming device so as to close the entrance e' to hive B. The bees thus excluded from hive B will be called along the gallery, g, Fig. 5, of the non-swarmers by the bees at the entrance, e, and with these bees will enter hive A, thus bringing about in hive B the same conditions as were previously induced in hive A by closing the latter. At the same time the field-bees of both hives are working continuously in the supers on the hive A, the entrance of which is open, and the flight-bees in hive B are escaping through the cone exit, ex', and joining those of hive A.

In about a week the supers are again placed upon hive B, the entrance to which is then opened while that of hive A is closed. In another week another transfer is made, and so on alternately during the flow of honey.

This alternate running of the field-bees from one hive to another and back again, and the simultaneous transfer of the supers, so disturbs the plans of the nurse-bees, and temporarily depopulates the hives successively closed, that organization for swarming is not effected; hence, no swarms issue, and the field bees of both hives work unitedly and without interruption throughout the entire gathering season.

Advantages of this System.—The experienced bee-

master will not only readily see that this meets the requirements mentioned in the first part of this article as advantageous to secure, but also that in many other ways it is likely to prove a system of great value in the apiary. Mr. Langdon has mentioned some of these, and I will therefore quote from his letter:

- (1) Two light colonies that would not do much in sections if working separately make one good one by running the field force of both into the same set of supers.
- (2) No bait sections are needed, as the bees can be crowded into the sections without swarming.
- (3) The honey will be finished in better condition, that is, with less travel-stain, because the union of the field forces enables them to complete the work in less time.
- (4) There will be fewer unfinished sections at the close of the honey harvest, for the reason just mentioned.
- (5) Also for the same reason honey can be taken off by the full case instead of by the section or holder full.
- (6) Drones will be fewer in number, as a double handful will often be killed off in the closed hive while the other is storing honey rapidly.
- (7) Artificial swarms and nuclei can be more easily made, as combs of brood and bees can be taken from the closed hive in which the queen can be found very quickly.

As there is in carrying out this system of swarm prevention no caging of queens, cutting out of queen cells, manipulation of brood combs or even opening of the brood chambers at all during the honey season, and all the vexatious watching for swarms and the labor and time involved in securing these are done away with, and instead of this a simple manipulation attended to not oftener than once a week is substituted, it is plain that very many more colonies can be managed by one person, and, indeed, Mr. Langdon informs me that he "can care for 200 colonies with one day's work in a week with no help, instead of working all the time with 100 colonies." It will, therefore, prove a great boon to all having numerous out-apiaries.

One of the greatest advantages over any plan for the prevention of swarming yet proposed, which Mr. Langdon's system will have, should it prove on further trial all that it now promises, is that it will not only prevent more effectually than any other the actual issuance of swarms, but, while not requiring any manipulation antagonistic to the known instinct of bees, it will prevent all desire to swarm—will completely do away with the "swarming fever," so fatal to the hopes of the comb-honey producer. Another great feature of it will be the more rigid selection of breeding stock, which it will facilitate. Intelligent selection can accomplish for this pursuit as much as it has done for the breeders of our larger domestic animals. Furthermore, a strong natural inclination toward swarming on the part of any race of bees, otherwise possessed of very desirable traits, will not, under this system, oblige the rejection of such race. Eventually the disposition to swarm must through constant suppression become less, or, in time it may even disappear, giving us the long-sought non-swarming strain.

The System Tested Practically.—A brief statement of the success which has attended Mr. Langdon's practical test of his system during 1892 will be of interest in this connection. In a letter dated December 24, 1892, he wrote:

Last season I tried the device on 100 hives. Except in one instance the bees did not fighting. Why they did not fight when united in this way I cannot say. It certainly did not discourage them in honey gathering, for my yield from the 100 hives was 6,000 pounds of comb honey, or an average of 60 pounds per hive, some pairs yielding 150 pounds, and it has been counted a poor season for bees in my locality this year. After one season's trial of the device and plan I do not know of a single fault or objection to it.

THE STOCK YARD.

Fruits for Fattest Hogs.

Mr. Balaam, of Farmersville, used to have a pet pig that ran under the fig trees near the house. When the fruit began to drop, he ate figs and rested in the shade until he finally grew too fat to move about to gather the sweet morsels. By this time his owner became so much interested in the case as to carry him his regular figs three times daily. Gradually, he grew so fat that his eyes closed entirely and he was blind and helpless.

This story is well substantiated by reliable citizens of Farmersville. Where fig trees grow to such size and produce such enormous crops as they often do in California, this brings to mind the oft-repeated statement that an acre of figs will fatten more hogs than anything.

Prunes for Hog-Food.

Discussing the possibility of an overproduction of prunes, Mr. W. A. Sims, of Farmersville, maintained the proposition that when no longer worth marketing they will prove a profitable investment for fattening hogs. As they contain so much sugar, besides other flesh-producing qualities, he estimates the fruit as nearly equal to barley—ton for ton. While 3000 pounds of barley is a good average yield, 400 pounds of prunes per tree on 75 trees per acre is no excessive yield for prunes in his neighborhood. This gives ten times the weight of the barley and still leaves a large margin in favor of Mr. Sims' proposition if we think his estimate of the food value of the prune as too high when compared with grain.

FRANK S. CHAPIN.

Cows' Sore Teats.

TO THE EDITOR:—I was raised in a dairy, and have had the care of the cows of the ranch where I've lived, at home or elsewhere. My remedy for sore teats has always been an ointment made of two parts of mutton tallow and one part clean oak-wood ashes.

A week ago our favorite cow came up with two teats badly swollen, evidently from a poisonous bite. In two days it resulted in four large raw places, each larger than a dime, with much pain and soreness. My ointment did no good. I burnt a half ounce of alum and pulverized it like flour, mixed it with two ounces of lard and one-tenth of an ounce of carbolic acid. Two applications cured the sores. Sanders, Cal., June 15, 1893. W. A. SANDERS.

POULTRY YARD.

Talk by a Successful Egg-Getter.

Dr. Gallup of Santa Ana gives his method of poultry-keeping and chicken-raising in the California Cultivator:

"I have 23 laying hens (S. C. Brown Leghorns), 37 chickens hatched in December and January—some commencing to lay now; 65 chicks and chickens from one week to six weeks old. My morning feed for that number (old and young, for all are fed alike in the morning) is two quarts of wheat bran, in which I mix two measures of Wilbur's seed meal and a teaspoonful of salt. Pour in boiling water and mix until all is moistened thoroughly, but not sloppy—rather dry if anything. Now, mind, this is the morning feed for old and young, fed early and hot. The net feed after breakfast is green barley, cut up so all eat it readily. For this purpose I sowed some very early and cut it over, and it springs right up again, so we cut the ground over three or four times. Then we have a later sowed lot to come on after the first patch gives out. Our young chicks are kept in a yard instead of a coop. In some parts of each yard I leave every other evening after the chicks and chickens have gone to bed, some whole wheat about six inches deep, and keep this ground quite moist, so the wheat will be quite softened up before the old hen gets to scratching in the morning. Don't bury this wheat all in a pile, but scatter it so they can only get a few kernels at a time. Now, if you have fixed this just right and just enough buried wheat, you need not feed them again for a while and sometimes two whole days, except their morning mash and the cut green feed two and three times per day. Just as it happens I occasionally feed a little cracked wheat and sometimes a little corn. Be extra careful to never overfeed.

Young chicks just hatched I feed for the first two or three days on dry bread crumbs. My laying hens get a feed of grain at noon and another at night, always fed where they have to scratch for it—either in litter of some kind or on a light piece of ground kept forked up loose. I mix cracked corn and wheat in about the proportion of three sacks of wheat to one of corn. Occasionally feed Egyptian corn and occasionally cracked barley. Now count your hens and measure out one heaping tablespoonful of grain to each hen for their noon and evening feed. I feed the evening feed of grain at 4 or 4:30 o'clock, then just before they go to roost give a good feed of the green barley, or green corn answers the same purpose. Cut up so they can eat it readily. I cut all my green feed with my jack-knife. It is very easily done when you know how.

Understand that my hens and chicks are all kept in confinement on two lots, 50x125 feet each. Now the reason why I tell you to measure one tablespoonful of grain to each grown fowl at a feed is to show you that a large proportion of people feed too much grain. I occasionally bury some cracked corn and wheat with a spading fork in the ground as deep as I can fork it in on the feeding corner. Oh, yes; my hens act hungry all the time, and there is no time in the day that you will not see some of them scratching in the feeding corner of the yard.

But eggs are what I am after, and I get them, too. While my neighbors complain of getting no eggs I am getting from 23 laying hens 18 to 20 eggs one day and from 12 to 15 the next. Then there will be a week or two that they will come down to 12 and 14 per day; then three weeks again they go up to the highest number.

I never feed fowls or chickens more than they will eat up clean, and act as if hungry for more. My chicks are all hatched under hens, the setting hens fed on whole corn exclusively. Then I have three old scratchers that will scratch and care for from 30 to 50 chicks of all ages. The older ones soon learn to scratch for themselves. When I get a hen of that kind that will not fight or pick chicks of any age I consider her worth keeping to a good old age, and I keep her.

I have, since last October, fed 50 cents' worth of ground bones and shells; no meat to speak of at all; am no meat eater myself; I feed the few scraps from the table, give fresh water twice per day at all times, and in hot weather three times.

I have hatched out 120 chicks since December 10th; have lost five—two by an accident and three by drowning in a heavy rain storm. Have not had a sick hen or chicken since last September, but when I fed on the stuffing plan I lost heavily. Oh, yes; I could tell you how to loose them by the wholesale, but this article would be too long to suit the editor.

I keep pounded glass and crockery before my hens nearly all the time, and it

would surprise one who did not know to see what quantities they eat.

Now when you spade up your ground to bury more wheat, if you find that some of it has been missed and is sprouted, no matter if it is two or three inches long, it is the tenderest kind of green feed for the little chicks. I raised a brood of 12 chicks from the time they hatched last year on no other feed. They hatched on the 8th of May, and ten days before they were to hatch I wet up the yard that I was to keep them in, and spaded in wheat for green feed for them, and behold! the little contrary chaps would not even eat boiled eggs or bread crumbs, and still persisted in growing right ahead of my others that I was stuffing according to the books and loosing heavily all the time; so I buried wheat for them right along and let them live and grow.

Clover as a Special Food.

The following excellent article from the Poultry Keeper, relative to the uses of clover as a special food for poultry, contains much information and advice adaptable to California poultry-raisers. Alfalfa is included in clovers suitable for foods. It is one of the cheapest of foods, and as an egg-producer it probably has no superior. Poultrymen are learning that grain is not alone sufficient and that no food is complete in itself. The article is as follows:

The man who would feed his cow grain, with no hay, and expect her to yield largely of milk, would be considered as deficient in the knowledge necessary to secure from his cow all that she is capable of giving. The blunders of poultrymen are worse, for they require the hen to perform more service, proportionately, than the cow, and allow her fewer opportunities for fulfilling that expectation.

At this enlightened day the farmer feeds his soil with special fertilizers for particular crops, and separates his beef-producing breeds from those that yield largely of milk, and even draws a distinct line between the wool-producing and mutton breeds of sheep. He feeds his soil and his stock for special purposes, but he leaves his hens to derive from grain that which is not in the grain, and without which his hens are unprofitable. But the poultryman progressed to a certain extent when he made use of the bone mill, and his profits were further increased when the hens were recognized as entitled to comfortable quarters in winter. Now the poultryman has discovered that he can no more feed his hens on grain alone than he should his cow, and he also finds that it will be only one-half the expense to feed hay and grain to hens than grain alone, with more eggs as the result, and the hens keep in better condition.

The hens can secure a large quantity of green food in summer, if they have range, but when there is no longer an opportunity for them to do so, we must supply them something for that purpose. It is the bulk, the material for reducing the concentrated form of grain food, that is required. Grain contains some elements that are essential, and the use of grain should be continued, but in feeding grain it should be used to supply any deficiency in the bulky food, and to balance the ration, so as to render it a complete egg food. To be plain, you should feed for eggs, and not for fat.

The hens often fail in providing the shells for their eggs, especially if fed on grain. Why is this? Simply because over one hundred grains of lime are needed for each egg, in order to produce the shell, the bones of the chick, etc., and as 1000 pounds of wheat or corn contain less than a pound of lime, the hen cannot secure the lime. Just think of it! One must feed a ton of wheat in order to furnish the lime for ten dozen eggs. Yet, with this deficiency, the hens are condemned because they cannot produce something from nothing. Fortunately, we have learned that the best food for hens is hay. Clover (red or white) is best, but we can feed corn-fodder, meadow hay, timothy, or any kind, but clover is preferred. While half a ton of corn or wheat produces less than a pound of lime, white clover contains over thirty times as much, and red clover about twenty-eight times as much. Clover will supply all the lime the hen requires, and as a flesh-former and albumen-producer clover contains eleven per cent, and corn a fraction over ten per cent. It is, therefore, equal to corn or wheat, pound for pound, as a flesh-forming, nitrogenous food. Corn, however, contains eighty-six per cent of heat elements, and clover thirty-five per cent. Of the phosphates, clover contains seven times as much as corn, ten times as much sulphur, ten times as much magnesia, four times as

much soda, and fully as much dry matter. With so complete a food as clover hay (one especially adapted for producing eggs), is it not plain that for years back the farmers have been feeding hens in the most expensive manner, and depriving them of the very food most essential for their success? Mr. Francis A. Mortimer, of Pottsville, Pa., who keeps 2000 pure-bred fowls, and who feeds scientifically, states that had he known of the clover-hay food for hens four years ago he could have saved \$1000, and that since he began its use he finds fewer sick hens, more eggs are laid, the males are more vigorous and potent, and the eggs hatch well.

Unfortunately for the hen, she pulls her food from plants. Give a hen a mess of clover hay, thrown into her yard loosely, and she cannot eat it. She must have one end of the stalk fastened to the ground, as she cannot pull off the leaves if the stalk yields to her efforts. She can go into the field and pull from the standing grass, but after it is cut she cannot eat it, except at the risk of swallowing pieces several inches long, which may cause her to become crop-bound; but if the hay is cut into short lengths she can pick it up the same as she does corn or wheat.

Clover hay may be cut fine and fed dry, but the proper way to prepare it is to cut it in the afternoon. At night scald it in a tub or bucket, by pouring boiling water over it; throw a cover (old carpet or anything) over the tub, allow it to stand all night and in the morning it will be still warm, and possess a savory odor that will almost tempt you to eat it yourself. To every bucketful of dry, cut hay add one quart of the following mixture: Ground corn, ground oats and bran, ten pounds; linseed meal, one pound; salt, one ounce; mix well. Feed in a trough, and give the hens all they will eat, twice a day. Each hen will walk away when she has eaten all she wishes. The bucket of dry food (scalded at night, as mentioned) will feed about thirty hens and perhaps more, and they will relish it highly. No other green food will be necessary. A gill of wheat may be scattered in the litter, so as to induce the hens to hunt and search.

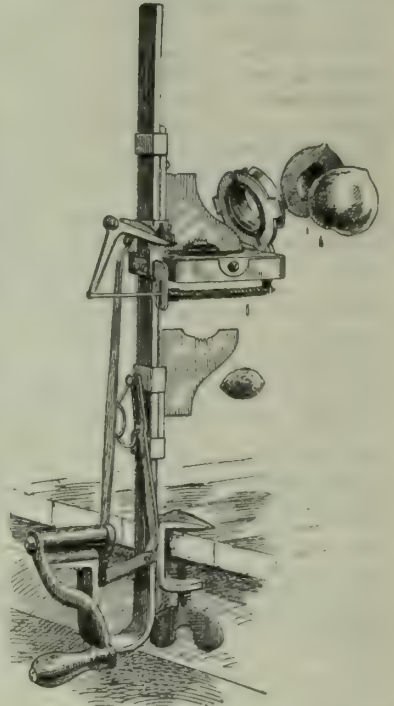
Then comes the cutting of the clover. Those who keep stock and have the regular fodder-cutters, will find it difficult to use them for cutting the hay for fowls, as it should be cut in half-inch lengths. If too long, as stated, the result may be crop-bound. Fortunately, the discovery that chopped hay was the best food for laying hens has led to the invention of one of the neatest, handiest little hay-cutters that can be imagined. It is so small that it can be almost carried in an overcoat pocket; can be attached to a table or bench in two minutes (only two screws used), and it feeds itself. By simply giving it the hay, the cutter draws it in, chops it and pours it into a bucket or other receptacle. It is not only convenient for farmers (as one cannot cut the hay longer than half an inch), but just the thing for poultrymen and those who live on the suburbs who do not keep other stock. The cost of the little machine is almost nothing compared with its usefulness, as it will save the cost in food in a short time, and save labor also. It is easier to chop the clover than to mix grain, and the machine is so strong and simple that it is almost impossible to get it out of order. It is self-sharpening, and cuts all kinds of hay.

Green grass, being watery, is not cut so easily, as grass sometimes clogs, but even green grass can be cut in the machine if the accumulations are swept off. As a labor-saving, cheap, handy, useful little machine the hay cutter is a valuable discovery. Every one who keeps fowls should have one, and after you have it you will wonder how you ever got along without it.

There is no substitute for chopped hay. It is not only rich in nitrogen, lime, sulphur, phosphoric acid, magnesia and soda, but also abounds in potash and carbon. Balanced with a small quantity of grain, the heat and warmth of the body is secured and the elements of egg production provided. Being bulky, it is easily digested and assimilated, and thus by diluting the concentrated ground grain, renders the grain itself more digestible and of greater value, furnishes all the mineral matter desired, avoids over-fatening (as from grain alone), the great scourge of the poultryman, as excessively fat hens will not lay, and soon become worthless.

Lime for the shell cannot be secured from ground oyster shells, chalk, marble, etc., (all carbonates of lime), as such minerals are insoluble, and only serve as grit. The lime in clover hay has already been prepared, ready for assimilation by the hen, through its combination with vegetable acids, and every one hundred pounds of clover that is digested provides three pounds of soluble lime, that has been prepared by nature herself for immediate use.

THE FOREMAN FRUIT PITTER



The accompanying illustration conveys a good idea of a new fruit-pitting machine that certainly claims advantages of merit, as it possesses rapidity, ease of operation, and does the work in perfect shape. It will easily pit the stone fruits fast enough to keep two hands steadily engaged in spreading the halved fruit. One point of prime importance in its favor is that the fruit in passing through the operation is handled so dextrously that it in no way loses its bloom and virgin beauty; being cleft in twain, as shown in the illustration, and at once transferred to the drying trays, or to the canning syrups ready for the time, without being marred or bruised a trifle.

This pitter has been patented and a large number of them placed on the market for sale at the low price of \$12.50 each. It is made of malleable iron, and the knives of the best steel, thus insuring durability, and little or no cost for repairs. With proper care it should last for years. It will cut all of the free-stone fruits. Cups of different sizes to hold the various kinds of fruits go with this machine, and any person can learn in five minutes how to adjust them.

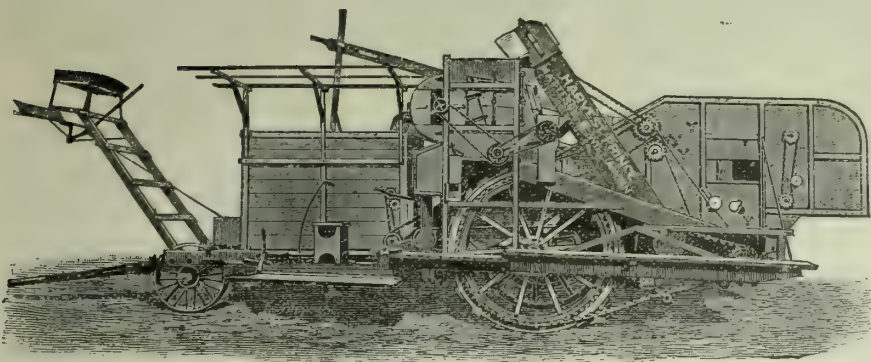
After using the pitter one day, so as to become somewhat used to it, a boy 18 years of age will cut more fruit with it than any five expert cutters by hand. By fastening it to a common table a lady can work it all day without soiling her clothing in the least, and if the fruit is conveniently at hand she can cut from one and a half to two tons per day. With this help the chief work is to get workers to gather and spread the fruit. Often a large part of the orchard ripens at the same time. With the aid of this invention all of the fruit is saved without trouble. The machine must be seen at work to be fully appreciated. It took the first premium at the State Fair of 1891 as the best pitter known, and wherever exhibited it has carried off the first prize.

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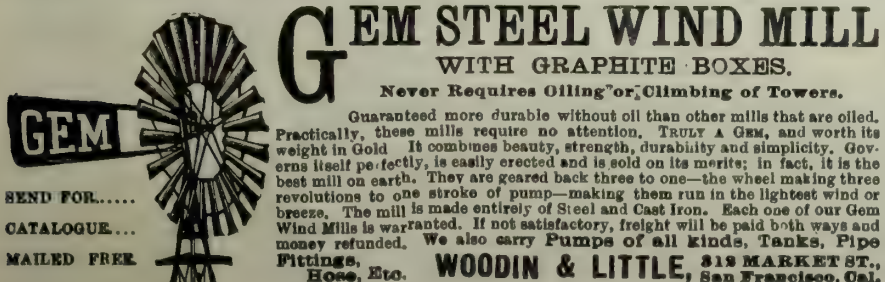
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Parties writing for information should give the quantity of water that can be supplied to the engine, either in gallons, cubic feet or miners' inches; the head or fall from source of supply to point where the engine is to be located, length of drive pipe, height to which the water is to be raised, distance from engine to place of discharge and the quantity of water it is desired to elevate. No reliable information can be afforded without an explicit answer to these inquiries.



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THE HOME CIRCLE.

Slander.

[Written for the RURAL PRESS by DAGMAR MARIAGER.]

Slander, equipped with wings,
And freed,
Will speed
So high—
Goodbye!
A change?
How strange!
See! Hark!
A lark?
Not so;
Nor foe.
The ear
Can hear,
And eye
Descry,
A dove
Above

Which stores of tidings brings.

The bird
Is heard
By all
In call
If b'lieved
Deceived
Thou art,
And smart
Thou must,
For trust,
The clouds,
Like shrouds
Half made,
Are laid
Aside,
To bide
A wee.
Ah, me!—
But fears
And tears,
And wrong,
Its song
Will spread,
With dread
Despair.
Take care!
E'en now a death knell rings!

The Soul's Dawn.

[Written for the RURAL PRESS by MARY M. YATES.]

Ah! Nature we love, for God is here!
He lives in Law within each sphere;
Ah! wouldst thou find his listening ear,
Then pray to men and God will hear.

Slowly and surely the soul's dawn cometh;
Wait thee, list thee, the day bee hummeth;
"Behold, I, Alpha, make all things new,"
And the truths of Omega are also true.

Jim.



One at the station knew where Jim came from. He appeared one day at the gloomy little mining camp and took his place among the other miners. The men at the station never asked any questions; maybe the reason was because they did not care to have questions asked them. Anyway they did not question Jim about his antecedents, or where he came from, or even as to what the rest of his name was.

The miners at the station were about as rough and as desperate a crowd of men as ever came together. Jim seemed to be a little to good for their society. He was a quiet kind of a man, pale and slender, but with a quickness of movement and a certain set of the shoulders that marked him as a hard man to get the better of in a quarrel. The miners had not known him long before they began to realize that he was not a safe man to arouse. "Big Jack," the bully of the camp, called him a "tenderfoot" one day, and before the big fellow had time to think, he was on his back and Jim holding him down, and the bully knew by the dangerous glitter of those flashing eyes above him that it was best for him to apologize.

One day, about two years after Jim's arrival at the Station, a professional gambler came to the town. Gamblers were no novelty in any of the mining towns, so this new comer would have created no comment had he not brought with him a woman, his wife, he said. Women were very seldom seen at the Station, at least, women of this type were. She was a lady, that was evident. She was tall and slender and had once been beautiful, too, if the boys were any judge of beauty; but now she was poorly clothed, was very pale, and always had a kind of frightened look when her husband was near.

The boys noticed that about the time the gambler and his wife came to the Station Jim began to act very strangely. He did not join them in their evening carousals, but kept more by himself nights and worked harder days.

One night when the boys were all playing cards, Jim came in. He did not take a hand in the game, but sat back in the shadow looking on. The gambler was losing, and losing fast, too. Strive as he might the

luck was against him. Suddenly the gambler's wife entered the room. She walked toward her husband and said something to him. The brute was maddened by his losses, and with an oath pushed her aside. In an instant Jim sprang forward shouting, "What I strike her, you brute!" There was a sharp click, a report, and the gambler lay on the floor.

There was nothing to be done. It was a clear case of murder, and yet there was not a jury in the State that would not have acquitted Jim if he had only made any defense. He refused to say a word for himself, and so of course the court had to do its duty. The Sheriff tried to have him escape, but he would not do it. The boys tried to make him save himself, but he only smiled sadly and shook his head.

The story of the case was told in the newspapers, and was copied all over the country. It was not long before the sheriff received a strange letter from a little town in Massachusetts. It was from an old lady, and this was the letter:

"My Dear Mr. Sheriff:

"I have seen in the papers an account of a murder committed in your town. I want to ask you about the man that did it. I can't think my suspicion is true, for that would be too awful. But oh, Mr. Sheriff, if your prisoner should be my son, I must know it. My boy left home years ago, and I haven't heard of him since, but something in the notices of the paper make me think that this may be my James. Read the prisoner my letter. My Jimmie would tell you that I was his mother. I know I am foolish to write you, for James never would have killed a man; but I am old and feeble and must write. My James had a scar on his left arm above the elbow; he cut himself there one day when he was a little boy and came to mother to have her stop the bleeding. This can't be my James. Write me, Mr. Sheriff, and tell me that it isn't."

The Sheriff was a kind-hearted man; he couldn't refuse the request of the old lady so far away. Of course the prisoner could not be "her James"; he would write her so at once. Perhaps, though, Jim would be interested in the letter and so he would read it to him.

Jim was lying on his bed when the Sheriff entered the cell. The jail at the station was simply one room heated by a stove and having barred windows. Jim was allowed all the privileges of the building. As the sheriff entered Jim did not move. The sheriff spoke to him; he looked up. He showed no interest when the sheriff told him about the letter, but when he began to read a strange look came over the prisoner's face. When the sheriff finished tears stood in Jim's eyes. With a sweep of his hand he brushed them away.

"The letter made me think of my mother," he said, "but I ain't this woman's boy. She poked a scar on her boy's arm, and I hain't got none."

As he spoke he bared his left arm and walked towards the sheriff. As he passed the red-hot stove he slipped and fell toward it. There was a sickening odor of burning flesh, and when he rose there was a terrible scar on his left arm. Jim smiled. "There is a scar there now," he said, "but tain't the one she spoke of."

Something in the manner of the prisoner made the sheriff think that maybe Jim and the James of the mother so far away might be one and the same man, and he wrote to the old lady that while he did not think the prisoner was her son, yet it might be well for her to come on and see for herself. The news of her coming was kept from Jim, for the sheriff meant to surprise him.

About two weeks after the sheriff wrote, a woman got out of the stage at the station. She was a nice-looking old lady, even if she was very timid and worried. She inquired for the jail, and the boys all tried to help carry her baggage. They all knew she was expected, and were all eager to find out if she was Jim's mother.

The sheriff tried to have her rest and eat something before she saw Jim, but she wouldn't wait; she insisted on seeing him at once. So the sheriff led the way to Jim's cell and all the boys stood around the building and waited for the news. As the cell door opened Jim looked up. He saw the visitor and a kind of drawn look came around his eyes, and he looked at the sheriff in the same way that he had looked at Big Jack when the bully had called him a "tenderfoot" just after he came to the station. The old lady rushed forward, crying "Jimmie;" but he pushed her back gently and his face looked very tender as he said:

"You are mistaken, ma'am, I am not your son."

"Why, Jimmie," the old lady said, "you won't disown your mother, the one who cared for you when you were little and taught you your baby prayers. You know

how I used to hold you in my arms when you were tired, and care for you when you were sick. You won't disown your mother!"

Jim grew paler and his face became more set, but still he held her back.

"No, madam, you are wrong. I am not the one you are looking for."

The old lady regarded him very closely. He never flinched. She turned to the sheriff.

Mr. Sheriff, I was mistaken. This man is not my son. I am glad he is not. I could not bear to have my boy hanged. I know I shall find my son some day and he will not be in a jail. I could not think this man was my son, and yet, and yet—no he would tell me if he was. Let us go."

Jim stepped forward.

"Of course you are not my mother ma'am. You see I don't even have the scar your son had. I burnt my arm the other day on the stove; that is the scar you see. But before you go, ma'am, I want to tell you, as I might tell my mother if I had one, why I killed this man. You see I knew his wife long ago, before she ever saw him. I had left home when I was a little boy and was shifting for myself when I met her. She and I were to be married, and then he came. I knew what he was but she didn't, and—well, she married him, and I began to be worse than I had been. Then I came here and things were going all right, when they As long as I thought she was happy I kept away. But that night when he struck her, a demon took hold of me, and I am here. I haven't but a few days to live, ma'am, and would you mind kissing me once? Of course I ain't your son, but you don't know where he is, and won't you kiss me once, ma'am, just as if I was him?"

The old lady hesitated. Could she kiss this criminal, this man whom she had come so far to see, and who was not her son? But something in his face reminded her of her Jimmie whom she used to love so long ago, and she printed a kiss on the forehead of Jim—Jim the criminal, who was to be hanged for murder. Then she left the cell to seek further for her James.

Jim watched her as she departed. He knew that she was glad he was not her son. He was alone again and the haggard look in his face deepened. He smiled sadly as he looked at the place on his arm that the stove had burned, then reverently kissed the hand that her hand had touched.

"She didn't want her son to be hanged," he muttered.

He took out his pocket-knife; the sheriff had not taken any of his property away from him.

"She is sure I'm not her Jimmie, she thinks she will find him sometime. She is right; her boy will never be hanged."

There was a low, gurgling sound. Jim fell back upon the bed. Only the cell walls were near to him as he uttered a single word, "Mother."—Frank D. Blodgett, in the Amherst Monthly.

A Peasant's Appeal to His King.

At Szanad, in Hungary, lives a poor peasant farmer named Pero Bati. The destruction of his crops and loss of cattle had plunged him into difficulties. One sleepless night he conceived a novel idea and rose early the next morning and carried it out. The idea took the form of the following epistle:

"To the Most Honorable and Well-Born Herr King:—My cow is dead—with great respect I submit this—and my noble farm produce has been struck down with hailstones. The wicked man 'in possession' plagues me sorely, though he is my brother-in-law's god-father. There is no living soul in Szanad who can lend me a kreutzer, because no one in Szanad has a kreutzer. If my lord would lend me a couple of guilden—for which he has no immediate need—I would pay him back with interest when my next year's kukuruz crop (maize) is sold. I trust that good health may wait upon my good king and his exalted house, and also his dear family. Oh that I could kiss the pretty hands of our high-born lady queen! All happiness to your queen's majesty. Truly yours, PERO BATI.

This letter was duly dispatched, and a messenger was sent to ascertain the truth of Bati's statement. This proving correct, the two guilden (about three shillings) which the Emperor was "not in immediate need of," were placed at Pero Bati's disposal.

Disconcerting.

No one can afford to wear shabby clothing if he wishes to impress strangers favorably. A politician of note was rather careless in the matter of dress. Having occasion to call upon a prominent man residing in a distant quarter of his native city, he stopped an Irishman in the street to inquire the way. "Can you tell me where Mr. Hunter lives?" he asked. "It's no use your going

there," was the unexpected reply. "I didn't ask your advice," said the statesman. "I simply want to know where Mr. Hunter lives." "Oh, well, he lives down that street yonder, the first house round the corner; but I tell you it's no use your going there, for I've just been there myself, and he's already got a man." Mr. Hunter had advertised for a servant the day before. The lesson was not thrown away upon the statesman, for he went at once and bought a new hat.

Hints to Housekeepers.

Thirst in the infant is nearly always mistaken for hunger. Give your crying child a little cool (preferably boiled) water, using cup or spoon, or try tiny pieces of ice tied in a scrap of lawn, and see if it does not prove the very thing needed. Six or seven times every day the babies should be offered drink; it regulates the bowels, cleanses the mouth and stomach, and prevents in a measure overfeeding.

The chimney of a lamp should never be touched with water. A few drops of alcohol, or even paraffine oil, will remove the dimmed smoky effect and make the chimney as bright as possible when it is polished with a soft flannel or chamois skin.

The best flavor to add to chocolate is vanilla; next to that, cinnamon. Beyond these two things one should use great caution, as it is very easy to spoil the fine natural flavor of the bean. Chocolate absorbs odors readily; therefore it should be kept in a pure, sweet atmosphere. As about 11 per cent of the chocolate bean is starch, chocolate and cocoa are of much finer flavor if boiled for a few minutes. Long boiling, however, ruins their flavor and texture.

All traces of mud can easily be removed from black clothes by rubbing the spot with a raw potato cut in half.

The more freely bedding can be exposed to the sun and air the better, but exposure to the sun should not include the pillows or feather beds. The oily quality of the feathers is acted upon by exposure to a hot sun, producing a strong, offensive and unhealthy odor—in direct opposition to the results which it is intended to obtain. But there should be frequent exposure to the air, and the more persistently this is carried out the more healthful will be the bed.

People should never go in the early morning to get boots and shoes fitted. In the latter part of the day the feet are at their maximum size. Activity and standing tend to enlarge the feet. If people would remember this rule, there would not be so many complaints of shoes when worn being tight, which when fitted seemed so comfortable.

There are two well-known receipts for cleaning white silk lace. One is to wind it around a piece of wood like a piece of broom handle, or a glass bottle, and to soak it all night in warm castile soapsuds and milk; rinse in warm water, soak in soap and warm water; rinse again without rubbing, bleach in the sun and dry. The second method recommends that the lace be spread out upon white paper, covered with calcined magnesite; another sheet of paper placed upon it, and laid away for three days between the pages of a large book; then shake off the powder, and the lace will be clean and white.

If a bill must be sent through the mail unregistered, fold it neatly around a rather long visiting card, and it will escape, it is said, the most careful search of a postal thief.—American Cultivator.

Ways to Injure Health.

Giving way to fits of anger.

Leading a life of unfeeling, stupid laziness.

Contriving to keep up a continual worry about something or nothing.

Beginning in childhood on strong tea and coffee, and going from one step to another, through chewing and smoking tobacco, and drinking intoxicating liquors.

Allowing the power of gain to absorb our minds, so as to leave no time to attend to our health; following an unhealthful occupation because there is money in it.

Tempting the appetite with bitters and niceties when the stomach says no, and by forcing food into it when nature does not demand and even rejects it; gormandizing between meals.

Marrying in haste and getting an uncongenial companion, and living the remainder of life in mental dissatisfaction, cultivating jealousies and domestic broils, and always being in mental ferment.

Surfeiting on hot and very stimulating dinners; eating in a hurry, without half masticating the food, and eating heartily before going to bed, when the mind and body are exhausted by the toils of the day and the excitement of the evening.

The Length of the Day.

By a simple rule the length of the day and night, any time of the year, may be

ascertained. Simply double the time of the sun's rising, which will give the length of the night, and double the time of setting, which will give the length of the day.

Proverbs Misquoted.

It is a peculiar faculty of human memory to misquote proverbs and poetry, and almost invariably to place the credit where it does not belong.

Nine men out of ten think that "The Lord tempers the wind to the shorn lamb" is from the Bible, whereas Lawrence Sterne is the author.

"Pouring oil upon the troubled waters" is also ascribed to the sacred volume, whereas it is not there, in fact no one knows its origin.

Again we hear the people say: "The proof of the pudding is in chewing the string." This is arrant nonsense, as the proverb says:

"The proof of the pudding is in the eating thereof, and not in chewing the string."

Nothing is more common than to hear:

"A man convinced against his will
Is of the same opinion still."

This is an impossible condition of the mind, for no one can be convinced of an opinion and at the same time hold an opposite one. What Butler wrote was eminently sensible:

"He that complies against his will
Is of his own opinion still."

A famous passage of Scripture is often misquoted thus: "He that is without sin among you, let him cast the first stone." It should be: "Let him first cast a stone."

Sometimes we are told: "Behold how great a fire a little matter kindleth," whereas St. James said: "Behold how great a matter a little fire kindleth," which is quite a different thing.

We also hear that "a miss is as good as a mile," which is not as sensible or forcible as the true proverb: "A miss of an inch is as good as a mile."—Ex.

Observations from the Farm.

The cat is always friendly at milking-time.

Never inform the calf which way you wish to drive him.

You can draw more milk from a cow than you can pound out.

A rooster makes a pretty fair watch-dog—if you understand rooster talk.

The old dog says, "Don't whip me; you can teach the puppies so much easier."

An old boundary fence is often very effective in keeping happiness off the place.

The devil left more than his horns and hoof to the average cow.

Once in a while it really pays better to go a-fishing than it does to plow.

A colt is like a schoolboy—willing to wrestle with you if he can get the best hold.

The anglerworms must hear you when you speak of going for trout. They are scarce as loafers in time of a draft.

It is a melancholy fact, but the water you have hoisted out of the well for the last ten years will not do for the stock this morning.—C. H. Crandall in the Century.

Why a Cemetery is So Called.

Webster says a cemetery is "a place where the dead bodies of human beings are buried." But that is all he says, and there is not a five-year-old child in the land that could not tell as much without referring to his "unabridged."

In tracing the derivation of the word, I find that the root is an old Jewish word, "caemeteria," meaning dormitories, or sleeping places. Later on, the form of expression was changed to "requietorium." In that section of "Camden's Remains" which has the heading of "Concerning British Epitaphs," I find the following (page 385, edition of 1650): "The place of burial was called by St. Paul 'semenatoria,' in the respect of a sure hope of a resurrection." The Greeks call it "caemeterion," which means a sleeping place until the resurrection. The old Hebrew word for cemetery means "the house of the living," the idea being that death is only a protracted sleep that will terminate on the day when Gabriel blows his trumpet.—St. Louis Republic.

A Hammock Idea.

A young woman who lives in a small New York hotel, and has only one room, had a gift lately of a Guayaquil hammock—one of those great, gaily-colored webs that gives so delightfully. It seemed an odd present to a woman who hardly saw a veranda from one year's end to the other, but if she hasn't verandas she has ideas. She had hooks put in opposite corners of her room, and when she wants to deliciously lounge she swings the hammock from them. When it is not in use it is draped by means of a third hook across one entire side of the

room, making, with its fringes and tassels, a brilliant wall decoration. Mary Hallock Foote says somewhere that an American back never learns to adjust itself to the luxury of a genuine South American or Mexican hammock. The owner of this one says she has learned more of the real theory of rest since she owned it than she ever knew before. "Since I learned to let go and sink," she said, "I have gained five pounds."

Some Maryland Sayings.

When you talk to yourself Satan hears you.

If you drop a dishcloth a stranger is coming.

If you dream of death you'll hear of a wedding.

Raising an umbrella in the house portends death.

Sitting on the table is a sign that you want to marry.

If you sew a garment upon yourself lies will be told about you.

When making soap, stop work when visitors come, or the soap will not be a success.

Placing the shoes with the toes pointing away from the bed will keep off the nightmare.

Three Excellent Doctors.

Some of the eminent physicians of Paris were assembled about the death-bed of Dumoulin, the most celebrated doctor of his day. To their expressions of grief at the expected loss to the profession, the dying man answered:

"Gentlemen, I shall leave behind me three excellent doctors to supply my absence."

Being pressed to name them, as each man expected to be included in the trio, he said: "Water, exercise and diet."

DOMESTIC ECONOMY.

SPANISH CREAM.—One-half half-box of gelatine, one quart of milk, yolks of three eggs, one cup of sugar; soak the gelatine in the milk for one hour, put on the stove and stir it as it warms; beat the yolks and sugar together and stir into the boiling milk; flavor with extract of vanilla. Pour into mold and serve with cream.

LEMON CREAM PIE.—Boil one pint of milk, add three teaspoons of cornstarch; when boiled take from stove and stir in the yolks of four eggs, two tablespoonfuls of butter, one cup of sugar, the juice of two lemons and rind of one grated; pour into rich crust; bake 20 minutes; whip the whites of four eggs with one cup of sugar. Spread over the top and brown.

BAKED APPLE PUDDING.—Mix half a teaspoonful of salt and two teaspoonfuls of baking powder with two cups of flour. Rub in a quarter of a cup of butter; beat one egg light, mix it with a scant cup of milk and stir it into the flour; spread the dough about half an inch thick on a shallow, oblong pan; cut several apples into quarters, pare and core them and cut in two; arrange in parallel rows on the surface of the dough, and press the core edge down into the dough; sprinkle about two tablespoonfuls of sugar over the apple; bake quickly, cut into squares and serve with lemon sauce.

TAPIOCA CREAM.—Soak one cup of tapioca in about two cups of milk or water over night. Add a quart of rich milk in the morning. Put the whole in a double boiler and cook it for half an hour; then add the yolks of three eggs and a scant cup of sugar, with a little lemon peel grated with a lump of sugar for flavoring. Stir the pudding continually after adding the eggs, which must be put in carefully to prevent their being curdled. Let the pudding cook about three minutes, then add the whites of three eggs beaten to a very stiff froth and stirred into the cream. Pour the pudding in a glass dish when it is a little cooled and let it become perfectly cold.

CHICKEN AND POTATO.—Take cold chicken, cut into dice, and to each pint allow one tablespoonful of butter, one tablespoonful of flour, and a half pint of milk. Put the butter and flour in a sauce-pan; when melted add the milk; stir constantly until it boils; add teaspoonful of salt, dash of pepper and the chicken. Have ready four potatoes boiled and mashed; add to them tablespoonful of butter, four tablespoonfuls of cream, and palatable seasoning of salt and pepper; then beat hard until smooth and light, put them into a pastry or forcing bag; press out in rope-like forms around your serving dish, put the hot chicken in the center, stand in the oven just a moment, and it is ready to serve. This is exceedingly palatable and a very pretty way to serve left-overs of any kind.

YOUNG HOLKS' COLUMN.

The Peter Parley G'ography Class.

[Written for the RURAL PRESS by LAURA JAMESON DAKIN.]

There stood our schoolhouse low and brown,
Just where the steepest hill slopes down;
And 'twas fifty years ago to-day
Our school began, in the month of May.
I had a bran new g'ography book;
So had Teddy Green—he let me look
To see the cover just like mine
And the fifth lesson all in rhyme;
And the teacher said we two would pass
As the Peter Parley G'ography Class.

Then we stood up and toed the mark.
My hair was light and his was dark;
He wore a homespun roundabout
And I a linsey plain and stout;
His feet were grimy and rough with sand,
And mine were really somewhat tanned,
For 'twas the fashion barefoot to go
Soon as the May flowers began to blow.
So there we stood—a lad and lass—
The Peter Parley G'ography Class.

He always rushed on to take the lead
And studied hard to keep at the head,
Missing no question till the day
The rhyming lesson came in the way.
"Columbus was a sailor brave—
The first to cross the Atlantic wave—"
He stopped; his face grew red, then pale,
For well he knew that he must fail,
Though he twists his hands behind his back
And digs his toes into the crack.

The teacher waited, then said "Next!"
And I glibly took up the text.
"Columbus was a sailor brave,
The first to cross the Atlantic wave;
In fourteen hundred ninety-two
He came far o'er the ocean blue,
Where never ship had sailed before,
And found a rough and rugged shore
Where naked men in forests prowled
And bears and panthers roamed and howled."

So I went on nor missed a word,
But spoke so plain, the whole school heard
All about Columbus and his band
Who found the wonderful new land.
I was too triumphant, I'm afraid,
And proudly shook my yellow braid,
When, smilingly, the teacher said:
"You may take your place at the head."

And Ted stood back to let me pass
Above him in the g'ography class.

That was long ago, but now I hear
Chicago begins a school this year,
Where every flag will be unfurled
And scholars come from all the world,
With everything new under the sun
And everything old, just for fun.
It's called the Columbian Exposition,
And will beat our school exhibition.
Ted and I must go—they'll let us pass—
The Peter Parley G'ography Class.

His Dull Pupil.

WRITE of many years ago,
for I am an old man now,
and of the pupils who came first
under my tutelage I have knowl-
edge of but two or three living.

I graduated at Harvard, and as
my purse was empty I was forced
to seek employment at once, and the em-
ployment to which I aspired was that of a
teacher.

A friend secured for me a school in the
far-away region of Down East, and I took
it. It was in the central district of the town
of Steep Falls.

I had come from college with a firm faith
in the "Cramming Process." I had been
subjected to it, and I deemed that all who
would wear academic honors must undergo
the ordeal.

My brightest boy—my special delight—
the boy who could stuff and cram and re-
member everything to which I directed his
mind—the boy whom I exhibited on exami-
nation day—was William Howther.

My dull pupil was Teddy Drake. I had
pupils more stupid than Teddy, but not one
that fretted me more. Said I to him, after
he had worked out a difficult problem by
supposition, ignoring the algebraic signs and
forms entirely:

"My dear boy this may answer very well
now, but the time will come when problems

will be presented which cannot be solved
save by the rules which you now neglect."

And he looked up in his blank, honest
way and replied to me:

"No doubt, sir, when the need is really
upon me I shall be able to conquer these
outlandish signs, but they stick me now."

The boy's answer provoked me. I wanted
him to swallow and digest the algebra as a
whole and he would not.

Upon the fly leaf of his book I saw a
picture. I looked at it and found it to be a
rough but exceedingly life-like sketch of a
horse harnessed to a common tip-cart. I
asked him when he did that. He confessed
that he had done it in school.

I sternly asked him what he meant by it,
and he had the effrontery to tell me that he
had been trying to find some way to ease the
draft of his father's cart-horse; and he even
had the audacity to attempt to point out to
me how he thought to make the improve-
ment by raising the line of draft to a point
parallel with the horse's shoulders.

One day when Teddy should have been
studying his English grammar, I detected
him at work upon something with his knife.
That day his grammar lesson was a lament-
able failure; but with his knife and a bit of
pine wood and a few slips of goose-quill he
had fabricated a most ingenious fly-trap.

At length came a grand examination day.
The school committee and most of the
parents of the district were present. William
Howther and Teddy Drake were in the same
class.

The former answered every question
promptly, while the latter stumbled over
propositions which seemed simple enough.
I praised the smart boy and I denounced
the dull boy. I did it in the presence of
our visitors, and I did it unsparingly.

I hurt the feelings of Teddy, and I also
hurt the feelings of his parents; and from
that time Teddy attended my school no
more, and I prophesied that he would grow
up to be a dolt.

After the lapse of years I visited Steep
Falls again, and where I had left a quiet
village I found a popular and busy town.
The water which had aforetime spent its aim-
less fury in the roaring cataract had been led
around an adjacent hill by a canal, upon
which had been erected mills that gave em-
ployment to one thousand men and
women.

And here, too, were manufactured
"Drake's patent loom" and "Drake's patent
gang-saw." I asked who was the Drake
that had invented these great achievements
of machinery.

"The same man," answered my cicerone,
"who projected our canal and utilized the
water of our river—the man who has, by his
own genius and unaided will, brought our
town up from an obscure village to a first-
class municipality, and who has made em-
ployment for two thousand people. It is
Theodore Drake."

"Theodore!" said I. "Did they use to
call him Teddy?"

"Yes."

And this was my Teddy Drake—my dull
pupil of the other years! I called upon Mr.
Drake, and he knew me the moment he
saw me; and he remembered the old times
only pleasantly.

I may add that I found William Howther
serving Drake as confidential clerk and
book-keeper upon a fair salary.—Boston
Globe.

To Keep Smoked Meat.

The *Housekeeper* says the best way to keep
smoked meat is not to cook and eat it, but
there is another way. Have sacks large
enough to hold each piece; let some one hold
the sack while you put in a couple of double
handfuls of fine-cut hay; then set the ham
in and fill up all around with the fine-cut
hay, pressing it in so tight that the meat will
not touch the sack at any place. Tie well
and hang it up in the smoke-house or any
dark place, and your meat will come out all
right, provided you have put in your meat
before the bugs and skippers have made
their appearance.

Highest of all in Leavening Power.—Latest U. S. Gov't Report.

Royal Baking Powder
ABSOLUTELY PURE

AGRICULTURAL NOTES.

CALIFORNIA.

Butte.

Gridley Herald: On Thursday morning David Fisher, who farms about four miles south of Gridley, showed us a sample of club wheat, grown on his place, which was the best we have seen this season. He has about 100 acres of it, and there are from five to seven kernels to the mesh.

Oroville Register: J. R. Preston set out 2180 orange trees for W. J. Martin last year and only nine of the trees died. Preston says all depends upon taking the trees from the nursery. Those that are taken up with care and the roots carefully bagged will live and make a fine growth the first season.

Biggs Argus: The fruit outlook in this section of Butte county is very flattering. It is now estimated that over 200 carloads of fruit, consisting mostly of apricots, peaches, prunes, cherries, plums, pears and nectarines, besides a large crop of almonds, will be shipped during the season, and the nursery output, in same proportion, will be ready for shipment this fall. A number of great loads of boxes filled with fine apricots commenced unloading at the depot Monday, and all week the same scene has been witnessed. Peach shipments will follow apricots, and from this date until the close of the fruit-ripening season the fruit-growers will have all they can do to take care of and dispose of their splendid crop.

Oroville Register: J. R. Preston has a wonderful natural curiosity in the shape of an orange growth. He told us about it, and of course we did not believe him, so he took ye editor to his trees that eyesight might prove his words, but how are we to be believed by others we know not? At any rate, he showed us a budded orange tree, the bud having been placed in the limb only three weeks, yet it was now bursting into bloom, while on another tree of the same kind were five full opened blossoms on a three-weeks-old bud. On still another tree were oranges green and half grown, young oranges that had formed from this spring's blossoms and buds that would open soon. The tree bloomed in December and three half-grown oranges are now hanging on the tree from those blossoms. The tree came from Australia and it is said there to bear four crops a year. One noted tree is said to have borne 16,000 oranges in a year. Preston has about 20 of these young trees and expects them to bear at least three crops each season.

Humboldt.

Rohnerville Journal: The cannery will start up on Monday, and at first the pack will consist mainly of strawberries. It is estimated that about 3000 boxes will be received daily during the season.

Eureka Standard: Reports from both the northern and southern portions of the county, particularly the latter, lead us to hope for a much better crop outcome than was indicated two weeks ago. Summer sunshine has done much toward changing and improving the outlook. Grain crops are bracing up; root crops are going ahead wonderfully. If all goes well from this time on, cereals, butter, fruit and potatoes will make a splendid showing for Humboldt when harvest time comes.

Times: To our reporter, who visited the Arcata creamery recently, Manager C. F. Spencer stated that the creamery is daily using about 21,000 pounds of milk and producing about 925 pounds of butter. This amount represents the yield of 800 cows, owned by 73 different farmers located on the Arcata bottom and along Mad river as far up as the bridge. The cows average about 25 pounds of milk daily, which, if of good quality, will give four per cent butter-fat, or a value of about 20 cents for each cow daily. A new milk-tester will soon be put in with a capacity of 50 bottles instead of the 12-bottle one now in use, and will be one of the largest in the State.

Kern.

Californian: That five-year-old peach tree of George E. Brown's, growing near Poso, is 8½ inches in diameter near the butt, 15 feet span and 12 feet high. The fruit has been thinned out, or, rather, knocked off with a garden rake, there being no stepladder handy, so as to save the tree from breaking down with its load. But it is good for 700 pounds of ripe peaches for the World's Fair.

Lassen.

Lassen Mail: The fruit crop promises to be very abundant—the trees being literally loaded. In consequence of cutworms in vast numbers some uneasiness is felt by our gardeners who fear that garden "trucks" may suffer serious damage by this pest. We hope their fears are groundless.

Los Angeles.

Pomona Progress: The fruit-growers and buyers in general throughout the valley say that the apricot crop is going to be about the same as that of last year, and, with the increased price for the same, that they expect there will be more money brought to Pomona. The prospects of the prune crop have improved in the past thirty days. Pomona will not have so many prunes for sale this season as in 1890, when there were both immense crops and big prices, but the yield will be larger than last year and the year before. Several growers say that at \$50 a ton prunes will make lots of money for the growers this season. Peaches are reported by every one as a very large yield.

Marin.

Toosin: Certain sportsmen will petition the Board of Supervisors at their meeting next month for a radical change in the game laws. The main alteration desired is to have the open season for deer begin on July 1st and close, say September 1st. As the law now stands, it is so late when the killing of bucks becomes legal that they are unfit for human food. The change as proposed would be desirable all around. Certain slight changes in the quail law will also be asked.

Monterey.

Pajaronian: Pajaro cherries are being freely shipped to San Francisco and Eastern points. They are a first-class article this year. No cholera morbus germs find their way into Pajaro cherries.

Placer.

James E. Dodge, of Forest ranch, is engaged in a peculiar industry. He makes a business of gathering the roots and bulbs of wild flowers, which are so

plentiful in the hills and mountains of Placer county, transplanting the same to his place at Forest ranch and growing the same. He finds a ready sale for them from wholesale florists both in this country and in Europe, and last year his sales amounted to over 48,000 bulbs. He has now growing on his ranch, he estimates, fully half a million bulbs of many beautiful and rare wild California flowers. He remarks that the varieties of California wild flowers are almost boundless, and from among them florists have been able to propagate some of the most rare and beautiful flowers known.

Orange.

The honey crop of Orange county this year is valued at \$35,000.

Sacramento.

News: The California Fruit Union is shipping from three to five carloads of fruit to the Eastern market daily. The first shipment of peaches was from Vacaville on the 6th of June. They were sold in Chicago for \$1.65 for the ten-pound boxes. They were of the Early Alexander variety. The apricot crop is quite light, but the fruit is of unusual size and quality. Apricot sales in Chicago yesterday ran from \$1.75 to \$1.80 for half-crates, or what is termed 20-pound boxes.

San Bernardino.

Chino Champion: The heavy logs of the first of the week were a great assistance to the beet crop, especially on the upper lands. The beets on all parts of the ranch are growing rapidly and satisfactorily. Great, fine beets of three pounds and upward are being brought in, and on all the lower land a heavy tonnage is assured. Mr. Shone tells us that he expects to be able to supply the factory with mature beets about July 15th.

From the Redlands Leader we learn that the Alessandro Orange Grove and Fruit Company of Moreno has completed extensive improvements. The company has planted several hundred acres, and this year the number of trees set out has been as follows:

Washington Navels.....	10,343
Seedlings.....	2,238
Mediterranean Sweets.....	4,896
Malta Blooms.....	676
Valencias.....	500
Lemons.....	720

Total.....19,373

San Diego.

Banning Herald: Pierson's almond orchard has more than local fame. Last week he received an order for 8000 buds for Mr. Norwood, the experienced almond-grower of Cucamonga. Mr. Norwood has a large orchard, and has been in the business for a number of years, so his judgment is to be trusted. Mr. Pierson also received an order for 1000 buds for an orchardist in San Jacinto, T. T. Porteous.

In anticipation of high prices being demanded for lemons in the East during the hot summer months, the San Diego Land and Town Company have been quietly buying up the crop in Chula Vista and Sweetwater. The lemons have been stored in the curing-house and the stock now on hand exceeds 200 tons. The lemons have been cured by a new and very successful process, and will go to market in first-class condition.

San Luis Obispo.

Paso Robles Moon: George Tobey of Shandon was in town Tuesday, and, in conversation with the Moon man, said the grain yield in that district would be one-third greater than was expected at an earlier period of the season. Mr. Tobey says there will be an immense tonnage of grain hauled into Paso Robles, and that the roads will be badly cut up before the season is half over. We are happy to chronicle that the scarcity of rain in that great farming country will not cause a short crop.

San Miguel Courier: Last week we published an article showing that this region of country cannot be beat for its barley, and now we are in receipt of the largest wheat which has yet been brought to our notice. A sample of growing grain (White Australian) measuring over six feet in height is on exhibition at the Courier office. It is magnificently headed out and comes from Mr. Winchester's place, who informs us that he has much taller wheat on his ranch, but which is not quite as finely headed out.

Santa Clara.

The Los Gatos Cannery is in full blast, working at present about 130 hands. The output at the present time is 15,000 cans of cherries daily.

Shasta.

Articles of incorporation of the Mount Shasta Fruit Association of Anderson have been filed. The capital stock is \$10,000, in 2000 shares with a par value of \$5 each. The amount of stock subscribed was \$5000. The association anticipates shipping in the neighborhood of 75 to 100 cars to Eastern markets this season.

Siskiyou.

Yreka Union: The apple crop in Scott valley this year will surpass anything ever known before; every farmer takes an especial pride in viewing his orchard before breakfast. The fragrance of the trees, the prospect of a fine harvest, and the price thereof in his pocket, give him a healthy appetite as he sits down to his morning meal.

Solano.

Republican: Jack Oliver, who with a partner named Finney is farming the Estrella ranch near Paso Robles, a few days ago sent up to his father a bunch of wheat grown on his place, and of which he is justly proud, as he has 100 acres which is estimated to yield from 22 to 25 bushels to the acre.

Dixon Tribune: The water has receded so far that the tule farmers feel safe in beginning their plowing. Wm. Salmon will plant a large area of his farm, which was until recently covered with water, with Egyptian corn and a varied assortment of vegetables. He will undertake this merely as an experiment, but as there is a heavy deposit of sediment on the land, vegetables ought to thrive even during the dry season.

Sonoma.

Republican: Cherries are coming in in fair quantities. The Santa Rosa Packing Company consigned a number of shipments to San Francisco last week, and have done likewise this week.

Republican: While down in one of his fields last

Sunday, A. Faught discovered a den of young coyotes. He sent to the house and secured a spade with which he dug out the pests—seven in number. The county bounty on scalps makes this a very profitable day for Mr. Faught, and in time he will doubtless secure the State bounty, payment of which has been temporarily suspended.

Heldsburg Tribune: The Democrat made mention last week of a wonderful feat performed in cherry-picking in the vicinity of the City of Roses. The above-mentioned paper stated that this wonderful "freak of nature" had picked 280 pounds of cherries in 12 hours. On R. E. Lewis' ranch 315 pounds were picked in the same number of hours.

Tehama.

Corning Observer: All the trees and vines in the Maywood colony look remarkably well. Indeed, we never saw trees grow better. The trees and vines include every variety, and all are growing fast. Mossbacks and silurians are astonished at the growth.

Tulare.

Times: A stalk of club wheat was brought to the Times office to-day by W. A. Smith, who is farming Morg Bird's ranch out in the cottonwoods north of this city, that is a curiosity. When the stalk had reached a height of four feet from the ground, a head of wheat began to form and grow to a length of three inches. For some reason another growth followed, and at nine inches above the first head a second formed six inches in length.

Register: E. W. Bagby brought to the Register from his Tule river ranch to-day a box of fine, large dewberries, the first we have seen in this section. Mr. Bagby sent East for the roots last season, and the bushes are now bearing heavily. He says they bear better even than blackberries. From the new roots obtained he will set out a good-sized patch. Mr. Bagby has quite an area set to raspberries also, which bore heavily last year and which are now full of berries just turning ripe. He finds sale at good figures for all he can spare, and the buyer picks them. He could easily sell more if he had them.

Ventura.

The Venturian states that there have been planted in that county this season 60,000 apricot, 10,000 prune and 5000 orange and lemon trees.

Venturian: M. H. Mendelson states that, owing to the foggy and windy weather, he will not have more than half a crop of honey after all this season. On the other hand, those in the eastern part of the county report good prospects. H. C. Richardson, near Fillmore, will have upward of 100 tons, an excess of 20 tons over his largest production heretofore. Taking the county on the whole, there will be a good deal of honey produced and considerable money brought in from its sale. It ought to amount to at least \$50,000.

Yolo.

Mail: T. H. Ryder, one of our most observant fruit-growers, says that the Muscat grapes do not promise a very large crop. Some blight seems to have caused the young fruit to drop badly. The Sultanans are not heavily loaded. The prune trees, however, give promise of making a rich return. The apricot crop in this vicinity will go down in the loss column.

Democrat: Richard Piatt, who for 2½ years was superintendent of the Glorieta, Grenada and Victoria vineyards, otherwise known as the Briggs vineyards, was in this city the other day. He says the work of cultivation is all through and the vines are setting well. Mr. Piatt resigned his position several months ago, with the expectation of returning to Napa, but Mrs. Briggs has not yet selected his successor.

Winters Cor. to Democrat: The fruit-growers of Yolo and Solano are continually reaching out for new markets. Every year they invade new territory, and the general result in every instance has been beneficial. With reasonable rates of transportation there is not the slightest danger of overproduction. Ten thousand acres more of fruit trees in this immediate vicinity will not affect the market if the distribution is properly made.

Mail: J. Y. Dillon has just made a find which does not please him. He has discovered that some tramp caterpillars have made a lodgment on his prune trees, where they are foraging for free meals. Mr. Dillon thinks the eggs were deposited about two weeks ago. The caterpillars grow very rapidly. They live to eat, and the leaves soon crumble into lacework before their onslaught. The best remedy seems to be the heroic one of cutting off the infected branches and burning them. Look out for your prune trees and see that the caterpillars do not get the start of you.

WASHINGTON.

Yakima Herald: In the yard of J. R. Coe are two peach trees of the same variety and age, one of which has neither bud nor blossom on it, while the other is a solid bouquet of flowers. This seems characteristic of the peach crop in general of this section. Some orchards will have scarcely any peaches, while another orchard but a short distance

away will produce a fair crop. The early peaches are mainly killed, but there will be a good showing of lemon clingstones and like varieties.

Chelan Leader: Several thousand fruit trees are being planted along the Columbia in the vicinity of Troy and Orondo this spring. The section is unexcelled for fruit, and it will be only a matter of time until a large acreage along that river is devoted to fruit trees.

Ellensburg Capital: Tom Smith is a man of truth and veracity—a man whose word no one can doubt or gainsay. He dropped into the Capital office yesterday and proceeded to relate the wondrous growth of a vigorous hop vine in the prolific soil of Kittitas valley. "I never saw such growing weather," said he. "At my house there is a hop vine that measured six inches one morning, and in 24 hours by the town clock that vine had grown two feet, or an average of one inch an hour. The fact is, you could see it hop right out of the ground. It's going to take the whole house. It's the most prolific vine in the world. Last year it was a mass of hops measuring from two to three inches in length, and this year it will beat the record."

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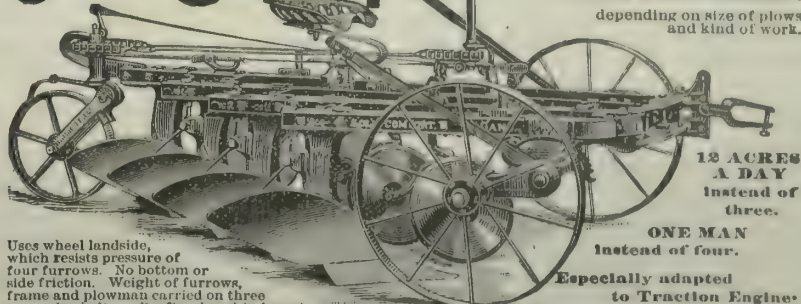
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PATRONS OF HUSBANDRY.

From Worthy Master Davis.

What is the matter with Brother Overhiser's, Huffmann's, Steele's, Coulter's, Webster's, Roache's, Goodenough's, Green's, McConnell's, Edw'd Thistles and the score of other patron's pens and pencils. Let us get the benefit of your wisdom fellow-patrons—too much silence is not for our good. Then, too, we all want to hear from Sisters Roache, Jones, Walton, Jackman, Overhiser, Brouse, Cross, Still and all their co-laborers.

The "Jute Bag" is again on deck, and the Prison Directors have appealed to the Warden, and he in turn to the Attorney-General of the State, to know what to do with the "Burlap Bag." He says, under the Ostrom Act, they must be sold to farmers—to actual consumers. Score one for Granger Ostrom.

Banks everywhere are going to pieces. What's the matter with the business world? Will a special session of Congress help affairs any? If so, for Heaven's sake give us some special session.

Brother John Trimble, the efficient Secretary of the National Grange, has thanks for a copy of a report giving full particulars of the absorption of the Farmer's Alliance of Texas by the Order of the Patrons of Husbandry of the Lone Star State.

Flora's Day is going to be thoroughly observed by many granges in California. The Master is sorry he cannot be with each grange that has been good enough to send him an invitation. But distance and time forbid that privilege. To one and to all he wishes a most successful meeting and hopes to know that much good for the order will follow these efforts of Worthy Flora.

Sebastopol Grange is preparing to give the State Grange a cordial welcome and a wholesome lunch. All patrons who attend the State Grange will be well cared for and will have one of the most enjoyable weeks of a lifetime.

The patrons of Sacramento county, will, no doubt, have the pleasure of listening to Prof. E. W. Hilgard, of the Agricultural Department of the State University, at their meeting to be held at Elk Grove on the 29th of July. Prof. Hilgard has just returned after a year's visit to Europe and no doubt will have many fresh notes on agricultural subjects. The farmers of the State ought to get more thoroughly interested in their agricultural college. They ought to know all about it; they ought to have not a little to say in its management; they ought to have a fuller representation of students at the college and of members in the Board of Regents. Many States have found it necessary to remove their agricultural college entirely away from their State University. Take it to another city. That question is being somewhat agitated in California now. How do you stand on the question? What do you know for or against the proposition? Let the farmers of the State hear from you on "Our Agricultural College."

Being a visitor at a flourishing town of California a few days since, where a live grange has done much to make the live town, and, as usual, saying good words for the granger, this very pointed question was asked: "What is there in it?" The person who directed the question is a thrifty farmer, one eligible to membership, a man who is liberal, thoughtful and progressive. The answer given was, "There are thousands of your kind of people there; people who buy and sell together; who advise together; who are learning to think and act together; who administer (intelligently) charity; who stand together for free schools; good churches; higher manhood and womanhood; purity in politics; lower rate of taxes and equally as good public service; who love America better than any land on earth; who believe agriculture both a science and an art; who care for their sick, bury their dead and educate orphans; who believe that man's grandest achievements and woman's greatest happiness come through sociability. That the farmers isolated life has done more than anything else to make him an easy prey for all avaricious organizations and that the grange has put a weapon of defense in his hands that is all powerful and always ready."

It is too bad that so many of our most intelligent farmers have to be told, times without number, that the grange has a history so full of worth. They fail to appreciate what has been done in the past, as they do its many possibilities for good in the future. It has not half done the work outlined by its founders, as promulgated in its declaration of purposes. It is a sorry but truthful fact, that so many of those who have long worked in the grange cause, are well worn with years. They have fought many a hard battle for the cause of agricul-

ture. Now they feel the work must be done by younger persons, while the elders will retain membership and liberally assist with the "sinews." Here is a field of unlimited usefulness for our young men and our young women. Will they occupy it? Will they fit themselves for all the civil duties of life? Will they bear their full share of the responsibility which comes with the advancing years? If so, no better opportunities are offered than come through the grange.

From Live Oak Grange.

TO THE EDITOR:—At the last meeting of North Butte Grange your suggestion with regard to selecting one of our number as correspondent to your valuable paper from our grange met with decided approval. Its choice fell upon one who has not long been a member of the grange, but I admire its principles and think it an excellent order working in the interests of every true farmer and laborer, hence I feel it not a task but a pleasure to write for our grange.

North Butte Grange is in a flourishing condition both socially and financially. It has about 70 members, and we hope to see many added. We hold two regular meetings every month, with a good average attendance. A few meetings ago a class of eight were added to our ranks. This was followed by a "harvest feast," to which all did ample justice. Visitors were present from surrounding Granges and an enjoyable time was had. Each one departed with kindly feelings for all granges and a desire to meet all again.

The trade-card system was introduced at our Grange some time ago, but up to this date very little has been said or done with the subject.

On the 23d day of last month our grange gave its first annual picnic at Thresher's Grove, one and one-half miles east of the town of Gridley, Butte county. Although we were disappointed in not having Bro. E. W. Davis visit us, as was expected, still his place was filled by able speakers, and the day was pleasantly spent in feasting, dancing and boating, and the first picnic given by North Butte Grange was voted a success by all present.

E. M. B.
Live Oak, Cal., June 14, 1893.

Flora's Day at New Hope

TO THE EDITOR:—The 3d of June was celebrated as Flora's Day by New Hope Grange. Besides a large attendance of our own members we had many visitors from Woodbridge Grange and a large number of our immediate neighbors not members of the order. The day was warm and the exercises—consisting of a musical and literary programme and a generous feast—were held in doors. In the evening a dance was held in the grange hall. All speak of the day as a great success.

We hold our meetings in a fine, new hall, which the grange rents. We have just treated ourselves with new table spreads, and our generous gatekeeper, Brother Fagg, presented us five handsome vases for the officers' table, which our generous members keep filled with choice flowers.

Some of our members would have liked much to have taken the Pomona degree at Lodi on the 1st of June, but several had previous engagements, so there was not enough ready to make up a class. I think by their next meeting they will be there. I believe we have two or three applications for membership.

The crops are looking fine, and we shall soon hear the harvesters in our grainfields, as it is most harvest time. The order of the day now, is digging potatoes and planting beans. We have had more than our usual amount of wind this year, which is blowing off considerable fruit from the trees.

CARRIE CARLETON.

New Hope, June 17, 1893.

From San Antonio Grange.

TO THE EDITOR:—San Antonio Grange decided some time ago to celebrate Flora's and Children's Day together, and as there was a class ready to take the fourth degree it was thought advisable to make the occasion a harvest feast as well.

It was exceedingly hot and no one cared for a picnic, so after a short business session, during which the grange conferred the third and fourth degrees on the class, the doors were thrown open to the visitors. A short but interesting program had been prepared for the evening. After the Worthy Master's address, Worthy Flora, Miss Loretta Grayson, read an essay on flowers. There were also recitations and songs by the children, and some other exercises.

The hall was then cleared and dancing commenced. This was kept up till supper was served. Every granger knows what a harvest feast is, so it is needless to mention

the good things we had. After supper dancing was resumed and kept up till daylight. All went home feeling that they had spent a delightful evening.

E. R. S.
San Antonio, June 17, 1893.

How To Build a Grange Temple.

TO THE EDITOR:—In the RURAL PRESS of June 10th a letter appears from Leonard Rhone, of the Executive Committee of the National Grange, giving his views of how money should be obtained to build a grange temple. He also criticised my motives in writing the article which appeared in the PRESS of May 6th. In answer to this will say, in the many articles I have written for newspapers I have never assailed the motives or character of those with whom I differed and shall not in this instance, although the provocation is great. In a recent published communication Mr. Rhone says: "I have read with interest the newspaper clippings of Mr. Adams. Whether the gentleman in question is a patron or not I am not prepared to say." Possibly he does not know, but within thirty-five days I received a letter from him, on purely grange business, the heading of which was "Mr. Adams, my dear sir and brother," and closing with the declaration that "I would be glad to hear from you again." That Mr. Rhone may be able to identify me hereafter in his published communications I will say I have been a patron in good standing nearly twenty-one years; have been three years master of subordinate granges; six years Secretary of the State Grange of California; one of the editors of the *California Patron*, the grange organ, for four years—had the editorial and financial management of it for nearly two years, and was urgently requested by the Executive Committee to continue in the editorial management of it, offering as an inducement a largely increased salary; and am now a member of and correspondent of San Jose Grange.

Hoping to have established my identity as a patron to Mr. Rhone's satisfaction will say there is no difference between us in regard to the propriety and necessity of a grange temple, the issue is how best to procure money to build it with. I believe that the fifty or more thousand dollars belonging to the National Grange should be used for that purpose, and if more is necessary to call on granges to make up the deficit. Such a course would insure confidence among grangers, which the plan of Mr. Rhone has not, as I will presently show. He knows, and the whole grange fraternity know, that a resolution passed to build a temple at one session can be rescinded at the next, and until the National Grange takes some business-like action a constant feeling of uncertainty will exist. This feeling is evidenced by the fact that two years have elapsed since the question of a grange temple was brought before the National Grange, and up to the last session of the N. G. not a dollar had been collected and paid to the National Grange under the plan advocated by Mr. Rhone notwithstanding the Executive Committee in their report to the last session said that "considerable progress had been made in securing funds necessary to be raised."

A very important question presents itself to the mind of every patron. Why call on patrons for donations to the amount of \$30,000 or \$50,000 while they, or we, the patrons have \$50,000 on hand that cannot possibly be used for a better purpose than to build a temple with?

Mr. Rhone's plan is for patrons to contribute outside of their dues to the subordinate granges some \$30,000. I quote from his letter: "Besides the sums asked for are so small that they should not be considered a hardship by any patron, but are made small intentionally, so as to enable every man, woman and child in the grange to have a voice (?) and interest in the temple of our organization. After every member throughout the United States is interested by small contributions there are patrons of means who are willing to give liberally." This quotation is decidedly refreshing. "The sums asked for are made small intentionally, so it would not be worth while to be considered a hardship." The condescension of those asking contributions in limiting each one's donation should certainly be a taking card. "After every man, woman and child in the United States are interested by small contributions there are patrons with means who are willing to give liberally." The wealthy patrons attaching such conditions must know that they will never be fulfilled, hence will never be called upon to part with any of their wealth.

Shame on those "patrons of means," who will hold back from their abundance till the poor and oftentimes poverty-stricken patrons, who can hardly clothe and feed their families, have first contributed from their hard earn-

ings. It is those false hopes; it is this kind of bosh that is so often doled out to grangers that is doing the order more injury than any other one cause that can be named, and here I quote and adopt a golden sentiment recently uttered and put into print by the Master of the California State Grange, Brother E. W. Davis. He says: "It won't do to preach grange and not practice grange. No one is more sure of discovering a neighbor's insincerity than the farmer. Let us show by our words and works that we love the grange, that we mean business, and that to say is to do." I commend this sentiment to the National Grange.

I quote again from Mr. Rhone. He says: "Mr. Adams would leave the public under the impression by his article that the National Grange was promoting this project for the purpose of making a collecting agency out of the subordinate granges, so that the patrons might be fleeced by a systematic effort, which is wholly unwarrantable and is a reflection on the National Grange." The fleecing part I deny, the language of my article will not bear such a construction.

But, I ask Mr. Rhone to read his own article, and then imagine that some one, other than Leonard Rhone, had written it, and then tell the public if he does not think the author of the article I quote from is not guilty of the charge he so flippantly makes against me. If the grouping together of contradictory and meaningless resolutions is a reflection on the National Grange so much the worse for the National Grange.

Mr. Rhone says: "I do not think it would be good policy for the National Grange to hastily select a site and invest money before there is a proper response from the patrons of the country." Who are the parties to determine when we have contributed enough to have it considered "a proper response?" I think a two years' trial of collecting money by voluntary contribution to do what we have an abundance of money on hand to do, and without any visible success, should convince any reasonable mind that the only enthusiasm that can be created will be in the passage of more resolutions. Fear not, Brother Rhone, no one who has read the proceedings of the National Grange on this subject will think for one moment that it will "act hastily in the matter," if they do at all, and from present appearances the grangers will not act hastily in contributions till some of the money they have on deposit and under the control of the National Grange is expended towards building a temple.

In conclusion I have this to say to the Executive Committee: I would take pleasure in contributing to a fund to pay the rent of a decent office for our venerable secretary, John Trimble, one of God's noblemen, who has for years (and I presume is now, for I have not heard otherwise) been kept in a dark, dank, ramshackle basement, called the secretary's office—the headquarters of an order of the noblest of mankind, the tillers of the soil. Shame on such parsimony! I think if the National Grange had appropriated a thousand dollars in fitting up grange headquarters instead of fitting up rooms at the World's Fair, that "wealthy patrons" might enjoy a brief period in, would have promoted the good of the order to a far greater extent. Another suggestion, I believe biennial sessions of the National Grange would meet all the requirements of the order, besides a saving of five or six thousand dollars per year, and then again, once a year is too often to be told what hasn't been done.

AMOS ADAMS.

From Watsonville.

Sarah G. Cromarty, Secretary of Watsonville Grange, writes to the State Secretary giving an interesting report of a picnic held by that grange on the 3d of June at Chittenden's Grove. It was an old-fashioned May party with swings and outdoor games, a basket lunch, with procession of children, etc. Later there were exercises of a musical and literary character. The day was pronounced a very great success. Among those present were many visitors, including representatives from Hollister Grange.

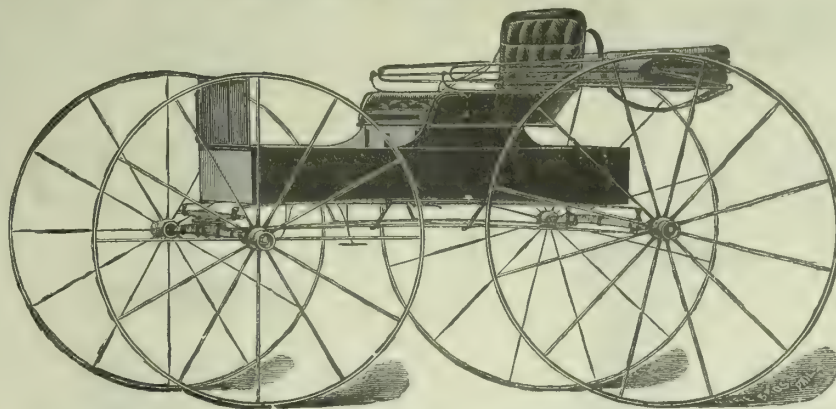
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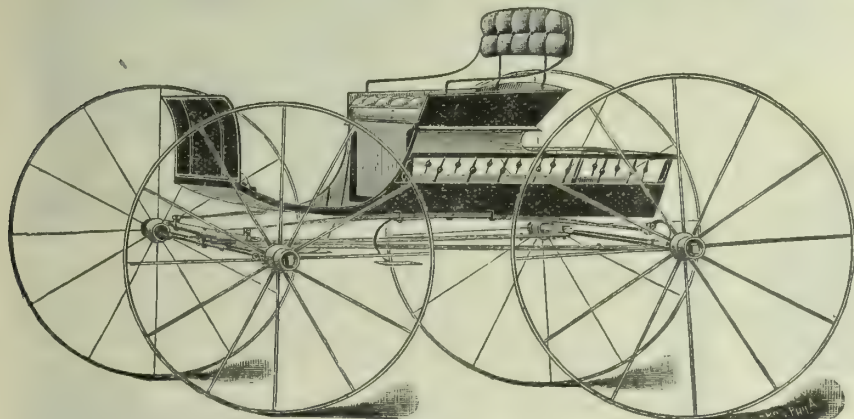
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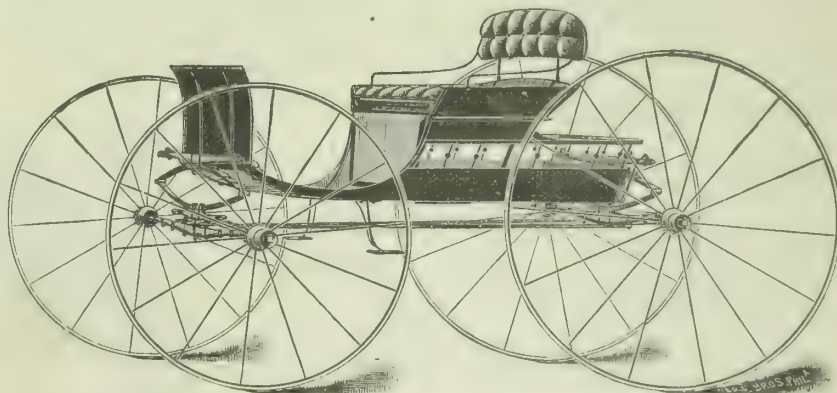


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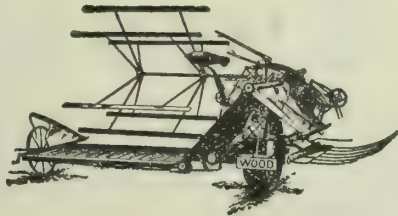
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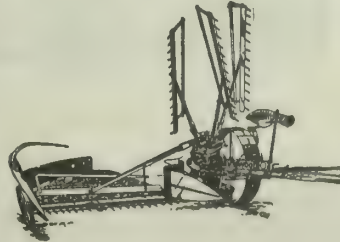
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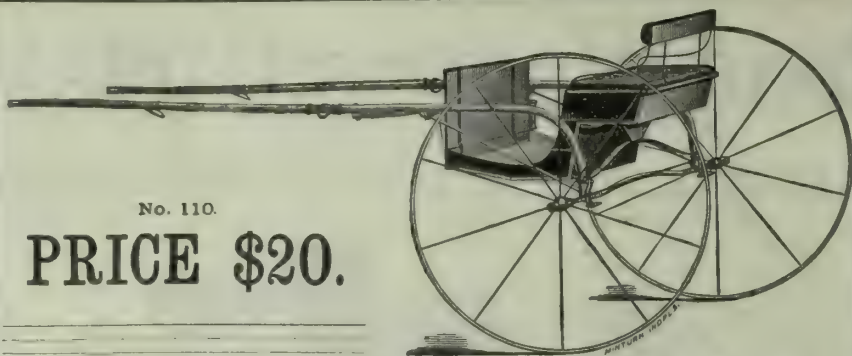
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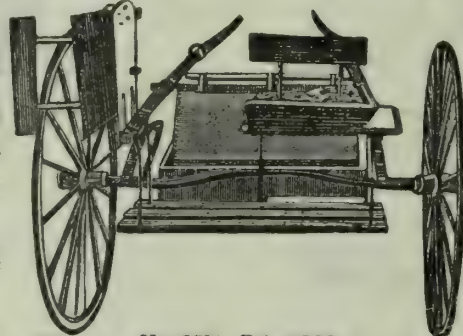
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S. H. MARKET REPORT

Market Review.

SAN FRANCISCO, June 21, 1893.

The local wheat market has been an uneventful one during the week, sharing in the general dullness that pervades the markets in the East and abroad. Sales are very much limited, and the trade generally seems to have fallen into a chronic condition of inaction. The backbone is entirely gone from the bulls, otherwise they might be able to look forward with more hopefulness to a situation that properly invites some share of encouragement. The depressing influences continue to be the precarious condition of the money market and an exaggerated notion of the supplies of old-stock wheat in the United States. The situation presents many curious phases. In the last 20 weeks, covering a period since the visible supply of wheat in this country reached a maximum point, there has been reduction of but 13,065,000 bushels in public warehouse (visible supply) stocks. But this does not afford a reliable measure of the reduction in supplies in the country. The domestic consumption otherwise than for seedling has been about 120,000,000; there have been used for planting the spring crop about 18,000,000 bushels. There have been exported 52,000,000 bushels, in grain and flour, making an aggregate distribution or reduction of supplies amounting to 190,000,000 bushels. This means that while warehouse stocks have contributed 13,500,000 bushels in the past 20 weeks, the invisible supplies have been drawn upon to the extent of 176,500,000 bushels. And this means that trade calculations and sentiment are far too much based on "visible" stocks, instead of compassing the changes in the entire field of resources. That is to say, the "visible" supply of wheat in this country seems altogether too prominent an influence in controlling the price. No account whatever seems to be taken of the stocks in farmers' hands—in other words, the large portion of the real quantity of wheat in the country—but the aggregate in warehouses and elevators (replenished from week to week by drafts upon farmers and first holders, and maintained at a figure that shows small change from week to week) is erroneously regarded as an exact index of the real residue of grain in the United States. The "visible" supply of wheat is the handle speculators and grain gamblers use to control the market. Aided powerfully by the severe financial situation, they have been able to depress the price of cash wheat to a minimum not before known for 40 years.

In support of the statement that actual conditions are encouraging, it is necessary to point out that the government crop report—an entirely impartial and generally reliable authority—indicates that the crop of 1893 will be about 400,000,000 bushels, or a shortage from the crop of 1892 of 116,000,000 bushels. Stocks of wheat in Europe and afloat, June 1st, according to *Bradstreet's*, were 78,088,000 bushels, against 78,496,000 a year ago, a slight reduction. As we have before stated, the real source of supply in the United States has been heavily reduced during the past twenty weeks. The European crop will be about average, and Australia, India, and South America are not contributing more than usual to the world's supplies. These conditions ought to bring about a favorable change in the situation. The stagnation, low price, and loss of confidence in wheat are, in our judgment, not warranted by the facts.

It is interesting to notice the present condition of the market in Chicago and to give an account of recent operations there. The immediate cause of the panic was the "runs" on the saving banks. After several days of heavy selling there was a partial restoration of confidence, and finally there was such improvement that the banks were ready to loan money freely to the proper parties, and money to carry at least 5,000,000 bushels of Chicago wheat was promised by leading banks. Before this change of attitude by the banks, wheat had been continually weakening until the price had reached the lowest figure ever recorded, and the big holders were naturally greatly pleased when it again became possible to borrow money freely. Eggleston, Seaverns, Counselman, Cudahy, and other owners of wheat took fresh courage, and they became more bullish on the general situation. It appears that when the financial stringency became greatest the banks called in money loaned on wheat to men not connected with the clique. This was what caused the recent big sales and put the price below 70 cents. In addition to this the largest carriers of wheat were refused renewal of loans by the banks, and the bankers advised them to sell the wheat and ship it out. This helped to cause heavy liquidation, and the price fell so low that large amounts were exported. Of course a visible supply of 70,000,000 bushels of wheat in the month of June is a strong bear argument, but the price is so extraordinarily low that it is a safer collateral than any commercial paper ever made. Still there are many who predict that wheat will yet sell at 60 cents, and there are far more bears than bulls. The immense stocks held here and in the west and the probability that many banks will refuse to renew loans July 1st, are arguments that have much power. Men who own wheat that cost them much more than it would sell for to-day are naturally anxious to sell at a profit.

Wheat Prospects in the West.

Reports of wheat in the Middle West and Northwest to the *Farmers' Review*, Chicago, June 14th, are: "The condition of winter wheat has improved greatly in the last few days, but will fall far short of a good crop. In Illinois the improvement is very noticeable, but so much of the area of wheat has been destroyed that some counties will get little benefit from the improvement. Some correspondents report that nine-tenths of the wheat acreage in their localities has been abandoned. The improvement has continued in Indiana and Ohio. In the latter State the outlook is good. Little change is seen in the condition of wheat in Michigan, but in Kentucky the improvement is marked, and a good crop is assured. In Missouri, Kansas and Nebraska conditions are still adverse, though there has been improvement in some localities. Iowa and Wisconsin promise a comparatively good yield."

Situation in California.

In California reports continue to be more encouraging, and the prospect is now that there will

be nearer a normal crop than could have been expected a month or more since. In the upper San Joaquin, crop prospects are almost uniformly excellent. In the Sacramento valley, general improvement over recent conditions is noted, though the shortage in this section will be large.

European Crops.

A summary of *Beerbohm's* report, June 2d, indicates that the European crop is in the following condition:

England—Favorable.
France—Various and uncertain.
Belgium and Holland—Favorable, but general cry for more rain in Holland.
Germany—Better than recently noted.
Austria-Hungary—Average.
Italy—Probably large deficit.
Spain—Improved.
Roumania—Backward.
Russia—General improvement.

Other Grains.

Not much is going on in the barley market, though it would seem that conditions justify more activity. The export trade is of fairly good volume, while the sample market manifests much quiet. The new crop promises to be of such dimensions that trade is now carried on with some difficulty, and since it began to come in, prices have been gradually settling to a lower basis—for feed. Dealers say they do not look for much improvement in the near future.

Oats are fairly well maintained though business is dull. Sellers do not manifest a disposition to offer lower prices to effect sales, and trade has been almost altogether nominal.

Stocks of corn are abundant, and there is little or no life in the trade.

Citrus Fruits.

The quantity of oranges still left in California is not large and it will not be long before the close of the season. Oranges remaining are mostly Australian Navel, St. Michaels and Mediterranean Sweets. Shipments of mixed lots are going forward, which are in general rather difficult to market to advantage. For a consignment of Mediterranean Sweets from Duarte, sent to England recently, very low prices were received. A Liverpool fruit circular states that for some unaccountable reason California oranges appear to have lost favor, bringing low prices, while other descriptions command full rates.

There is a fair local supply of domestic lemons, and good prices are realized. Sicilies are not in the market. Mexican limes are in abundant supply. The arrivals of oranges are still free and prices range about the same.

Other Fruits.

Canners are in the market and are taking considerable quantities of cherries at prices ranging from 10c per pound for common white to 30c for Royal Anne. Supplies are free and the surplus disposed to canners keeps the retail market in good tone. Shipments of cherries to the East go forward rapidly. Prices in Chicago yesterday ranged from 85c for Rockports to \$1.10 for Black Tartarian. These prices are slightly lower than a year ago. Berries of all kinds are coming in with freedom, and find good demand. Longworth strawberries especially meet ready sale. Peaches do not find ready demand, because some fault is yet found with the quality. Still they make a good showing in the various stalls about town and they seem to be disposed of without great difficulty. Currants range higher. Green pears are neglected. Apricots are in good supply and the demand is good. No price has yet been fixed for apricots in bulk, but \$40 per ton has been offered in San Jose and higher figures are reported elsewhere. It seems likely that still better figures may be realized, owing to the light crop, though the hard times make the future of this, as well as other fruits, a matter of uncertainty. Blackberries of good quality are in the local market and sell well.

Vegetables.

While the range of prices in potatoes is lower than prevailed two months since, the market maintains its elements of strength, and will likely remain in the same condition for some time to come. The range of prices is higher than a year ago this time. Tomatoes are scarce and are disposed of readily at good figures. Corn makes a good showing with a wide range of prices. Silver-skin onions do not come in heavily, and prices are well maintained. Several boxes of green okra have been received, the asking price being 50 cents per pound. The whole list of vegetables is in good supply and the demand is satisfactory.

Provisions.

An expert has estimated that the losses of young pigs in the United States this year is about 12 per cent greater than last year, when the deficit was heavy. The pork market is quite steady, and it will not be surprising if there is an advance in the Chicago market even over present high prices. It is said that supplies are largely in the hands of a bull clique, which proposes to take advantage of the situation and force buyers to their terms. Speaking of the situation, the *Cincinnati Price Current* of June 14th has this to say: "There is still lacking the evidence of other than a continuous deficiency of considerable proportions. There is not much enlargement in the distribution of the product, although a fair volume of business is shown, with reasonable ground for anticipating more activity in the near future. So far as can be judged, general surroundings favor maintenance or improvement."

Butter and Cheese.

California pickled and keg butters show some improvement, but, generally speaking, the market remains in about the same condition from week to week. Consignments continue quite free and prevent advance that usually takes place about this time. Dealers say the range of prices generally ought to be three or four cents higher. At the same time, comparison with last year's figures shows that they are just about the same.

Cheese is weak, receipts being abundant.

Poultry and Eggs.

Poultry prices have shown a sharp decline in some lines during the week. The reason is found almost entirely in the quality of consignments. Dealers complain that fowls are largely infested with vermin,

The Judson Fruit Company,

308 and 310
WASHINGTON STREET
San Francisco, Cal.

and they are beginning to find it difficult to make sales. There is excellent demand for choice poultry. A carload of Eastern was expected to-day. It was expected to be choice, and therefore to be preferred to much of the home product.

Eggs have shown more improvement during the week than for some time. Top price for choice ranch is now 24 cents. The reason for the advance is largely restricted arrivals both of the home product and Eastern. The Eastern market is generally in good condition, and dealers do not find it necessary to send surplus stocks to the Pacific Coast.

Miscellaneous.

The wool market shows no change. Trade is nominal.

Hops are still dull, and there is no trade. Hay shows a fair trade movement in both old and new stocks, and there is little difficulty in realizing quoted prices.

Receipts of honey are somewhat free, and 6 cents is the outside price for extracted. There are yet no reliable data of the volume of this year's output.

Visible Supply of Grain.

NEW YORK, June 19.—The visible supply of grain is as follows: Wheat, 66,376,000 bushels, a decrease of 2,286,000 bushels; corn, 8,185,000 bushels, an increase of 600,000; oats, 3,831,000 bushels, an increase of 800,000; rye, 526,000 bushels, a decrease of 67,000; barley, 427,000 bushels, an increase of 51,000.

British Grain Trade.

LONDON, June 19.—The *Mark Lane Express* says: "In the south of England wheat is thin and the plant short. In eastern counties the large area gives promise of excellent production. In middle and western counties a full yield will be impossible. In Scotland wheat is forward and promises well. The price of English wheat is unchanged. Foreign wheat declined 6d per quarter in 38 out of 60 markets."

California Products in New York.

NEW YORK, June 18.—In canned fruits the market was dull and weak. The invoices due by sail, when computed in the supply, are heavy enough to add to the depression. They certainly exceed what has been taken from our accumulation.

Peaches—Were offered at lower figures. Prunes—The demand was unusually light, even for summer, and there were many weak spots in the market. Fair-sized lines of four sizes, spot sacks, were quoted at 7c; boxes at 8c.

Unpeeled Evaporated Peaches—Quoted at 8@8½c. The latter figure was paid for half a carload of strictly fine quality.

Raisins—There has been some further Western demand for bags, but not much local trade. Bags are quoted at 4@5c for two and three crowns. All boxes are neglected.

Apricots—Scarce; new were offered at 11c for early July shipment, free on board.

Cherries—Arrived in poor order and a few marks sold profitably. Porter Bros. range of prices for inferior qualities were 10c to 15c per box.

Fair to Best—\$1.30 to \$2.45, Royal Ann and Bigareau making the best prices. Goodsell's cars were in irregular condition and the poorest cherries sold at 40c to 95c per box. Others ranged at \$1 to \$2.

Apricots—Brugle, 55c per box; half-crates, 80c to \$1.20. Segobal and Rays, 80c per box; others, \$1.05 to \$2.95 for half-crates. Royal Ann and Black Tartarian cherries led the trade here. Other varieties do not exceed the quality of Eastern pickings, and as the trade in this tender fruit is always fitful, common sorts have to go to the cheapest distributors.

Oranges—Recent natives are in good condition. As a matter of record 50 boxes of Florida sold at \$1.35 to \$1.80 per box. This is a month later than ever before.

Wool—There is no sign of an early revival of business. Boston did a little better, but it is useless to attempt to name a straight price at any point, as considerable old wool is yet recorded in the sales. New wool is being consigned on storing orders and limited above what would now be paid. Speculators may be said to be looking on, but in the present congested condition of affairs they cannot expect the full bank accommodations of more settled times.

Sales at New York, 298,000 lbs. domestic, including 71,000 lbs. spring California of quality A at 20c; also, 202,000 lbs. foreign at the same figure.

Sales at Boston—1,003,900 lbs. domestic, including 61,200 lbs. spring California at 18@17c, and 324,500 lbs. foreign, of which 74,000 lbs. were Australian.

Philadelphia reports a quiet market, with bids of 16@18c for unwashed.

Honey—Offered freely at 5½c, free on board.

Beeswax—Choice California, 27c.

Lima Beans—There is a small demand for bright, clean lots at \$2.20. Plenty of others are to be had at \$2.10.

Hides—Scarcely any trade is expected in foreign; 27,023 lbs. dry California sold on private terms at the nominal price of 12c.

Hops—The steady exportation, which absorbs most of the current receipts, keeps down the accumulations, and the tone of the spot market is stronger for choice grades. Some fancy State and Pacific are held at 22½c; the general range is 18@22c. The English and German markets promise a good future. The exports for the week were 1,063 bales.

California Fruits in the East.

CHICAGO, June 20.—The Porter Brothers' Company sold to-day at auction, for account of California Fruit Union shippers, two cars of fruit at the following prices: Tartarian cherries, 50c@\$.10; Royal Ann cherries, \$1@1.25; Seedling apricots, \$1.15@1.75; Royal apricots, \$1.70@2.30; Alexander peaches, \$1.50@1.65. The two cars sold gross for \$3366.

CHICAGO, June 20.—The Earl Fruit Company sold to-day at auction, realizing the following prices: Cherries—Tartarian, \$1@1.35; Bigareau, \$1.10@1.15; Rockport, 85c. Private sale—Oranges—Seedling, \$2@2.60; Mediterranean Sweets, \$2.75@3.50. The weather is very hot and muggy.

NEW YORK, June 20.—Earl Fruit Company sold two cars of California fruit at auction for which they realized the following prices: Royal Ann cherries, \$1.55; Alexander peaches, \$1.70; Cherry plums, \$2.30; Seedling apricots, \$2.65@2.95; Royal apricots, \$2.75@3.05.

The Earl Fruit Company sold to-day: Royal apricots, \$2.55; Seedling apricots, \$2.50; Alexander peaches

(Continued on next page.)

— We are now better than ever prepared to receive consignments of all kinds of perishable products, such as Fruits, Vegetables, Eggs, etc. Our facilities for cool, dry storage and packing for long-distance shipping cannot be excelled. It is our constant aim to make our consignors and our customers stay with us.

HORSE COLLARS
—AND—
SADDLERY GOODS.

Davis & Son's Horse Collars are not filled with Self-Pulverizing Cork.

The U. S. Inspector of Harness Supplies and Horse Collars selected Davis & Son's make—both harness and collars. And so will all persons who want a solid, broad-faced, smooth collar which does not pinch the neck nor roll about unsteadily for three months before it settles down to a fitting shape or set squarely back on the shoulder. If you want a collar not stuffed with wads buy our collars, as all other makes on this coast are wad collars. All wad stuffed collars flatten down in a short time so that a sweat collar is needed to protect the horse from the wads or ropes of straw. Davis & Son's Collars are all put under a powerful shaper or press before finished, which solidifies them into a perfect shape, which allows the collar to set with its whole face against the shoulder. When a wad-stuffed collar is brought under this force it shows the old wad-stuffed collar to be merely a Puff Ball. Send or bring in to our factory in this city any collar and see this done, and see what a Pan Cake you have been selling to the people for collars. Our Boston Team long straw collars have no wads. The Rod of our Great Machine is supplied with small teeth on its lower surface like a fine saw. It picks up and carries with it as it flies through the straw a long straw in each tooth, all of which are deposited in the collar, one behind the other, with more precision and regularity than human skill could ever accomplish, thus avoiding all lumps and wads, not even two straws crossing each other.

HAME ROOM.

No Collars on this Coast or elsewhere have as good Hame Room as the Davis & Son's Collar.

410 Market St., San Francisco.

San Quentin Jute Mill Grain Bags for Sale.

I am authorized by the State Board of Prison Directors to offer for sale any portion of one million jute bags of the above manufacture at \$57.29 3-10 per thousand, delivered at Jackson-street wharf, San Francisco. Orders for bags must be accompanied by an affidavit signed before a Notary Public or Justice of the Peace, setting forth the number of bags required, and that they are for individual and personal use of the applicant. Ten per cent of the purchase price must accompany each order, the remainder to be paid upon the order for delivery of the goods. Upon application, the undersigned will forward blank order sheet and affidavit.

Address all communications to W. E. HALE, Warden.

DIVIDEND NOTICE.

SAN FRANCISCO SAVINGS UNION,
526 California Street, corner Sansome.
Branch, 1700 Market Street, corner Polk.

For the half year ending with 30th of June, 1893, a dividend has been declared at the rate of five (5) per cent per annum on Term Deposits and four and one-sixth (4 1/6) per cent per annum on Ordinary Deposits, free of taxes, payable on and after Saturday, 1st of July, 1893.

LOVELL WHITE, Cashier.

DIVIDEND NOTICE.

THE GERMAN SAVINGS & LOAN SOCIETY
526 California Street.

For the half year ending June 30, 1893, a dividend has been declared at the rate of five and one-tenth (5 1/10) per cent per annum on Term Deposits, and four and one-quarter (4 1/4) per cent per annum on Ordinary Deposits, payable on and after Saturday, July 1, 1893.

GEO. TOURNAY, Secretary.

STOCK SCALES

4 TON \$45.

U.S. STANDARD. FULLY WARRANTED.

Delivered at your R.R. Station and ample time for building and testing allowed before acceptance.

OSGOOD & THOMPSON, Binghamton, N.Y.

PORTABLE PLATFORM SCALES, TRUCKS, ETC.

Twenty-five per cent cheaper than any other on the market. Send for Catalogue.

C. H. LINDEMANN, Agent,

126 KEARNY STREET, SAN FRANCISCO.

The Markets.

(Continued from preceding page.)

\$2.40; Royal Ann cherries, \$2.50; Cherry plums (half boxes), \$1.15.
 Chicago, June 20.—There is considerable doing in the line of green fruits. A number of cars were offered at auction to-day. From store trading is at the following prices: Cherries, 10-lb box, \$1.25@1.50; soft order, 30@75c; apricots, crates of four boxes, choice, \$1.75@2; fancy, \$2.25@2.50; peaches, 20-lb box, \$1.50@1.75; Cherry plums, cases of four baskets, \$2. Onions were in fair demand and steady, California red, 110-lb sack, \$2@2.25; yellow, \$2.25.

Grain Futures.

Liverpool.

The following are the closing prices paid for wheat options per cwt. for the past week:

	June	July	Aug.	Sept.	Oct.	Nov.
Thursday	56 3/4	56 3/4	56 3/4	56 1/2	56 1/2	56 1/2
Friday	56 3/4	56 3/4	56 3/4	56 1/2	56 1/2	56 1/2
Saturday	56 3/4	56 3/4	56 3/4	56 1/2	56 1/2	56 1/2
Sunday	56 3/4	56 3/4	56 3/4	56 1/2	56 1/2	56 1/2
Monday	56 3/4	56 3/4	56 3/4	56 1/2	56 1/2	56 1/2
Tuesday	56 3/4	56 3/4	56 3/4	56 1/2	56 1/2	56 1/2

The following are the prices for California carcases for off coast, nearly due and prompt shipments for the past week:

	O. C.	P. S.	N. D.	Market for P. S.
Thursday	29 3/4	30 3/4	29 3/4	29 3/4
Friday	29 3/4	30 3/4	29 3/4	29 3/4
Saturday	29 3/4	30 3/4	29 3/4	29 3/4
Sunday	29 3/4	30 3/4	29 3/4	29 3/4
Monday	29 3/4	30 3/4	29 3/4	29 3/4
Tuesday	29 3/4	30 3/4	29 3/4	29 3/4

To-day's cablegram is as follows:
 LIVERPOOL, June 21.—Wheat Rather easier. California's spot lots, 56 1/2; off coast, 29 3/4; just shipped, 31 1/2; nearly due, 29 3/4; cargoes off coast very quiet; on passage, weaker; Mark Lane wheat, easier; French country markets, quiet; wheat in Paris, quiet.

Eastern Markets.

The following shows the closing prices per bushel of wheat for the past week at

New York.

Day	June	July	Aug.	Dec.
Thursday	71 1/2	71 1/2	71 1/2	71 1/2
Friday	71 1/2	71 1/2	71 1/2	71 1/2
Saturday	71 1/2	71 1/2	71 1/2	71 1/2
Sunday	71 1/2	71 1/2	71 1/2	71 1/2
Monday	71 1/2	71 1/2	71 1/2	71 1/2
Tuesday	71 1/2	71 1/2	71 1/2	71 1/2

The following is to-day's telegram—per bushel:
 NEW YORK, June 21.—July, 72c; Aug., 74c; Sept., 77c; Dec., 82c.

Chicago.

Day	June	July	Aug.	Dec.
Thursday	65 1/2	70 1/2	75 1/2	75 1/2
Friday	65 1/2	70 1/2	75 1/2	75 1/2
Saturday	65 1/2	70 1/2	75 1/2	75 1/2
Sunday	65 1/2	70 1/2	75 1/2	75 1/2
Monday	65 1/2	70 1/2	75 1/2	75 1/2
Tuesday	65 1/2	70 1/2	75 1/2	75 1/2

The following is to-day's telegram—per bushel:
 CHICAGO, June 21.—June, 64c; July, 66c; Sept., 70c; Dec., 75c.

Local Markets.

WHEAT.

	May	Dec.
Thursday, highest	1 34	1 34
"lowest	1 34	1 34
Friday, highest	1 37	1 36
"lowest	1 36	1 36
Saturday, highest	1 36	1 36
"lowest	1 36	1 36
Monday, highest	1 36	1 36
"lowest	1 36	1 36
Tuesday, highest	1 36	1 36
"lowest	1 36	1 36

The following are to-day's recorded sales on Call:
 Wheat—Morning—Informal Session: December—100 tons, \$1.34; 100, \$1.34; 600, \$1.34 cwt. Regular Session: December—600 tons, \$1.34; 600, \$1.34; 100, \$1.34; 1300, \$1.34; 200, \$1.34. Sell 1893, new—100 tons, \$1.24; 100, \$1.24 cwt. Afternoon Session—Seller 1893, new—100 tons, \$1.23; 100, \$1.23. December—100 tons, \$1.33; 2000, \$1.33 cwt.

BARLEY.

	New	Dec.
Thursday, highest	84 1/2	84 1/2
"lowest	83 1/2	83 1/2
Friday, highest	84 1/2	84 1/2
"lowest	84 1/2	84 1/2
Saturday, highest	83 1/2	83 1/2
"lowest	83 1/2	83 1/2
Monday, highest	83 1/2	83 1/2
"lowest	83 1/2	83 1/2
Tuesday, highest	83 1/2	83 1/2
"lowest	83 1/2	83 1/2

The following are to-day's recorded sales on Call:
 Barley—Informal Session—Seller 1893, new—100 tons, \$2c; December—200 tons, 91c cwt. Regular Session: Spot—100 tons, 79c; July, new—100 tons, 82c; December—200 tons, 90c; 300, 91c; 300, 90c. Seller 1893, new—100 tons, 82c cwt. Afternoon Session—Seller 1893, new—100 tons, 82c; 300, 81c; December—100 tons, 90c; 300, 90c; 1200, 90c cwt.

Fruits and Vegetables.

Choice selected, in good packages, fetch an advance on the quotations, while very poor grades sell at the lower quotations.

	June 21, 1893.
Strawberries, chest	Longworth, 60 @ 15 00
Sharpless, 5 @ 8 00	
Gouseberries, lb	24 @ 5
Raspberries—	
chest, 6 @ 9 00	
Blackberries, 8 @ 10 00	
Cherries, box	25 @ 50
Royal Ann, 50 @	
White, 25 @ 40	
Limes, Mex, 4 @ 4 50	
Do Cal, 75 @ 1 00	
Lemons, box, 1 50 @ 3 00	
Do Santa Fe, 4 @ 50	
Do Sicily choice, 4 50 @ 5 50	
Oranges, pr bx	
Navel, River de, 2 50 @ 3 00	
Seedling, River de, 1 25 @ 1 50	
Do Fresno, 1 25 @ 1 50	
Green Apple, 4 @ 50	
Currants, chest, 3 50 @ 5 00	
Apricots, box	
Prengle, 40 @ 85	
Royal, 1 @ 1 25	
Cherry Plums, 50 @ 65	
Pears, basket, 15 @ 25	
Peaches, box, 50 @ 75	

Live Stock.

	BEEF.	MUTTON.
Stall fed, 6 @	Wethers, 6 @	
Grass fed, extra, 6 @	Ewes, 6 @	
First quality, 5 @ 6		
Second quality, 5 @ 5 1/2		
Third quality, 4 @ 4 1/2		
Bulls and thin cows, 2 @		
VEAL.		
Range, heavy, 4 @ 6		
Do light, 3 @ 5		
Dairy, 5 @ 7		

Wood Twine Binder.

The improvement year after year in the Walter A. Wood Harvester and Twine Binder make it an extremely simple machine, working well in any one's hands and able to cope with every crop condition. The strength, capacity for heavy work, fewness of parts and reliable, sure work of these machines has made them particularly successful in California fields, and the number of them in use here is increasing each year.

General Produce.

Extra choice in good packages fetch an advance on top quotations, while very poor grades sell less than the lower quotations.

	June 21, 1893.
BEANS AND PEAS.	
Bayo, cwt, 2 75 @ 2 80	
Butter, 2 75 @ 3 00	
Peas, 2 60 @ 2 70	
Pink, 2 75 @ 3 00	
Small White, 2 60 @ 2 70	
Large White, 2 60 @ 2 70	
Lima, 2 90 @ 3 00	
BUTTER.	
Cal, poor to	
fair, lb, 15 @	
Do good to choice	
Do Giltedge, 18 @ 20	
Do Creamery, 20 @ 21 1/2	
Do Giltedge, 20 @	
Cal. Pickled, 21 @ 22	
Cal. Keg, 19 @ 21	
CHEESE.	
Cal. choice	
cream, 8 @ 9	
Do fair to good, 8 @ 9	
Do Giltedge, 9 @ 10	
Do Skim, 9 @ 10	
Young America, 9 @ 11	
EGGS.	
Store, 17 @ 19	
Ranch, 18 @ 20	
Eastern, 18 @ 19	
Outside prices for selected large eggs and inside prices for mixed sizes—small eggs are hard to sell.	
FEED.	
Bran, ton, 16 50 @ 17 00	
Feedmeal, 23 50 @ 24 50	
Grd Barley, 19 50 @ 20 50	
Middlings, 20 50 @ 22 00	
Oil Cake Meal, 35 00 @	
HAY.	
Compressed, 7 00 @ 11 00	
Wheat, per ton, 9 00 @	
Do choice, 12 00 @	
Wheat and oats, 8 00 @ 11 50	
Wild Oats, 8 00 @	
Cultivated do, 7 00 @ 10 00	
Barley, 7 00 @ 9 00	
Alfalfa, 8 00 @ 11 00	
Clover, 8 00 @ 9 00	
GRAIN, ETC.	
Barley, feed, cwt, 2 @	
Do good, 2 @	
Do choice, 2 @	
Do brewing, 90 @ 1 05	
Do Oatmeal, 90 @	
Do Giltedge, 1 15 @	
Buckwheat, 1 75 @ 2 00	
Corn, white, 1 15 @ 1 20	
Yellow, large, 1 07 @ 1 10	
Do small, 1 10 @ 1 12 1/2	
Oats, milling, 1 60 @ 1 70	
Feed, choice, 1 60 @ 1 65	
Do good, 1 57 @	
Do fair, 1 30 @	
Do common, 1 25 @	
Surprise, 1 25 @	
Black feed, 1 25 @ 1 30	
Gray, 1 25 @ 1 30	
Rye, 1 07 @ 1 10	
Wheat, milling	
Giltedge, 1 30 @ 1 32 1/2	
Shipping choice, 1 23 @ 1 25	
Off Grade, 1 05 @ 1 12 1/2	
Sonora, 1 20 @ 1 30	
WOOL.	
Nevada, per lb, 13 @ 15c	
Do Poor, 10 @ 12c	
San Joaquin and	
Schen, year's	
staple, 2 @ 11c	
Short Wool, 11 @ 13c	
Do do very poor and	
shrunk, 10 @ 11c	
Foothill, good to	
choice, 13 @ 15c	
Beeswax, lb, 22 @ 23	
Standard Calc Grain.	
Spot, 14 @ 15	
June & July delivery, 6 1/2 @ 15	
Potatoes, gunnies, 14 @ 15	
Wool, 34 @	
Wool, 4 lb, 32 1/2 @	
HOPS.	
1892, fair, 14 @	
Good, 16 @	
Choice, 17 @	
FLOUR.	
Extra, city mills, 4 10 @	
Do country mls, 4 10 @	
Superfine, 2 90 @ 3 00	
NUTS—JOBBER.	
Walnuts, hard	
shell, Cal. B., 8 @ 9	
Do soft shell, 12 @ 13	
Almonds, fresh, 15 @ 16	
Paper shell, 15 @ 16	
Hard shell, 7 @ 8	
Brazil, 10 @ 10	
Pecans, small, 10 @ 12	
Do large, 34 @ 54	
Peanuts, 10 @ 12	
Filler, 10 @ 12	
Hickory, 7 @ 8	
Chestnuts, 8 @ 10	
ONIONS.	
New California, 80 @ 1 00	
POTATOES.	
New, cwt, 75 @ 1 15	
Early Rose, 1 00 @ 1 25	
Potatoes, small, 1 00 @ 1 25	
Garnet Chile, 1 00 @ 1 10	
POULTRY.	
Hens, doz, 5 50 @ 6 50	
Roosters, old, 5 50 @ 6 00	
Do young, 3 00 @ 3 00	
Broilers, small, 5 00 @ 6 00	
Do large, 5 00 @ 6 00	
Fryers, 5 00 @ 6 00	
Young Ducks, 4 00 @ 5 00	
Old Ducks, 3 00 @ 4 50	
Geese, pair, 1 25 @ 1 25	
Turkeys, gobbs, 13 @ 14	
Turkeys, hens, 11 @ 12	
All kinds of poultry, if poor or small, sell at less than quoted; if large and in good condition, they sell for more than quoted.	
Manhattan Egg	
Food (Red Ball	
Brand) in 100	
lb. Cabbages, — @ 11 50	
PROVISIONS.	
Cal. bacon, — @ 13	
heavy, per lb, — @ 13 1/2	
Light, 14 @ 18	
Lard, 94 @ 13	
Cal sm'd beef, 10 @ 11	
Hams, Cal, — @ 15	
Do Eastern, — @ 16	
SEEDS.	
Alfalfa, 9 @ 10	
Clover, Red, 15 @	
White, 30 @	
Flaxseed, 24 @ 3	
Hemp, 4 @	
Do brown, 5 @ 5 1/2	
HONEY.	
White comb, — @	
2 lb frame, — @	
Do do 1 lb frame, 12 @ 13	
White extracted, 6 @	
Amber do, 54 @	
Dark do, 54 @	
Beeswax, lb, 22 @ 23	

APPRENTICES.—Boys are no longer apprenticed as formerly to a master who takes them into his family and teaches them a trade in all its branches. In the old days the master was responsible, legally and morally, for his apprentice's advancement, worked beside him in the shop, and saw to it that he acquired full and accurate knowledge of his craft. The introduction of machinery and the subdivision of labor have been working together for years to make intimate supervision and instruction of this kind impossible. The master mechanic, instead of presiding over a small shop, and being a master of all branches of his trade, has become, in many instances, the master of merely a single branch of his trade. But whether master of whole or part, he does not work with his men, and can give no personal attention to an apprentice. It has come about, therefore, that boys are hired to do the menial work of the shops, to sweep and clean, run upon errands; and, as part payment for his work, they are permitted to pick up only as much knowledge of the trade as the good nature of the foreman and journeymen will permit. Of system and thoroughness in the knowledge thus picked up there is none. From the menial nature of the employment, self-respecting boys regard it as degrading, and consequently refuse to enter upon it.—June Century.

INSECTS do not breathe through the nose and mouth. Down the body runs two main pipes. These pipes send out branches to right and left like a network, extending to the extremities of the body, even to the ends of the antennae and to the claws. Each main tube receives the external air through nine or ten spiracles or breathing holes, placed at intervals along the sides of the body. The spiracles are made water-tight and dust-tight by a strong fringe of hair which completely guards the entrance.

CALIFORNIA FRUITS AND HOW TO GROW THEM.

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Name.	No. of Certificate.	No. Shares.	Amount.
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California Crops.

[Support of Observer James A. Barwick, Week Ending June 19, 1898.]

Facilmatic conditions for the past two years have gone a long way toward increasing the quantity and quality of our short grain crop. It has helped the crop of late grain, it has made the wheat several places turn out from three sacks to the acre that three weeks ago were given up as worthless and only fit for hay. While these favorable typical conditions have been so beneficial to wheat and barley, it has not injured, slightly retarded the prospects of the cherry crop. Hop prospects are the most favorable known in years, and hop-growers never more unanimous in their opinion of the outlook than now. Apricot has begun in the San Joaquin valley. Trees are bothered with the codling and the peach moth is increasing. Hops are dropping considerably in the sample.

Butte (Briggs)—The fruit outlook in Butte is very flattering. It is now estimated over 200 carloads of fruit, consisting of apricots, peaches, prunes, plums, pears and nectarines, by a large crop of almonds, will be shipping the season.

Colusa (Colusa)—In this neighborhood will be 50 carloads of pears and 500 peaches more than the canners can take. There will be about half a crop of prunes. Prune crop far in excess of the crop. (Butte City)—Wheat crop turning better than expected.

Sutter (West Butte)—Cool weather beneficial to sown wheat and barley. Crop short.

Yuba (Wheatland)—Weather favorable for wheat. Average yield will not exceed five bushels per acre. Cutting of oats and barley delayed. Haying on red lands shows a crop of good quality. Hops further ahead than last season and the yield will be better.

Placer (Newcastle)—Cherries are a big crop and being shipped in carload lots along with peaches and apricots. Early peaches are appearing in the market.

Sacramento (City)—Crops are turning out fairly well, but will average up about as usual—some short and others in excess.

Solano (Denver)—Barley harvesting will begin next week. (Vacaville)—Peaches, apricots dropping; all crops light.

Yolo (City)—Prospect for a large grape crop a good one, although late. (Cacheville)—Grain will turn out better than expected a few weeks ago. Young orchards are doing well. (Knight's Landing)—Crops not to the average. (Pleasant Valley)—Cherry crop not large.

Napa (City)—Hay crop light up the valley owing to heavy rains of last winter.

Sonoma (Sonoma)—Farmers are harvesting, haying and shipping cherries. Peaches will be ripe this season, as the trees are not overladen. (Forestville)—Haying progressed and baling will soon begin. Corn making slow growth. (Santa Rosa)—Small fruit short this season. Hop-growers feel good over present prospects, as there will be a full crop.

Contra Costa (Antioch)—Hay crop very light and dried.

Alameda (Livermore)—Present prospects indicate heavy grape crop, and the orchards also promise a good yield.

Santa Clara (San Jose)—Olive orchards began bearing June 1st, the flowers small and thick.

San Joaquin (Stockton)—Weather has much increased the yield.

Stanislaus (Turlock)—Grain will be of an exceptionally good quality. Heavy winds shelling the grain and blowing fruit off the trees. Harvesting nearly completed.

Tulare (Fresno)—There is general complaint of fruit falling off, and oranges appear to have joined the procession. (Grangeville)—High winds whipping the vines around and causing the grapes to fall off. (Hanford)—Mr. N. W. Motheral says the Colura, or the disease which causes the dropping off of the grapes has destroyed from a third to one-half of the crop of grapes in this district. (Pixie)—Grain that was to be cut for hay a month ago is now making three sacks to the acre and the general average is good.

Santa Barbara (Santa Maria)—The crop outlook for this county is good. Grain well filled and ripening in first-class condition. Fruitmen cannot boast of as heavy a crop as last year. Bean-growers have every indication of a big yield and satisfactory conditions.

Ventura (Hueneme)—Corn and

beans look well. Heading is pretty nearly over.

Los Angeles County (Pomona)—An investigation shows the peach and prune crop now on the trees to be larger than usual.

Riverside County (Beaumont district)—Cherry crop large and of fine quality, and olive orchards fairly groan under the load of fruit hanging in the trees.

San Diego County (Valley Centre)—Apricots are ripening. (Escondido)—There are some conflicting reports in regard to the honey crop of this county for this season. Some localities report a large and excellent crop, while others report the crop short.

Glenn County (Willows)—Barley not yielding as well as expected. Wheat harvest began last week.

THE MOVING SIDEWALK AT CHICAGO.
For those who come by the lake route, and for others who prefer to sail on land, there is the movable sidewalk, seating 40,000, and extending out on the great pier 2000 feet into the lake. The view of the grounds from the end of the pier is superb, and, as one can ride as long as the fancy dictates for one 5-cent fare, it is deservedly popular. The construction of the moving sidewalk with its endless chain of seats was not alone for fun, but fact, and to demonstrate its wonderful possibilities for the transportation of great masses of people. The line, which is operated by electricity, has a capacity of 240,000 passengers per hour. There are three endless platforms, forming a loop at each end. The first is stationary, the second moves at three miles an hour, and upon it one steps in a natural walk, but without experiencing any jar or shock; from this he steps to the third platform, moving three miles faster than the second, or at a total of six miles per hour. This third platform is entirely filled with cross seats. The moving platforms are carried on ordinary railway wheels and track, and constitute one of the most interesting attractions on the grounds.—Review of Reviews.

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